EDB EURASIAN INTEGRATION YEARBOOK 2008

Eurasian Development Bank

Eurasian Integration Yearbook 2008

An annual publication of the Eurasian Development Bank

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Eurasian Development Bank

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The Eurasian Development Bank is an international financial institution established to promote economic growth and integration in Eurasia. The Bank was founded by an intergovernmental agreement signed in January 2006 by the Russian Federation and the Republic of Kazakhstan. Accession negotiations are currently under way with several neighbouring countries. Electric power, water and energy, transportation infrastructure and high-tech and innovative industries are the key areas for Bank's financing activities.

As part of its mission the Bank carries out extensive research and analysis of contemporary development issues and trends in the region, with particular focus on Eurasian integration. The Bank also hosts regular conferences and round tables addressing various aspects of integration. In 2008, the Bank launched an annual EDB Eurasian Integration Yearbook (in English) and a quarterly Journal of Eurasian Economic Integration (in Russian). Both publications are available online at www.eabr.org. The Bank's Strategy and Research Department publishes detailed Industry and Country Reports and plans to undertake a number of research projects. Developing the EDB Eurasian Integration Index is the first project in the pipeline.

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Evgeny Vinokurov – Ph.D., Head of Economic Analysis Unit at the Eurasian Development Bank, author of four individual and two collective monographs, including *A Theory of Enclaves* (Lexington Books, Lanham, 2007), *Kaliningrad: Enclaves and Economic Integration* (CEPS: Brussels, 2007), The CIS, the EU, and Russia: *The Challenges of Integration* (Palgrave Macmillan, London, 2007, with Katlijn Malfliet and Lien Verpoest). Chief editor of the *Journal of Eurasian Economic Integration*, published by the EDB since 2008. His current research focus is economic integration in Eurasia. Selected articles and reports are available at www.eabr.org/eng/publications/ and www.vinokurov.info

Abbreviations

APEC – Asia-Pacific Economic Cooperation
ADB – Asian Development Bank
ADF – Asian Development Fund
ASEAN – Association of Southeast Asian Nations
BL CCT – Basic list of Common Customs Tariffs
BTEC – border trade and economic complex
CABCD – Central Asian Bank for Cooperation and Development
CACM – Central American Common Market
CAR – Central Asia Region
CAREC – Central Asia Regional Economic Cooperation
Caricom – Caribbean Community
CBC – cross-border cooperation
CICMA – Conference on Interaction and Confidence Building Measures
CIS – Commonwealth of Independent States
CPC – Caspian Pipeline Consortium
CPM – common electric power market
CSTO – Collective Security Treaty Organization
EBRD – European Bank for Reconstruction and Development
ECCAS – Economic Community of Central Africa States
ECOWAS – Economic Community of West African States
EDB – Eurasian Development Bank
EIA – Environmental Impact Assessment
EMAP – Executives' Meeting of East Asia Pacific Central Banks
EPC – CIS Electric Power Council
ETCI – Early Transition Countries Initiative
EU – European Union
EurAsEC – Eurasian Economic Community
FSU – Former Soviet Union
FTBZ – free trade border zone
FTP – Federal Target Programmes
GCC – Gulf Cooperation Council
GDP – gross domestic product
HPP – hydropower plant
IAEA – International Atomic Energy Agency
ICD – Islamic Corporation for the Development of the Private Sector
IDA – International Development Agency
IDB – Islamic Development Bank
IEA – International Energy Agency
IFI – International Financial Institution
IIS – international information security
INSA – International Fund for Saving the Aral Sea
INTERREG – Trans-European Co-operation for Balanced Development Programme
IUEC – International Uranium Enrichment Centre

JAEA – Japanese Atomic Energy Agency
JSC – joint stock company
KASE – Kazakhstan Stock Exchange
Mercosur – Southern Common Market
MFA RK – Ministry of Foreign Affairs of the Republic of Kazakhstan
MoU – Memorandum of Understanding
NAFTA – North American Free Trade Agreement
NPP – nuclear power plant
OCAC – Organisation of Central Asia Cooperation
OSCE – Organisation for Security and Cooperation in Europe
PAFTA – Pan-Arab Free Trade Area
PPFE – Production of Primary Fuel and Energy
RF – Russian Federation
RFCA – Regional financial centre Almaty
RK – Republic of Kazakhstan
SADC – Southern Africa Development Community
SCO – Shanghai Cooperation Organisation
SEA – Strategic Environmental Assessment
SES – Single Economic Space
TA – technical assistance
TACIS – Technical Assistance to Commonwealth of Independent States
TPP – thermal power plant
TRASECA – Transport Corridor Europe-Caucasus-Asia
UCTE – Union for the Coordination of Transmission of Electricity
UN – United Nations
UNECE – United Nations Economic Commission for Europe
UNESCAP – United Nations Economic and Social Commission for Asia and Pacific
UNIDO – United Nations Industrial Development Organisation
UNO – United Nations Organisation
VLKSM – Vsesoyuzny Leninskiy Kommunisticheskiy Soyuz Molodezhi (Komsomol organisation)
WB – World Bank
WTO – World Trade Organisation

Letter of welcome to the readers of EDB Eurasian Integration Yearbook

It is my great pleasure to welcome readers to the first edition of the EDB Eurasian Integration Yearbook.

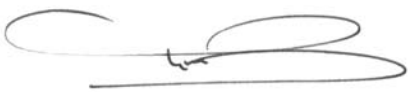
The Eurasian Development Bank was founded in January 2006 at the initiative of the Presidents of Russia and Kazakhstan. The Bank's mission is to promote economic development and integration in the Eurasian region. Having identified our fundamental goals, the founders of the EDB have forged swiftly ahead with the process of making our vision a reality. With credit and investment as its core activities, the EDB has already financed a number of development projects in our member states.

The Eurasian Development Bank is a new bank, operating alongside other well-known international financial institutions in the field of economic development. Our aim, however, is not to compete but to build upon existing synergies which will enable us to respond more effectively to the needs of our member states. Our activities may be similar to other well-established multilateral development banks, but the EDB's mission, strategy and corporate values are what make the Bank unique. Firstly, our belief that regional cooperation and integration are key to the future economic development of CIS countries means that we prioritise projects which will contribute to regional economic integration. Secondly, we are the "local" development bank, and have adapted our terms and conditions to the specific development context and needs of our member states.

In line with our strategic goals for 2008–2010 the Bank aims to become a centre of research excellence and a leading supplier of information on regional integration. We have recently set up a Technical Assistance Fund to support regional integration programmes, specialised inter-state initiatives and financial consultancy. Through its regular conferences, which bring together academics and representatives from the public and private sectors, the Bank provides a platform for the discussion of existing and emerging issues relating to the integration process, and for the formulation of recommendations.

You are among the first readers of our Yearbook. The aim of this publication is to present to the international community the most authoritative articles and studies on economic and political integration in Eurasia written in Russian. The Yearbook's editorial board is made up of well-known academics, practitioners and renowned experts on regional integration.

I believe that the EDB Eurasian Integration Yearbook will become a popular and trusted source of information for all stakeholders in the integration process.



Igor Finogenov
Chairman of the Board
Eurasian Development Bank

LETTER OF WELCOME

It is a great pleasure to welcome readers to the Eurasian Integration Yearbook. This new volume of research and analysis aims to become an authoritative source of information on integration issues for academic researchers, university lecturers, experts, governmental and public organisations, businesses and indeed anyone with an interest in thriving economic and humanitarian cooperation in Eurasia.

The Eurasian Economic Community (EurAsEC) was founded in October 2000 to promote and establish an institutional framework for economic integration in countries which are actively pursuing this goal – Belarus, Kazakhstan, Kyrgyzstan, Russia, Tajikistan and, since 2006, Uzbekistan.

The EurAsEC is relatively new and is widely recognised as the most effective international structure in the post-Soviet space. Its main task is to foster economic integration through the creation of a free trade zone, a customs union and a common economic area.

To date, the EurAsEC has maintained a trade regime with no restrictions, customs duties or taxes on commodities produced in its member countries. Thanks to this regime, trade turnover in the EurAsEC increased by more than 3.4 times over seven years, exceeding USD 102 billion in 2007.

Efforts to improve the investment climate and promote integration have also had a positive effect on the inward flow of investment capital in our countries. In the seven years to 2007, mutual investment between EurAsEC countries increased five-fold.

In response to these trends, in August 2006 the heads of the six member states decided to progress to the next phase of integration – the creation of a customs union and a common economic space. Initially, the customs union will comprise those countries in the vanguard of the integration movement, i. e., Belarus, Kazakhstan and Russia. Other member countries will join them as their economies and legislation.

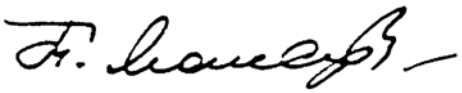
The EurAsEC's remit also includes to the goals of sustainable economic development in each member country, environmental protection, transport, energy, water supply, agriculture, technological innovation, and cooperation in science, culture, information and humanitarian issues.

The creation of the Eurasian Development Bank (EDB) to finance integration projects is a turning point for EurAsEC, and brings with it the need to discuss the long-term prospects for integration. Recently, the Integration Committee of EurAsEC adopted a resolution granting the EDB observer status in the EurAsEC.

In addition to its participation in a number of important economic projects in EurAsEC countries, the EDB has gained experience in implementing research, analysis and consultation projects. It has

hosted several roundtables and conferences on the problems of Eurasian integration and jointly organised the Astana Economic Forum and the founding of the Eurasian Economic Club of Scientists in June 2008.

The launch of Eurasian Integration Yearbook is without doubt a very significant contribution to ongoing debate surrounding integration. I am confident that the publication will become a much-valued source of information on these issues, and wish all its readers every success and prosperity!



Tair Mansurov
Secretary General
Eurasian Economic Community

Letter of welcome

Dear friends,

The Commonwealth of Independent States has reached a stage in its history where we must build upon the success we have achieved in our cooperation and integration so far, and make this cooperation even more effective.

Today, all the Commonwealth's countries are focusing their efforts on implementing the decisions adopted by their heads of state in Dushanbe. Perhaps the most important of the documents ratified there are the Concept for the Future Development of the CIS and the Action Plan for implementing the Concept. These strategic documents are aimed at adapting the CIS to present-day circumstances and increasing the efficiency of the union.

Work is under way to draft a CIS Economic Development Strategy until 2020, which will incorporate the 14 areas addressed in the Concept for the Future Development of the CIS.

The focus of this Strategy is innovation – building a new economy based on our successful cooperation, and developing products and services for today's world which will give Commonwealth countries a competitive advantage for many years to come.

The Executive Committee of the CIS welcomes the launch of Eurasian Integration Yearbook, a publication that will cover a wide range of issues relating to the Commonwealth. I hope that this outstanding volume will make a tangible contribution to the integration of the CIS member states.

With best wishes,

Sergey Lebedev
Chairman of the Executive Committee
Commonwealth of Independent States

EURASIAN ECONOMIC INTEGRATION: A GLOBAL OPPORTUNITY FOR THE 21ST CENTURY

The second half of the 20th Century saw powerful forces of global economic integration, led by the rapid expansion of trans-oceanic economic links among the major economic powers of the then "Western" world. The US and Europe expanded trade and capital flows across the Atlantic at an unprecedented speed, followed closely by the transpacific integration of the Japanese and South East Asian economies with the US. The developing countries of "South" (Africa, Latin America and South Asia) also participated in this process of globalization, albeit with less political influence and less economic success. In the meantime, the predominant powers of the "East" – the Soviet Union and China – faded economically and politically during the waning stages of the Cold War, suffering from self-imposed economic isolation and debilitating internal economic and political mismanagement.

One of the key aspects of this period of globalization was that the economic space of the Eurasian supercontinent – stretching from the Atlantic to the Pacific Oceans and from the Arctic Sea to the Indian Ocean – lagged behind dramatically in the global economic integration process. Not only did the huge overland distances discourage land transport and continental trade, but political barriers – the Iron and Bamboo Curtains especially – and isolationist and dysfunctional economic policies in key countries discouraged the development of transcontinental transport and communications links and the expansion of trade and capital flows across the hard borders separating Eurasian neighbors.

All this began to change dramatically with the opening up of China in the 1980s and the collapse of the Soviet Union in the early 1990s. These historic developments meant that towards the end of the 20th Century the long-standing barriers to economic integration and political cooperation across the Eurasian super-continental space started to tumble. As a result, we now, at the beginning of the 21st Century, see a transcontinental process of economic integration gather speed.

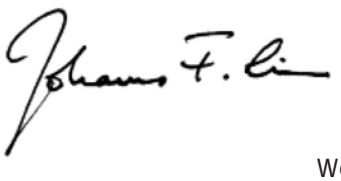
The economic integration process is particularly rapid in the energy sector, as pipelines increasingly connect the oil and gas rich areas of Russia and the Caspian Sea Basin not only with Western Europe, but increasingly also with China and Japan towards the East and eventually also with Pakistan and India towards the South. Similarly Central Asian hydropower in the coming years will supply customers from Russia to China to South Asia. Non-energy trade between the emerging continental economies of Eurasia – especially China, India and Russia – is also rapidly expanding benefiting from and at the same time helping to support their exceptionally rapid growth.

Transcontinental rail and road transport corridors are being expanded and upgraded providing opportunities for shipment of commodities overland and speeds and costs that will be increasingly competitive with the traditional, much longer sea routes. Rapid expansion of air traffic across Eurasia is proceeding at rates reminiscent of the growth of air transport across the Atlantic and Pacific oceans in the decades after the 2nd World War. All parts of Eurasia are now covered by the footprint of communications satellites and are connected increasingly by high-speed telecommunications

and internet links, bringing the distant landlocked regions of Russia, China and Central Asia close to the hubs of commerce and knowledge everywhere in a way that could hardly be imagined even twenty years ago. Capital flows much more freely now among the countries of Eurasia, with not only European banks, but also Russian, Kazakh and Chinese banks investing across borders. China's and Russia's investments and aid flows are playing an increasing role in Central Asia. Tourism is expanding across Eurasia in ways that replicates the earlier waves from the US and Japan into Europe, as Chinese tourists begin to flock to Europe and other parts of Eurasia. At the same time the growing cross-continental illicit drug trade is a common threat to Europe, Russia, China and India and threats from the spread of communicable diseases, whether SARS, bird flu or HIV/AIDS are shared across Eurasia.

This process of Eurasian economic integration creates great opportunities for all countries of the super continent, and for the rest of the world, as the catch-up of the Eurasian integration process in overall globalization supports world-wide growth and as economic cooperation and prosperity in this region provides the basis for political stability, cooperation and peace. At the same time, this integration also presents challenges for governments and private investors. The development of infrastructure networks throughout the vast continental space requires huge investments as well as sustained efforts to maintain the infrastructure and create the regulatory and governance capacity that facilitates energy and non-energy trade and financial flows across Eurasia. Regional and sub-regional organizational structures must be created or strengthened to support the cooperative development of infrastructure and regulatory capacity, to attract the private investments needed and to help mediate the sometimes conflicting or competing interests of the many countries engaged in this historic process of economic integration of Eurasia.

The Eurasian Development Bank, together with other regional organizations in Eurasia, therefore has an important role to play in helping to create the economic links among businesses in Eurasia, to support investments in critical infrastructure, and to develop a better understanding of the role which economic integration plays in creating a prosperous and peaceful Eurasian economic and political space. I am convinced that the new Yearbook "Eurasian Economic Integration" will make a great contribution in encouraging and disseminating research on this important topic and thus will help create a knowledge base on which all participants in this historic process of the 21st Century can build.



JOHANNES F. LINN
EXECUTIVE DIRECTOR
WOLFENSOHN CENTER FOR DEVELOPMENT
AT BROOKINGS INSTITUTE

1 Introduction

Evgeny Vinokurov

The Eurasian Development Bank and its Mission

The Eurasian Development Bank (EDB) is an international financial institution with a mandate to facilitate economic growth and integration processes in the Eurasian region. The Bank was founded by an intergovernmental agreement that was signed in January 2006. The initiative for establishing the Bank came from the Presidents of the Russian Federation and Kazakhstan.

As a multilateral development bank, the EDB feels strongly about the creation of public goods. In the research sphere, we are focusing on the development of a wide range of research and analytical products, which will serve the needs of states, policy-makers, businesspeople, and expert society, providing them with reliable information as well as venues to discuss issues of economic development and integration. The Yearbook is just one product in the line that we offer to practitioners and researches, mostly in member states, but also to the global community. *The EDB considers it a part of its mission to become a catalyst for regional integration*. This function is anchored in its Charter. In particular, Article 1 identifies the support of mutual trade and investments between Member States as a primary objective. In pursuit of these commitments, the Bank not only finances projects with substantial integration impact but also collects and analyses data on development and economic integration (Article 2 and 11).

Thus, in compliance with the Bank's Charter, EDB research puts emphasis on the processes of the regional integration of its member states. The Bank holds conferences on the issues of regional integration twice a year – in spring and autumn. These conferences attract leading experts in the field, as well as representatives of public agencies, international organisations and businesses. In October 2008, the EDB started a quarterly 'Journal of Eurasian Economic Integration'. This Russian-language journal intends to become the leading source of analytical support for the regional integration processes. In addition to this, the Bank has introduced a series of Reports on selected countries in the post-Soviet space and particular industries, such as electric power, hydro- and nuclear power, the transport sector, aerospace, agriculture etc. Another series of Country Reports, focusing on the Central Asian republics, Russia, and other FSU countries, are currently being prepared. We also foresee the realisation of large research projects along the way. The first of these is the 'EDB System of Indicators of Eurasian Integration', a large-scale applied research project, which should result in the development of a valuable set of tools, suitable for measuring the state and dynamics of various

facets of regional integration. The Bank offers consulting to its clients and strategic partners. Administered by the Research Department, consulting services employs the expertise of various departments within the Bank, drawing on our extensive expert pool from the CIS countries.

On the concept of the EDB Eurasian Integration Yearbook

The 'Eurasian Integration Yearbook' publishes a wide range of articles and other materials on theory and practical aspects of Eurasian integration. The major part of the annual almanac consists of the English versions of selected articles published in the 'Journal of Eurasian Economic Integration' and other analytical publications of the EDB. Integration chronicles will supplement these for the previous years, book reviews, interviews etc. The Yearbook aims at improving access of the world community to the best articles published in the Russian language and providing a comprehensive and coherent view of regional integration in the 'Eurasian' area. Aside from articles published in the Journal, papers written specifically for the Yearbook in Russian and English languages are also welcome.

While it is largely focused on economics, the Yearbook publishes materials addressing a broad spectrum of urgent issues in Eurasian integration. This includes theories of integration, including its relevance to the development context; economic integration (trade, investment and financial institutions); institutional integration; other cooperation issues in the post-Soviet space as well as international experience of regional integration.

We are happy to announce the formation of a reputable Advisory Council. The Council currently comprises twelve world-class experts on various integration issues from: Belgium, France, Kazakhstan, Russia, the U.S.A., and Ukraine. The Council will serve as a consultative body on the contents of the Yearbook and also on the Eurasian Development Bank's research activities.

This volume has been drafted for wide distribution among the international community of researchers and practitioners. The book can also be downloaded free of charge at the EDB website.

What is Eurasia? What is Eurasian economic integration?

What is 'Eurasia' in the context of 'Eurasian integration', as used widely on the pages of this volume?

Since 1991 geographers, economists, political scientists and social scientists have struggled with the terminological ambiguity concerning the states of the former Soviet Union. The term 'post-Soviet space' is largely used along with the 'former Soviet Union' (FSU). Another commonly used description is the Commonwealth of Independent States (CIS). However, all of these denominators hold obvious deficiencies. To begin with, the former two terms are derivatives of the past, i.e. they draw on a non-existent political entity. Conversely, the CIS draws on an existing

political entity, which has only limited relevance to the politics and economics of the region. Aside from this, all of these terms artificially bind the actual political and economic geography of the region.

The straightforward solution to the problem would be to find an appropriate geographical description of the territory in question. It would seem that, 'Northern and Central Eurasia' would be the closest to being correct. This sounds a bit awkward however, and would be far too long a phrase for practical use.

In our 'Journal of Eurasian Economic Integration' and in the 'Eurasian Integration Yearbook' we focus predominantly on the post-Soviet states. When doing so, we can combine the emphasis placed on the internal integration process with the willingness to address any external integration considerations of the post-Soviet states. It is advisable to keep in mind what Johannes Linn, former Vice-Director for Europe and Central Asia of the World Bank and current Executive Director of Brookings Institute, described as the 'Eurasian Super-Continent'. Linn rightly points out that the break-up of the Soviet Union triggered the process of economic integration on the whole Eurasian super-continent. In the 11th to 14th centuries Eurasia represented a relatively integrated economic space – undoubtedly relative to the overall levels of economic ties in other regions of the world. The current geo-economic situation is favourable to the new round of economic integration on the Eurasian continent, this time in a qualitatively 'smaller' world. *Due to its geographic location and national economic interests, Russia, Kazakhstan, and other FSU states are directly interested in Eurasian integration, which would spill over the tight bounds of the post-Soviet space.*

In conclusion, this Yearbook will focus on the regional integration processes of relevance to post-Soviet states, which means monitoring and analysing both internal and external developments. This is why, while being aware of the limitations, we opt for 'Eurasia' as a description of the region in question.

What is Eurasian economic integration in the context of the volume? We imply a *wide definition of economic integration* in the sense of advanced regional economic cooperation. *Functional scope is particularly* important to us for three reasons. First, we regard it as both practical and suitable for the development bank to concentrate on. Second, it is theoretically, conceptually and statistically underresearched. Third, the fragmentary information for economic sectors and industries as well as specific issues (such as customs, rules of transit, migration, education, soft security etc.), which are available to Russian-speaking readers, might not be as readily available for the global English-speaking audience. The 'Eurasian Integration Yearbook' is there to partially fill this gap.

About the contents

The Yearbook's contents comprise introduction, full-scale papers and reports as well as a regional integration chronicle and a number of supple-

mentary materials. The core of the Yearbook is composed of seven papers and two reports, grouped into four sections.

The first part is entitled **'Institutional Integration'**. It contains analysis of the institutional issues of regional integration in the post-Soviet space. Chapter 2, written by Aleksandr Libman, 'The Sustainability of Regional Integration Projects in the Post-Soviet Space', looks at the sustainability of integration groupings. Counterfactual analysis of the concept of integration as the regional union for EurAsEC shows that the size of this group is close to (but nevertheless higher than) its sustainable optimum considering quality of governance, and below the optimum in terms of economic development. Nevertheless, EurAsEC is closer to its sustainable size (in terms of the quality of governance) than all other integration projects in the former Soviet Union.

Following on from this is a discussion on the 'The EurAsEC Integration: Opportunities and Obstacles', written by Michail Golovnin. In the medium term, the creation of a customs union will play a key role in encouraging formal integration in the EurAsEC. It will face impediments that are both objective (disparities in the structure of member country economies) and political in origin (for instance, Russia's self-serving approach fails to create attractive opportunities for partners prepared to make concessions from their side). The most likely basis for a customs union at the moment is the SES-3 (three countries of the Single Economic Space – Russia, Kazakhstan and Belarus); however, some major challenges continue to affect this association too. Golovnin comes to the conclusion that the potential for further integration is constrained by the need to coordinate many aspects of hugely varying national economic policies.

The financial sector holds the most promise for further cooperation in the EurAsEC. It is linked neither with the troubles of the fuel and energy, nor with the inefficiencies of machine-building industry inherited from the Soviet economic system. Corporate integration between Russia and Kazakhstan can be strengthened through the expansion of their financial institutions into one another's markets. Like Libman in Chapter 2, Golovnin points out the crucial issue of Russia-Kazakhstan ties. These two champions of financial services development could share their experience with others to facilitate the development of banking systems and financial markets in other EurAsEC member-states. It would be expedient, therefore, to initiate a joint pilot project on development of a selected segment of financial markets of EurAsEC member states. Development of the corporate bonds market appears to offer the most potential.

The next section, **'Economic Integration: Industries, Sectors, Issues'**, contains four papers, which look into various specific fields where the potential of integration might be revealed and realized – machine-building, common electricity markets, financial integration, and transborder cooperation. This part is indeed central to the Yearbook, as certain functional issues are both underresearched and promising in terms of real

economic gains. We intend to continue to emphasise functional integration in specific industries and sectors in future Yearbooks.

In Chapter 4, Yuriy Shishkov assesses an often-overlooked handicap pertaining to the efficiency of the CIS machinery sector –insufficient cooperation between the CIS machine-building industry and their more advanced foreign partners. Drawing on foreign experience, Shishkov clings to the possibility of a technological leap in the sector, which can be based on a deeper economic cooperation. International cooperation, in particular within the CIS where there is a long history of strong mutual dependence, would harmonise technical standards between countries, expand international scientific and technical cooperation, and reduce disparities in the legal regulation of economic relations in this sphere. In successfully integrated organisations (the EU, NAFTA and others) the intermediate machine-building sector in member countries exports 50-100% more than in the CIS, where a rapid contraction of exports threatens to dismantle the industrial foundations of integration.

The Yearbook continues with Chapter 5 by Leonid Vardomskiy, 'Transborder Cooperation on the 'new' and 'old' Russian Borders'. Prospects of transborder cooperation of Russia with its CIS neighbours depend on whether it will manage to contain the 'barrier function' of its new borders. Vardomskiy concludes that the security factor still prevails over the cooperation factor. Also, the economic effects of transborder cooperation are insufficiently studied, thus the picture of potential gains is distorted. When there is more data and research on economic effects, a more balanced decision-making on border policies and transborder cooperation will become feasible.

Chapter 6 by Evgeny Vinokurov, 'The CIS Common Electricity Market', starts with a detailed analysis of mutual trade and investments in the sector. As it turns out, trade has stagnated over the last few years, as economic growth dampens exports. Investments are one-sided, as only Russia invests abroad in energy generation and distribution. Vinokurov subsequently concludes that both trade and investment statistics are low and inadequate to the potential of the sector. After looking into both the CIS and EurAsEC initiatives, the paper argues that energy markets, i.e. hydrocarbons, coal, electric power, and uranium, should be treated and regulated as separate markets for the sake of functional integration. This does not preclude the need to work on the common fuel balance. Vinokurov further analyses barriers on the road to the common electricity market and singles out the unfinished liberalisation of the key CIS power market in Russia. Overall, although integration of electricity markets depends on the institutional structures, it can be feasible even with state monopolies dominating generation and distribution. Finally, the exciting prospects of enlarging the CIS Common Electricity Market are briefly outlined. The economic logic of electricity trade pushes the CIS countries toward establishing sub-regional common markets with other key markets of the broader Eurasia, for example the EU, China, India, Pakistan, Iran, and Turkey. Virtually all CIS countries would gain substantially if

real mechanisms of transborder trade are established both at the material, technological, and regulatory levels.

Anna Abalkina starts her chapter, 'Preconditions and Prospects for Banking Integration in the EurAsEC' by pointing out that regional economic integration in the EurAsEC countries is increasingly considered in terms of cooperation in trade and investment. Much less attention is paid to the activities of the banking intermediaries that fund these operations. Abalkina delves into the most interesting, yet not sufficiently explored, world of financial integration, focusing on banks. (A parallel can be drawn with Chapter 3 by Golovnin, which states that the financial sector holds the most promise for further cooperation in the EurAsEC). She analysed a number of indicators, including the share of foreign assets and capital owned by the CIS banks. Apparently we are witnesses of a wave of transactions between banks that leads the way to the formation of several CIS banking groups. Notably, Kazakh and Russian banks are particularly fervent in their pursuit to expand across the CIS.

On an institutional level, Abalkina argues for a 'stable, rather than a single' financial market in the EurAsEC member countries. EurAsEC and CIS countries could look into experience of Asia Pacific countries, which chose to reduce the role of foreign credit by developing a regional bond market which is less exposed to global crises. In other words, the creation of a formal common financial services market may be premature at the moment. It would be more beneficial to take steps to increase stability within national financial systems, to increase their capitalisation and to develop a regional credit market.

The next section **'Measuring Regional Integration and Economic Development'** features only one paper, written by Uljana Agibetova and Ivan Samson. This section has been deliberately singled out, as we will put signifcant emphasis on the issue of the measurement and assessment of integration in the future. One example of this is a large-scale research project entitled: 'System of Indicators of Eurasian Integration', which was initiated by the EDB Strategy and Research Department. Chapter 8, entitled: 'The Metropolisation of the FSU Area: Temptative Measurement through the Method of Hyperlinks Notoriety', delves into the measurement of certain cities' metropolisation in the post-Soviet space. The chapter starts with the question: "Does the FSU run patterns of Western metropolisation or it is a specific model marked by the historical legacy that emerges in the post-communist world?" In an attempt to answer this question, the paper starts with the presentation of the tools of observation and the measurement of studied processes, and then develops the analysis and the interpretation of results. Historically, the Soviet urban world has been built on other spatial principles than the Western ones, and its legacy is reflected through the existence of large industrial cities networks. Today the FSU still manifests itself as a space of mono-polar territorial activity, where Moscow is the only city recognised as a global city. However, this territory, being the largest in the world, can no longer operate from a single global city. The measurement of cities' metropolisa-

tion is not a simple task, especially in the post-Soviet context. The authors set up a method of measuring metropolisation through the number of hyperlinks in Internet search engines.

The next part of the volume, **'EDB Reports'**, logically relates to the collection of papers described above. EDB Industry Reports is a series that aims to provide in-depth analysis on sectors with substantial integration potential. These sectors notably include power generation and distribution, transport, telecommunications, agriculture, aerospace, and finance. In this Yearbook we present two EDB Reports, 'Nuclear Energy Complexes in Russia and Kazakhstan: Prospects for Development and Cooperation' and 'Water and Energy Resources in Central Asia: Development and Utilisation Issues'. These reports represent case studies of two sectors with critical consequences for the regional integration.

In particular, the first report deals with the growing cooperation between Russian and Kazakh nuclear sectors. Kazakh uranium has become a focus of attention and fierce competition between the world's largest consumers, including France, Canada, USA, Japan, China, South Korea, and Russia. Early this decade, Russia's substantial production capacity and highly competitive uranium ore conversion technologies added to calls for the country to renew its economic links with Kazakhstan in the uranium mining and nuclear industries. Given Russia's ambitious plans to develop nuclear energy, and the fact that its uranium stocks are practically depleted, the benefits of closer cooperation with Kazakhstan are clear. However, Russia will have to compete with other players for Kazakhstan's uranium market. The need to integrate the nuclear power complexes of Kazakhstan and Russia along the entire production chain is a logical response to their urgent need to reduce their energy deficit, and to increase the synergies which exist between their production capacities and technologies at each stage of the nuclear fuel production chain: uranium mining, uranium enrichment, production of fuel pellets and fuel elements, reactor design and production, the construction and operation of nuclear power plants, and nuclear waste processing and disposal. The first steps in these directions were undertaken through the act of joining forces and assets in three Russian-Kazakh joint ventures (extraction, enrichment, and nuclear reactors).

The second Report looks into the most complex issue of interstate cooperation and conflict in Central Asia: the water and energy nexus. Water is vital for Central Asian countries, and coordinating the shared utilisation of water is problematic to say the least as Central Asian countries are closely interdependent in their water utilisation. Most of the water in the Aral Sea Basin is from upstream river waters, whereas in Kazakhstan, Turkmenistan and Uzbekistan water is mostly used for irrigation in downstream areas. Competing demands for water in the region have considerably exceeded supply for a long time. In the future, water shortages will only worsen in Central Asia because of the growing population, the development of industrial and agrarian production and the expansion of irrigation. In such circumstances, regulation of the hydrological models of the Syr-Darya and Amu-Darya is becoming critically important.

Tajikistan and Kyrgyzstan have vast hydro-energy capacity, but heavily depend on the supply of hydrocarbons from other countries in the region. During winter 2008, public electricity and heating was completely cut off in Tajikistan; production of aluminum at the Tajik aluminum plant, the country's main source of foreign currency, fell dramatically.

Resolving the issues of shared utilisation of water and power resources in Central Asia has huge economic, ecological, political and international importance, as it is a major factor in preserving stability, economic prosperity and ecological security in the region. The most important issues in this regard are the management of water and energy resources and leverage of significant long-term investments in hydro-energy projects.

The last part of the Yearbook, **'Chronicles, Digests and Book Reviews'**, presents the Regional Integration Chronicle. The Chronicle serves the particular purpose of providing our readers with structured information on integration events throughout 2007. The first section of the Chronicle is grouped around institutional integration and covers, among other issues, the CIS, the EurAsEC, the SCO, and Russia-Belarus Union. The second section covers various sectors and issues, in particular integration initiatives in customs and transit, migration, energy, transport corridors, and education.

It is supplemented by the review of 'Activities of Multilateral Development Banks' in the region, written by Natalia Maqsimchook of EDB. You will also find information on the Round Tables conducted by the Eurasian Development Bank in November 2007 and May 2008 as well as a book review of the recent monograph by B. Kheifets and A. Libman on corporate integration in the post-Soviet space.

We intend to continue publishing structured chronicles and reviews in the next Yearbooks, thus providing the global audience with a coherent and dynamic picture of Eurasian integration and economic development.

Overall, the Yearbook intends to provide a dynamic overview of integration processes in the post-Soviet 'Eurasian' space and the challenges to which the Northern and Central Eurasian states will have to provide adequate responses. I genuinely hope that the EDB Eurasian Integration Yearbook will become a reliable companion to those studying regional integration.

I would particularly like to thank Vladimir Yasinskiy, head of Strategy and Research Department at the EDB, for solid support and encouragement along the way. For exceptional assistance I am very grateful to Natalia Maqsimchook, a thoughtful, energetic and hard-working colleague at the EDB Strategy and Research Department. Our permanent partner, publishing company 'Ruan', was most instrumental in providing professional services needed to produce this volume.

2 The Sustainability of Regional Integration Projects in the Post-Soviet Space

Alexandr Libman

The sustainability of integration groupings is extremely important in the selection of the most workable regional integration schemes. Quantitative analysis shows that of all integration projects in the former Soviet Union the EurAsEC-6 is closest to being what is considered a "sustainable size". This stable integration structure is based on close cooperation between Russia and Kazakhstan.

Integration projects, which are being pursued in many parts of the world, emerge as the result of negotiations and coordination between various actors – both state (members and non-members of an integration group) and nongovernmental. This raises the question of when an emerging structure becomes relatively more sustainable, i.e. less susceptible to disintegration. Of all the factors influencing the sustainability of an integration project, its size must play an important role. It appears that, in terms of size, sustainability has both upper and lower limits (i.e., groupings are unsustainable if they become too large, but they can also be too small to survive). Small groupings are thus susceptible to practically unopposed "takeover" by their larger neighbours. Extremely large groupings face the constant threat of losing member countries.

Analysis of what constitutes a sustainable size for an integration grouping may be carried out from two angles. We may choose as our starting point the traditional understanding of regional economic integration, i.e., the creation of *an international union* between several countries. In this case its sustainable size may correlate to *the number of countries* of an integration grouping or to *the size of its population*. The latter approach may be the more useful, bearing in mind that the diversity within member countries may mean that their internal stability cannot be assumed. The second approach views an integration project as a network of agreements and accords reached by several regional countries. This approach is more flexible and to a greater extent reflects the reality of open regionalism models and tiered integration. In this case, when referring to *the sustainable structure* of an integration project, we define precisely which configuration of the framework of agreements is the most viable.

This article analyses the factors which influence the optimal size of an integration project and attempts to apply its conclusions to the former Soviet Union, in particular, the EurAsEC. We employ quantitative analysis techniques which generate unambiguous and non-contradictory results with regard to the sustainable size and structure of integration associations.

Factors Influencing the Sustainable Size and Structure of an Integration Association

When considering **integration as an international union**, the sustainable size of an integration grouping is defined by the outcome of interaction between two "markets" operating in the region's political and economic system. The first market is the "interstate political market" which involves transaction between countries. The second market is the "market of institutions and economic policies", in which private structures (corporations and citizens) operate, creating demand for certain institutional schemes which states offer. Specific mechanisms include participation in political life, lobbying or "voting with feet" facilitated by, among other factors, the mobility of the means of productions. Under this scheme, a sustainable integration grouping should meet two requirements: it must be attractive to the states involved in it and generate positive economic benefits to private structures.

The stability of an integration grouping is influenced most of all by *the diversity of its members*. If members of an integration group are alike and their populations and elite groups display a certain homogeneity, these structures seem to be less susceptible to disintegration. Excessive diversity threatens consensus among members of a grouping on the common integration conditions and increases the time spent in negotiation and coordination[1]. In other words, diversity increases the "cost" of deals on the "interstate political market", thereby reducing the attractiveness of integration. Diversity is defined by several component factors, for example, ethno-linguistic fractionalism; the circumstances of historical development and peculiarities of institutional systems; differences in living standards and the educational attainment of the population; and urbanisation. Where there is extreme diversity of preference, even efficient integration groupings (i. e., structures where the prosperity of all member countries is generally improved through integration) may become unsustainable[2].

Another parameter defining the sustainability of an integration association is the *efficiency of its institutional environment and management* of the public benefits it makes available to all countries, such as reciprocal trade, security or a shared infrastructure. In other words, *improving the efficiency of an integration grouping increases its sustainable size*. This is especially related to the common benefits produced by integration groups. These influence the "market of institutions and economic policies", improving the quality of the benefits states offer to private structures, thereby increasing their willingness to "pay" for these benefits. All other conditions being equal, the *effective management of an integration grouping* is directly related to the *efficacy of governance* within member countries. High quality governance in all

[1] *Ruta M. (2005) Economic Theories of Political (Dis)Integration. Journal of Economic Surveys, Vol. 19.*

[2] *Haimanko O., Le Breton M., Weber S. (2005) Transfers in a Polarized Country: Bridging the Gap between Efficiency and Stability. European Economic Review, Vol. 89.*

states involved in an integration union does not guarantee the efficiency of its supranational bodies or of the negotiations which establish the basis of the integration grouping. However, in the absence of efficient interstate institutions, it is unrealistic to expect partners to formulate efficient interstate regulation. Indeed, efficiency of government reduces the "technical" costs of holding international negotiations, the importance of which should not be underestimated.

A problem arises because of the *contradictory influences of diversity and efficiency*. A grouping of highly diverse member states will, as stated above, have a smaller optimal size. Its very diversity, however, may ultimately boost the efficiency of its operation. Thus an increase in the cost of transactions on the "interstate political market" increases the benefits available on the "market of institutions and economic policies". Indeed, an evolutionary approach to economic policy supposes that diversity in integration is a form of "capital" and establishes the conditions for the evolutionary, competitive processes of knowledge generation, innovation and dynamic development. Furthermore, this diversity of preferences is not a static phenomenon but is generated by a dynamic development process in which transactions on the "interstate political market" play an important role[3].

It is apparent that an evaluation of the situation will depend on *the general level of governance within the group*. Relatively more advanced institutions, which incorporate the preferences and reciprocity of different groups, cope better with *diversity issues* and exploit their creative energy (in the terminology of a new, comparative economic theory, they are located on a higher "curve of institutional possibilities"). Less developed institutional systems are more susceptible to this problem and are obliged to find a compromise between diversity and the advantages of integration. This conclusion reinforces the importance of efficient decision-making to the sustainability of a regional structure. For example, in the case of EU expansion, the diversity of preference, though important, plays much less of a role than the ability of EU bodies to adopt decisions at minimum cost[4]. If we consider time spent on decision-making, the potential for unilateral obstacles to be placed before an integration group's member countries and non-egalitarian access to information supplied by various regions become much more significant. In the situation of non-egalitarian access to information, the method of its collection is also fundamentally important[5].

The "sustainable size" of the integration group also depends on its member countries' *level of economic development*. Economic development

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[3] *Herrmann-Pillath C. 2006 Heterogenität, Wachstum von Staaten und wissensschaffender politischer Wettbewerb. In: Vollmer U. (Hrsg.) Oekonomische und politische Grenzen von Wirtschaftsräumen. Berlin: Duncker & Humblot.*

[4] *Apolte Th. (2006) Gibt es eine optimale Grösse der Europäischen Union? In: Vollmer U. (Hrsg.). Oekonomische und politische Grenzen von Wirtschaftsrdumen. Berlin: Duncker & Humblot.*

[5] *Behm M., Grüner H.P. (2002) Electoral College, Popular Vote and Regional Information. Mimeo.*

directly influences the development of "markets of institutions and economic policies", determining the behaviour of participants. In economic theory there is no generally accepted explanation of the link between economic development and the optimal size of an integration group. According to some estimates, the link between economic development and integration follows a U-shaped curve: early on, integration formations encourage efficient economic growth, but once a certain level of development is reached, countries are capable of generating similar advantages without the need for formal integration structures created at the expense of their own "coping strategy"[6]. Other experts proceed from the existing linear link between economic development and inclination to integration[7]. However, the results of negotiation between states (on the "interstate political market") may significantly alter results.

Naturally, this is not an exhaustive list of the factors which influence the sustainability of an integration project. For example, the *scale of economic liberalisation in the global economy as a whole* plays a significant role. Obviously, in order to be sustainable, an integration grouping should maintain the optimal size of its internal market, and take advantage of *economies of scale*. However, given that the regulation of global trade is relatively liberal (thanks to the WTO and other world organisations) the *sustainable size of integration groups is getting smaller*[8]. Indeed, domestic economic entities can benefit from access to each other's markets without the need for complex inter-governmental negotiations. A reduction in the sustainable size of an integration group is thus brought about by changes in the "market of institutions and economic policies", whose participants refuse to pay the costs exacted by the "interstate political market".

There are more complex factors at work here, however. In particular, the global trade environment and the structure adopted by regional integration groups are defined by the same processes[9]; it is extremely difficult, therefore, to establish cause and effect between them. Former Soviet countries, for example, pursued regional integration and integration into the global economy in parallel. In addition, the global trade regime is itself created not only by the efforts of global organisations but also by numerous overlapping regional agreements which are increasingly based on the principle of "open regionalism" (and which have given rise to the concept of "integration by network" which is discussed below)[10].

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[6] *Casella A., Feinstein J.S. (2002) Public Goods in Trade: On the Formation of Markets and Jurisdictions. International Economic Review, Vol. 43.*

[7] *Bolton P., Roland G., Spolaore E. (1996) Economic Theories of the Break-Up and Integration of Nations. European Economic Review, Vol. 40.*

[8] *Alesina A., Wacziarg R. (1999) Is Europe Going too Far? Carnegie-Rochester Conference Series on Public Policy, Vol. 51.*

[9] *Etro F. (2006) Political Geography. Public Choice, Vol. 127; Blankart C.B., Koester G. (2006) Political Economics versus Public Choice: Two Views of Political Economy in Competition. Kyklos, Vol. 59.*

[10] *Baldwin R. (2006) Multilaterising Regionalism: Spaghetti Bowls as Building Blocks on the Path to Global Free Trade. NBER Working Paper 12545, September.*

One important factor which influences "sustainable size" is *the conflict of laws*, i.e., the competition between states for mobile means of production. The conflict of laws affects the structure of regional integration in three ways. Firstly, it stimulates the desire for harmonised economic policy as a means of alleviating competitive pressures within the tax and legal regimes[11]. It also encourages the "joy-rider" phenomenon, whereby the violation of established harmonisation agreements has a disproportionate effect on the competition of jurisdictions. In addition, conflict of laws at the expense of ex post harmonisation reduces transaction costs on the "interstate political market", creating the optimum conditions for negotiation. Finally, from the point of view of demand for integration projects in the "market of institutions and economic policies", the conflict of laws makes "voting with the feet" relatively more attractive and reduces active opposition to the creation of an integration group, thus limiting the impact of the diversity of preferences[12].

Finally, it is important in this analysis to discuss *corporate integration (regionalisation)*, i.e., cooperation between states without the creation of formal international unions. There are numerous examples regional cooperation in the world, where formal integration trails some distance behind the development of informal economic cooperation. A classic example of this is the Asia-Pacific, where, in the absence of formal cooperation, Japanese multinational production chains and informal networks in the Chinese diaspora become vectors of regionalisation (i.e. formal deals on the interstate political market). Approaches to regionalisation may differ widely, depending on the degree to which a "shared identity" exists in the region's countries and on the extent of their economic interdependence[13]. Regionalisation may reduce the cost of coordinating a common policy and encourage the formation of integration associations (thanks to the emergence of shared identity and intensification of the conflict of laws). The reaction of private structures is mixed: in some cases their desire for formal association increases, while in other cases the situation is more complicated (especially where there is a switch from negative integration, which culminates in the abolition of market barriers – to positive integration, which works towards the creation of common institutions). In countries where leading private structures pursue expansion into neighbouring markets, experience shows that there is a clear, positive link between regionalisation and formal integration (for example, NAFTA and integration projects involving the USA and Central America)[14].

Analysis of **integration by network** is a relatively new area of research and findings relating to the sustainability of regional network

11 Whincop J., Keyes M. (2001) Policy and Pragmatism in the Conflict of Laws. Aldershot.

12 Olofsgard A. (2003) Incentives of Secession in the Presence of Mobile Ethnic Groups. Journal of Public Economics, Vol. 87.

13 Mattlin M. (2005) Structural and Institutional Integration: Asymmetric Integration and Symmetry Tendencies. Cooperation and Conflict, Vol. 40, No. 4.

14 Cox R.W. (1999) Explaining Business Support for Regional Trade Agreements // Frieden J.A., Lake D. (eds.): International Political Economy: Perspectives on Global Power and Wealth. Taylor & Francis.

agreements are limited[15]. Academic literature pays greater attention to the *homogeneity or symmetry of countries*. As far as it is possible to judge, sustainable integration cooperation networks are formed by relatively "similar" countries[16], these similarities existing mainly in their institutional systems. Similarity of institutional environment reduces transaction costs, making business operations in such countries more attractive to commercial bodies. In addition, the "similarity" of *institutional systems* facilitates the identification of policies which are shared by the integration group's member countries, reducing the effort required to uncover "shared" rules and institutions and adapt national policy to common standards.

Greater diversity between countries increases the scale of inter-sectoral trade between them and makes integration more attractive. Generally speaking, many modern integration groups (in particular, most North-North projects) are based on *intra-sectoral* trade with relatively similar states. However, in North-South integration *inter-sectoral* trade plays a key role[17]. It is important here to distinguish between diversity of *economic structure* and diversity of economic institutions – the former allows economies to complement one another, while the latter, on the contrary, complicates integration. However, it is the *economic institutions* which define a country's economic structure, and it is very likely, therefore, that countries with similar institutional systems develop similar economic structures. Empirical studies have in fact confirmed the link between sustainability, institutional homogeneity and successful integration[18]. The *complementarity of foreign trade structures* is also used in analysis of the sustainability of integration networks. Empirical calculations in this field have been carried out for CIS countries[19].

It is important to stress that, from the point of view of integration, it is the homogeneity of *institutional systems as a whole* that is definitive, rather than individual institutions. Institutions themselves seek complementarity, creating sustainable systems in which individual rules and norms, both official and unofficial, are interlinked. This tendency poses further problems for quantitative analysis.

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[15] Furasawa T., Konishi H. (2007) Free Trade Networks. Journal of International Economics, 2007, Vol. 72; Furusawa T., Konishi H. (2005) Free Trade Networks with Transfers. Japanese Economic Review, Vol. 56, No. 2; Goyal S., Joshi S.(2006) Bilateralism and Free Trade. International Economic Review, Vol. 47, No. 3; Mauleon A., Song H., Vannetelbosch V. (2006) Networks of Free Trade Agreements among Heterogeneous Countries. DP 2006-29 U Louvain Department of Economics.

[16] Das S.P., Ghosh S. (2006) Endogenous Trading Bloc Formation in a North-South Global Economy. Canadian Journal of Economics, Vol. 39, No. 3.

[17] Borrmann A. (1997) Interregionale Integration von Industrie- und Entwicklungsländern. HWWA-Diskussionspapier Nr. 45.

[18] Feng Y., Genna G. (2004) Domestic Institutional Convergence and Regional Integration: Further Evidence. In: Salavrakos I.D. (ed.) Aspects of Globalization, Regionalisation and Business. Athens: ATINER.

[19] Plekhanov D. (2005) Prospects for Development of Mutual Trade in SES. Ekonomicheskoye Obozreniye EEP, No. 2.

Assessing the Sustainable Size of Integration Projects in the Post-Soviet Space

Integration in the Form of International Union[20]

Let us begin by defining the optimal size of regional integration projects in the post-Soviet space where this concerns integration by international union. From the theoretical discussion above we conclude that improvements in the quality of governance within an integration grouping should encourage its growth by improving national aptitudes for coping with diversity. For the sake of simplicity we will assume that the quality of supranational institutions is a function of the quality of governance in individual member countries. This simplistic (but, we think, quite realistic) supposition allows us to conduct quantitative analysis of sustainability relating to the size of an integration grouping.

The sample group includes the 17 regional integration unions listed in a study by the European Central Bank in 2004[21]. This list covers practically all institution-based integration associations in the world. To determine the size of an integration group we take the combined populations of all its member countries in 2007 according to the US Census Bureau. To indicate the quality of governance we take the average of six Quality of Governance indices published by the World Bank in 2005. These indices are: the stability of the political system; the quality of economic policy; stage of development of a lawful state; the scale of corruption; the government's accountability to citizens; and the quality of state administration. In order to define the quality of governance in regional integration group we calculate the average of indices for all the member countries.

A summary of the data obtained is shown on Figure 1. The data show that there is indeed a link between population size and the quality of governance: regions in which the quality of governance is higher create bigger integration unions (solid line). However, this relationship is quite weak (there is a correlation of about 30%), which is attributed to the inclusion of integration groups in the Caribbean basin (ECCU and Caricom), which have small populations but enjoy high-quality governance. It is notable that this region is very fragmented and that great number of countries participate in integration groupings in this region. If we limit our analysis to nine integration groupings with a combined population of over 100 million people (the EU, NAFTA, Mercosur, ASEAN, the Andean Community of Nations, Africa's SADC, Ecowas and ECCAS and the Middle East's PAFTA), their interdependency becomes more sustainable (dashed line). The coefficient of correlation reaches about 65% in this

[20] *This chapter is based on a joint work of the author of this article with Dr of Economy L. Zevin (Institute of Economics, the Russian Academy of Sciences). This issue is studied in detail in Zevin L., Libman A. Optimal Economic Space: Problems of Size. Mir Peremen, No. 4.*

[21] *ECB Monthly Bulletin, 2004, October.*

case. For a paired regression analysis (the least-squares method) quality of governance is signal where the population of integration groupings changes by just 1%.

The results of the above analysis raises the question of whether or not it is possible to identify a "counterfactual" sustainable population size of an integration grouping based on the quality of its governance? This question is of great interest because of its relevance to the development of the post-Soviet space. The CIS has numerous regional and sub-regional integration structures. Should integration groups which include these countries target a sustainable population size based on the quality of governance in them, namely their ability to adjust to growing diversity and the efficiency of their decision-making? In order to define this indicator we calculated the average level of governance in post-Soviet groupings (using the approach outlined above) and employed it in a regression analysis of nine blocs with a population of over 100 million people. This procedure yielded a counterfactual indicator of sustainable population size for the countries in question.

We include four integration projects in our analysis: the CIS (where the mean level of governance is -0.86), the Single Economic Space (SES-4, i.e., Russia, Ukraine, Kazakhstan and Belarus: -0.71), the Eurasian Economic Community (EurAsEC-6: Russia, Belarus, Kazakhstan, Kyrgyzstan, Uzbekistan and Tajikistan: -1.01) and EurAsEC-3 (Russia, Belarus and Kazakhstan: -0.81). SES-4 is now a somewhat theoretical entity, but we have included it in our analysis to allow for the possible involvement of Ukraine in integration processes. EurAsEC's indicator is far lower because the majority of its members are countries with a relatively low quality of governance. The counterfactual optimal populations of the relevant groupings calculated using the procedure described above are 218.5 million, 239.5 million, 225.5 million and 197.4 million people. The actual populations of these groupings in 2007, according to the US Census Bureau, were 278 million, 212.7 million, 206.6 million and 160.8 million.

A similar analysis was carried out using the function of GDP per capita (purchasing power parity) as an indicator of the degree of development and the size of an integration group. As previously stated, this parameter is the subject of theoretical debate. Due to the limited sample size we have examined only linear dependence: (improved levels of development increasing the "sustainable size" of an integration grouping). We used the same sample, and took the CIA Factbook (2006) as the source of information on GDP per capita. For each integration grouping, GDP per capita was calculated using the average GDP of individual countries (Figure 2).

The graph shows that there is a linear relationship for all groups except the Gulf Cooperation Council (GCC) – an association of Gulf

countries with small populations but which have substantial GDP due to their significant energy resources. All other regions fall into a linear dependence; the correlation coefficient is 42% for all groups and 62% for groups with a combined population of over 100 million people. In a paired regression, GDP is significant at 1% (for groups with a population of 100 million people) and 10% (for all groups). From regression analysis aimed at estimating the U-shaped dependence (which includes GDP per capita and squared GDP per capita as clarifying variables), all regressors are negligible.

Assessments of the counterfactual populations of the CIS, EurAsEC-3, EurAsEC-6 and SES-4 (GDP per capita is $5,775; $9,900; $5,717; and $9,150 respectively) calculated based on groups with a population of over 100 million people are 256.2 million people, 297.6 million people, 255.6 million people and 290.1 million people respectively.

We would stress that the proximity of results obtained to conclusions drawn on the basis of assessments of the efficiency of governance are unsurprising when we take into account the high correlation between GDP and the quality of institutions.

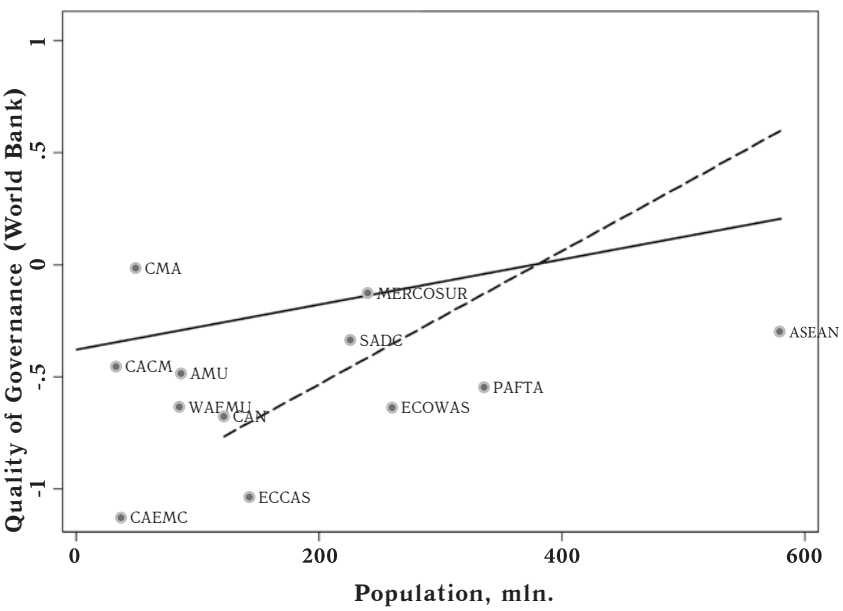

Figure 2.1
The link between the quality of governance and the population of an integration group

Source: compiled by the author

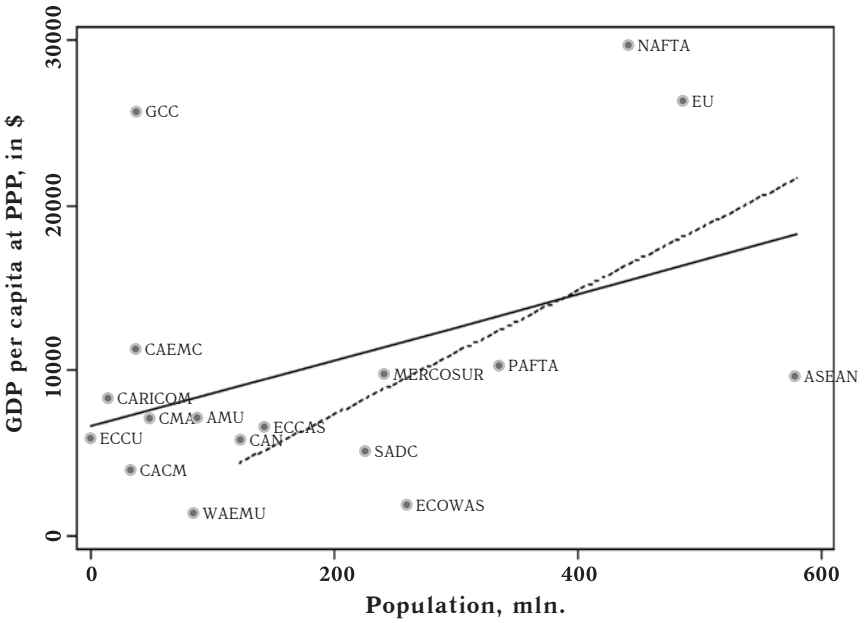

Figure 2.2
The link between GDP per capita and the size of population of an integration group

Source: compiled by the author

Aggregated results are shown on Figure 3. It is clear that, based on the criterion of the quality of governance, of all the integration groups, EurAsEC-6 is closest to its sustainable size. We can disregard the deviation, although the group is somewhat larger than its sustainable level. From the point of view of economic development, the EurAsEC indicator is significantly lower than its counterfactual sustainable size (which is less critical, however, than it being larger than its sustainable size, we deduce based on the aforementioned theoretical logic), but it is nevertheless closer to the counterfactual size than all other groups except for the CIS. The CIS is a little larger than its sustainable size, especially in terms of the quality of governance, which could call into question the group's ability to contend with inequality and thus to preserve stability. SES-4 and EurAsEC-3 are significantly below their sustainable size.

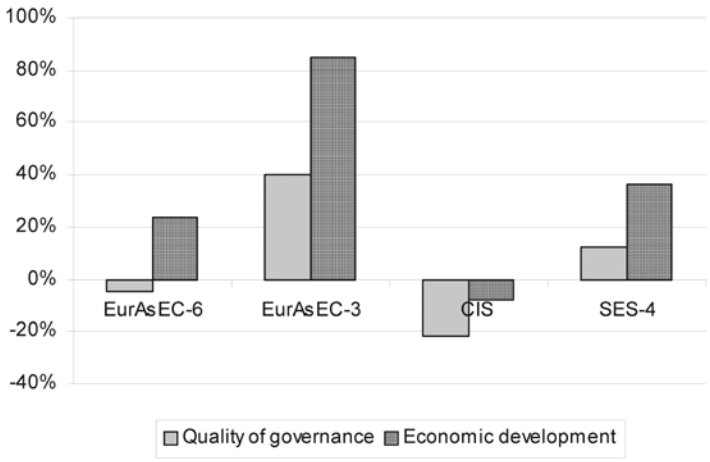

Figure 2. 3
Deviation of counterfactual size from actual size, % (+ means the counterfactual size is larger than the actual size; – means than it is smaller)

Source: compiled by the author

Integration as a Network

The most practical method of studying the comparative institutional inequality of countries is *hierarchal cluster analysis* – a way of grouping objects which are characterised by a vector of features according to their "similarity" as defined by an algorithm applied beforehand[22]. In this analysis we consider both structural and institutional characteristics of CIS countries. Structural characteristics are defined by the following 13 indicators: (1) GDP per capita (as a percentage of the average CIS level); (2) industrial output per capita (as a percentage of the average CIS level); (3) agricultural output per capita (as a percentage of the average CIS level); (4) retail trade spend per capita (as a percentage of the average CIS level); (5) foreign trade per capita (as a percentage of the average CIS level); (6) gross fixed capital to GDP, in percentage terms (as an indicator of investment); (7) manufacturing industry's share of gross value added; (8) services' share of gross value added; (9) the mining sector's share in industrial production; (10) the proportion of the population aged under 14; (11) the proportion of the population aged over 65; (12) unemployment as a percentage of the labour force; and (13) average annual population growth. The CIS Interstate Statistics Committee's data for 2005 were the primary source for this analysis. We use four indices to define *institutional systems* (data for the latest year available): the index of structural reforms published by the European Bank for Development and Reconstruction; the World Bank index of the quality of governance, mentioned in the previous chapter; the Heritage Foundation index of economic freedom; and the Freedom House index of political freedom. Where the relevant organisations publish several indices, we used the arithmetic average of these indices. All indices were recalculated to allow their highest value to correspond to the relatively higher quality of institutions.

The results of the hierarchal cluster analysis of the *economic and social structure of the post-Soviet countries* are shown on Figure 4a. The data show that CIS countries fall into two groups. The first group includes Belarus, Kazakhstan and Russia, which, our analysis shows, have relatively similar socio-economic structures. The second group includes other CIS countries. Some clusters comprise countries that are located geographically close to one another (Kyrgyzstan and Tajikistan) or countries of similar size (Armenia and Moldova). In this case, there is clearly a "nucleus" of major countries: Russia, Belarus and Kazakhstan (EurAsEC-3), which have similar economic structures.

The situation is different if we take the institutional systems of CIS countries as a basis for the hierarchal cluster analysis. The results of this cluster analysis are shown on Figure 4b. As in the previous analysis, CIS countries fall into two clear clusters. The first cluster incorporates two

[22] *Methodological commentary on cluster analysis is given in: Libman A. (2007) Closest Neighbours: Cluster Institutions of Economic Development and Integration Prospects in Post-Soviet Space // Information and Analytical Bulletin of the Centre for Problems of Globalisation and Integration of the Economics Institute of the Russian Academy of Sciences, 2007, No 3.*

"post-colour revolution countries" (Georgia and Ukraine) and Moldova. This group corresponds the least to the economic and political institutional model established in the CIS. The second group comprises the other CIS countries, including politically similar ones, although it divides into three sub-groups. The first of these (Armenia and Kyrgyzstan) includes countries with a relatively liberal economic regime: Armenia is, according to most evaluations, a clear in the CIS in terms of its economic institutions, while Kyrgyzstan has also been successful in consistently pursuing a policy of liberal reform. Another cluster comprises Belarus, Turkmenistan and Uzbekistan – countries where the state plays the key role in effecting economic transformation, signalling almost complete rejection of liberal reforms and extremely limited privatisation. Russia, Kazakhstan, Azerbaijan and Tajikistan make up the third cluster of countries which have pursued moderately liberal reforms. Moreover, three countries in this group are energy exporters. Hierarchical cluster analysis shows that, in these terms at least, Kazakhstan and Russia are the two countries closest to one another in the former Soviet Union.

These results show that EurAsEC member countries often fall into different clusters in the post-Soviet space. The cluster analysis covered only six EurAsEC countries. We analysed the indicators in terms of structure and institutions, reproducing the results of Graphs 4a and 4b. This enables us to try to define the "optimal structure" of an integration network in the EurAsEC, without resorting to the option of bringing other CIS countries into integration projects. Proceeding from the *institutional structure*, stable agreements may be reached between Russia and Kazakhstan, and Belarus and Tajikistan. Kyrgyzstan and Uzbekistan are close to these two pairings but are not identical to them. The *economic structure* supposes that agreements may be achieved between Belarus and Kazakhstan, and Kyrgyzstan and Tajikistan; the EurAsEC-3 nucleus also stands out (Graphs 4c and 4d). However, though the countries are structurally very similar to one another, they differ in terms of their institutions: the "nucleus" institutionally similar countries comprises Russia, Kazakhstan and Kyrgyzstan.

In conclusion, we would point out that, in addition to the "conditional clusters" discussed in this article, we also observed so-called dynamic clusters which are useful in assessing the degree of similarity not of the current economic status of the CIS countries but of their evolution. The results are surprising: Kyrgyzstan turned out to be the closest to Russia in terms of the evolution of the country's institutions. Further research is needed to explain the results of this quantitative analysis.

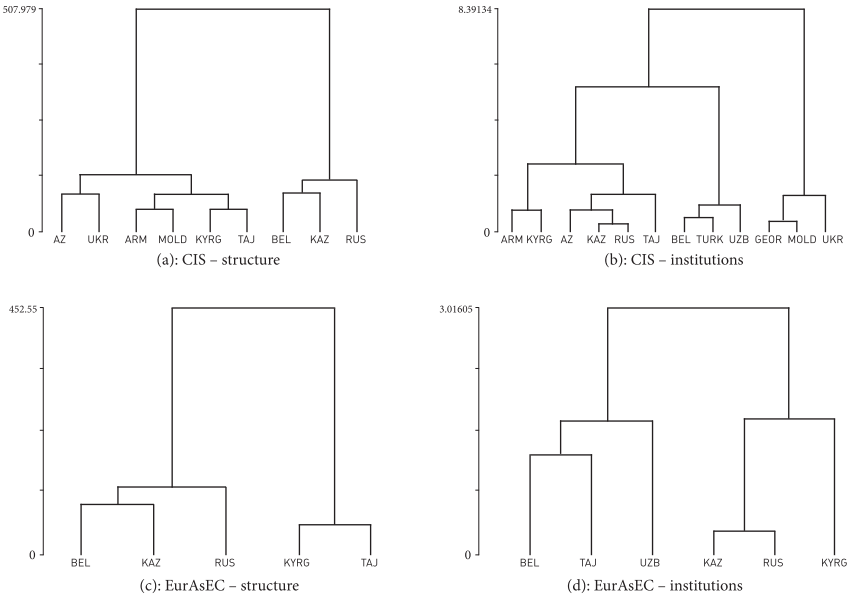

Figure 2. 4
Cluster analysis of the post-Soviet space

Source: calculations by the author based on data released by the CIS Interstate Statistics Committee, EBRD, Freedom House, Heritage Foundation and the World Bank

Note: AZ = Azerbaijan, ARM = Armenia, BEL = Belarus, GEOR = Georgia, KAZ = Kazakhstan, KYRG = Kyrgyzstan, RUS = Russia, UKR = Ukraine, UZB = Uzbekistan, MOLD = Moldova, TAJ = Tajikistan, TURK = Turkmenistan. The axis of ordinates shows the difference between the countries of the integration group analysed.

Conclusions

This paper attempts a quantitative analysis of former Soviet countries in terms of the "sustainable size" of a regional integration group. Counterfactual analysis of the concept of integration as the regional union for EurAsEC shows that the size of this group is close to, but nevertheless higher than its sustainable optimum in terms of the quality of governance and below the optimum in terms of economic development. Nevertheless, EurAsEC-6 is closer to its sustainable size (in terms of the quality of governance) than all other integration projects in the former Soviet Union.

We established pairs of countries that were capable of reaching stable agreements in terms of the concept of integration as a network. If we proceed from the supposition that the most sustainable integration groups are, generally speaking, those which include countries which are relatively uniform in terms of institutional structure, then the most "successful" integration project in these terms would be one based on cooperation between Russia and Kazakhstan.

Certain caveats must be mentioned. Firstly, our analysis has several technical limitations. In our regression analysis we considered only one indicator, and did not take into account all other factors which influence the stability and size of an integration groups (i.e., we violated the basic principle of econometrics – analysis based on the assumption that "all other conditions are equal"). The small sample size precluded the execution of a more precise study. Moreover, the cause and effect relationship is hard to discern: integration can be a factor that helps change GDP or

the quality of governance (the problem of endogeneity). We could not apply methods to overcome the problem of endogeneity, again because of the small sample size. We should not forget that the very existence of regional integration projects which are covered by the media and discussed by the public has an impact on developing regional identity, which is an important factor in the regionalisation of an economic space and the sustainability of integration. In this regard, we believe that even the "unfavourable" conclusions of this analysis cannot be used as the basis for assertions that any particular group or network has no future. On the contrary, once past the point of unsustainability (owing to a lack of political will, for example), the integration structure may influence the structure's member countries such that this automatically lead to the emergence of a sustainable economic configuration. However, it is hard to move through this phase with any speed.

There are also significant conceptual limitations to our analysis. Firstly, our conclusions do not necessarily mean that a certain project is the most *likely to succeed*: we can only say that *where it is achieved*, to all appearances it may become more sustainable. This is particularly the case in our analysis of networks. In our analysis we ignored, for example, the clearly significant factor of the geographical locations of countries. However, we do not think that our conclusions are unrealistic; for example, cooperation between Russia and Kazakhstan has already become an important impetus to the development of integration initiatives. Political and economic issues were also ignored in this analysis. Nevertheless, the results of studies conducted show that, regardless of the similarity of institutions and preferences, interstate conflicts can have a significant impact on the type and extent of regional integration[23].

It is also vital to stress that, in many cases, sustainability is not synonymous with efficiency. Often, the continued existence of an integration group is not linked to its progress towards integration. For example, in conducting the regression analysis we did not consider the level of integration within individual communities, which can vary hugely. Even the intra-regional trade indicator ranges from less than 10% to over 70%[24]. We believe that the factors described in this analysis have an equal influence on projects that may be very different in terms of their progress and integration aims; regionalism in its newly revived form makes it extremely hard to draw a clear boundary between the "degrees of integration" identified by Balassa (a free-trade zone, a customs union, a common market and an economic union): except, perhaps, for the EU, no other integration group fits this outline in terms of its development. Furthermore, we should bear in mind that the sustainability of a project and its progress towards integration are not the same as its effect on

[23] *Vicard V. (2007) Trade, Conflicts, and Political Integration: Explaining the Heterogeneity of Regional Trade Agreements. Mimeo.*

[24] *ECB Monthly Bulletin, October 2004, page 69; Sa S., Strauss-Kahn M.-O., Bonzom Ph. (2006) Interaction between Regional Economic Integration and Institutional Integration: the European Experience. Banque de France Bulletin Digest , No. 145, January, p. 10.*

economic and especially institutional transformation; on the contrary, an integration project may become an obstacle to necessary reform.

One alternative to our analysis is the definition of an optimal (rather than sustainable) size of integration based on economic development issues and state policy. An example of this analysis is "optimal currency zones". Studies of these zones focus on the correlation between the advantages of adopting single currency and the potential crises which can result from it. "Optimal legal zones" are those in which the advantages of relatively low external trade transaction costs are compared with the costs of expanding the area in which generic legal standards are applied[25]. These studies have also been conducted for CIS countries[26]. However, the sustainability of an international union also generates interest from a legislative point of view. Even if an integration grouping does not have a positive impact on the process of integrating national economies, it nevertheless forms a certain "institutional platform" upon which to base negotiations further down the line, which may then strengthen cooperation between countries as circumstances change. The experience of Latin American countries and the Arab world shows that integration groupings often "wake from slumber" and become highly effective actors in the international arena.

Finally, there have been cases in the world where the efficiency and sustainability of a union undermine one another. The problem is twofold. On the one hand, the attractiveness of an organisation may increase its sustainable size, boosting the number of members and their diversity. But it is precisely this factor that can reduces its efficacy (governance fails to cope with the increased diversity)! APEC is a classic example of this problem. On the other hand, "tiered integration" may lead to serious problems for the sustainability of an integration group if this is applied to the institutions within that group[27]. The implementation of a tiered project often results in the effective refusal to include "lower-ranked" members in the integration process, even in the long term. In other words, unrestricted growth or extreme restriction of the number of members may undermine the efficiency and sustainability of integration in the long term, even though it appears to have been achieved now.

As well as being sustainable spatially, the structure of an agreement can also have temporal sustainability. This would apply to the formulation of open-ended agreements or the introduction into their content of

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[23] *Vicard V. (2007) Trade, Conflicts, and Political Integration: Explaining the Heterogeneity of Regional Trade Agreements. Mimeo.*

[24] *ECB Monthly Bulletin, October 2004, page 69; Sa S., Strauss-Kahn M.-O., Bonzom Ph. (2006) Interaction between Regional Economic Integration and Institutional Integration: the European Experience. Banque de France Bulletin Digest , No. 145, January, p. 10.*

[25] *Schmidtchen D., Neunzig A. (2001) One Market, One Law. German Working Paper on Law and Economics, No 9; Seliger B. (2006) The Optimum Size of East Asian Economic Integration and the Role of Korea. Korea and World Affairs, 2006, No 5.*

[26] *Drobyshevskiy S., Polevoy D. (2004) Problems of Creating a Single Currency Zone in CIS Countries. Moscow, Institute for the Economy in Transition.*

[27] *Bordignon M., Brusco S. (2005) On Enhanced Cooperation. Mimeo.*

specific time limits, which allow for future revision resulting from new negotiations. The long-term nature of agreements is vital in providing an incentive for investment, while their short-term nature ensures greater flexibility in case of external disruption. The nature of goods supplied also influences the structure of agreements: long-term agreements are more attractive when benefits are very diverse[28]. Consequently, the structural sustainability of an agreement in temporal terms depends both on the need for investment to develop infrastructure and the agreement's susceptibility to external disruption. On the one hand, long-term infrastructure projects (for example, in the transport, power engineering or water industries) play an important role in enhancing cooperation between former Soviet countries, and this requires long-term agreements to minimize risk. On the other hand, studies show that in the currency integration scenario, the financial systems of some CIS countries would not be able to withstand external disruption[29]. This issue needs to be studied further.

Nevertheless, from this analysis it is possible to draw certain preliminary conclusions which can inform policy making as it affects regional integration in the post-Soviet space. In the long-term, this study can be regarded as the forerunner of further studies conducted to establish the "size" and "structure" of an integration project which is best reinforces its sustainability, efficiency and ability to execute projects.

[28] *Guriev S., Klimenko M. (2007) Duration and Term Structure of Trade Agreements. Mimeo.*

[29] *Drobyshevskiy S., Polevoy D. (2007) Financial Aspects of Currency Integration in the CIS. Moscow, Institute for the Economy in Transition.*

3 Opportunities and Obstacles to EurAsEC Integration*

Michail Golovnin

Analysis of the Integration Process in the EurAsEC

The Eurasian Economic Community (EurAsEC) integration organisation is now the largest formal integration association in the post-Soviet space in terms of number of participants. It brings together countries which have made a concerted choice in favour of creating supranational bodies, paving the way for a customs union and single economic area. The group has evolved at some length from the Customs Union Treaty signed by Russia, Belarus and Kazakhstan in Moscow on 20 January 1995 (and which was later joined by Kyrgyzstan and Tajikistan). The Eurasian Economic Community was formally created in October 2000, and its most recent expansion came when Uzbekistan's decision to join was ratified at an Interstate Council meeting in St Petersburg on 25 January 2006. The path to EurAsEC integration has not always been smooth. Although most customs duties had been harmonised by the mid-1990s, the consequences of the Russian financial crisis in 1998 led to the deterioration of trade relations and unilateral modification of import duties by Russia, Belarus and Kazakhstan. More recent examples of tension between EurAsEC member countries include the oil and gas conflict in early 2007, involving Russia and Belarus, and trade wars affecting agricultural products (notably, Kazakhstan's restriction on sugar imports in February 2008).

Nevertheless, the Russian authorities have been showing a keen interest in integration. This was illustrated at a summit of CIS and EurAsEC heads of state held in Dushanbe on 5-6 October 2007, which adopted the Concept for Further Development of the CIS and other documents to create a customs union between Russia, Belarus and Kazakhstan and set up supranational bodies. Another nine international agreements relating to the customs union and the Concept on Formation of the Single Transport Space in the EurAsEC were adopted at a EurAsEC Interstate Council meeting in Moscow on 25 January 2008[1].

We believe that there are several reasons for Russia's renewed interest in integration. Firstly, Russia is striving to increase its political power in the international arena, for which it will require a group of countries prepared to align their foreign policies with Russia's. At present, this group, albeit with certain reservations, comprises countries which are members of the EurAsEC. It should be noted that the EurAsEC had

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** Material prepared in cooperation with specialists of the Centre for Problems of Globalisation and Integration of the Economics Institute of the Russian Academy of Sciences, Ushkalova D. and Dr. Libman A.*

[1] http://www.evrazes.org/ru/main/messagepage/723/, as of July 2008.

drafted mechanisms to coordinate the interests of member countries and had adopted the principle of "weighted" voting, which is based on the pro-rata contribution of each country to the Community's budget: Russia controls 40 per cent, Belarus, Kazakhstan and Uzbekistan 15 per cent each and Kyrgyzstan and Tajikistan 7.5 per cent each. Apart from Russia, this distribution of voting share by budget contribution gives more rights to each country than if other indicators had been used (for example, population, size of economy or industrial output[2]). In practice, of course, Russia has the strongest voice in the adoption of EurAsEC decisions, and Russia's greatest weight is a problem in any association in the post-Soviet space.

Secondly, objective economic interest in integration is linked to the synergistic effect resulting from the joint resolution of shared economic problems and the expansion of markets for goods produced in EurAsEC member countries, especially those with high value added.

The main economic problem which the EurAsEC must resolve is the structure of its member countries' economies. It has to be improved in order to increase the competitiveness of these individual countries and that of the whole Community within the global economy. The existing structure of the EurAsEC economies, among which only Russia and Belarus can boast substantial manufacturing sectors, is an obstacle rather than an asset to integration.

In 2006, for example, the mining and metallurgy and metal products sectors accounted for 23 per cent and 15 per cent respectively of Russian industrial output; the fuel and energy sector accounted for 29 per cent of Belarus's industrial output; the mining and metallurgy and metal products sectors accounted for 57 per cent and 17 per cent respectively of Kazakhstan's industrial output. The fuel and energy and metallurgy sectors accounted for 27 per cent and 21 per cent of Uzbekistan's industrial output; metallurgy and metal products and power, gas and water production and distribution accounted for 33 per cent and 21 per cent respectively in Kyrgyzstan; metallurgy accounted for 46 per cent of Tajikistan's industrial output. Moreover, agriculture, forestry and fishery accounted for 33 per cent of Kyrgyzstan's GDP, 28 per cent of Uzbekistan's GDP[3] and 23.9 per cent of Tajikistan's GDP[4] in 2006. As a result, these countries compete in low-value-added sectors which are the economic foundations of many EurAsEC member countries.

These shared problems relate not just to the deterioration of the inherited structure of the economy but also to the need to create new and efficient sectors, for example, the financial sector. Banking systems and financial markets in EurAsEC countries, except for Russia and Kazakhstan, remain underdeveloped. Russia and Kazakhstan face large-

[2] In 2006, according to the Interstate Statistical Committee of the CIS, Russia accounted for 69% of the EAEC's population, 87.7% of GDP and 85.2% of industrial output (www.cisstat.com).

[3] In 2005.

[4] Source: Interstate Statistical Committee of the CIS (www.cisstat.com).

scale outflow of capital , which is preventing their domestic financial markets from developing properly. The joint resolution of these problems may inform the new "agenda" of integration.

Defining the objectives of integration is one of the major problems of the present day. Until recently, the approach has been to adapt the European integration model to the post-Soviet space and formulate long-term goals. The long delay in the process of achieving these goals, and countries' unwillingness to surrender even part of their newly won sovereignty, have blighted the integration process.

EurAsEC does have, de facto, a free trade area and relative freedom of movement of people (the absence of visa controls between most member countries). The creation of a customs union is also a near-term ambition, and this issue is attracting particular attention at present because of its importance to formal integration process. The timely and successful resolution of this question will have an impact on the future of the EurAsEC, a body described as the most advanced integration association in the post-Soviet space. Without a customs union, EurAsEC will become indistinguishable from other, more amorphous, formations (for example, the CIS). Between 2000 and 2006, only 2 per cent of the import duties in Russia, Belarus and Kazakhstan had been unified. Out of 73 measures due to be implemented between 2003-2006 as part of the creation of a customs union, only 20 had been put in place by the end of that period[5]. This illustrates how efforts to harmonise member country import and export duties have been carried out ineffectually and the significant difficulties surrounding certain aspects of this initiative.

We think this situation, like other delayed integration initiatives in the post-Soviet space, is caused by a number of factors.

Reasons for the Lack of Progress in post-Soviet Integration

The key obstacles to integration include the varied structures of EurAsEC member country economies; the decline in trade and economic cooperation between member countries; and differences in their economic strategies and national models of economic development.

1) The EurAsEC member countries have tangible **differences in the structure of their domestic economies**. For example, Russia and Kazakhstan are major exporters of raw materials and produce a very wide range of goods (especially Russia), while Belarus specialises in producing finished goods from raw materials imported from third countries. Uzbekistan, Kyrgyzstan and Tajikistan, which lag behind other EurAsEC member countries in terms of industrial production, are importers of a large number of industrial goods from non-CIS countries. Because of this, Russia is keen to protect its economy by using duties on a wider range of products than would its EurAsEC counterparts. In addition, since the average weighted rate of customs duties in Russia is falling, Russia levies

[5] *Soyuznoye Veche, 2006, 25-31 May, p. 1.*

lower import tariffs on some goods than its partners do. Kazakhstan's customs tariffs differ considerably from those of Russia and Belarus (the Kazakh economy is liberalised to a larger extent.

Except for Kyrgyzstan, which is a member of the WTO, the longer the country's membership of the EurAsEC, the greater the level of harmonisation of customs duties. For example, 80 per cent of Tajikistan's national tariffs had been harmonised with the EurAsEC's Basic List of Common Customs Tariff (BL CCT) by 2007, while this figure stands at only 30 per cent for Uzbekistan, which was one of the last countries to join the organisation. Moreover, level of protectionism in Uzbekistan's foreign trade policy is higher than in other EurAsEC countries.

The harmonisation of export duties is also causing considerable difficulties. Export duties, currently imposed by EurAsEC member countries on certain goods, contribute hugely to national budgets (for example, the oil export duty in Russia), which is why their abolition or reduction during the harmonisation of trade regulation instruments is almost impossible in the short term.

Disparities in the way national economies are structured also hinder implementation of joint projects. That is why activity in the energy sector, especially Russia's, is particularly visible. It is important to note, however, that there is significant potential for conflict (mainly hidden) in this sector because of differences in EurAsEC member countries' interests. For example, Russia, Kazakhstan and Uzbekistan are major oil and gas exporters, while Belarus is an importer and a transit corridor to the West. Moreover, Kazakhstan and Uzbekistan are trying to diversify their export routes.

Problems relating to these different national economic structures within EurAsEC member countries can be resolved by concerted efforts to define the priorities of their development; the implementation of a coordinated industrial policy; and a system of compensation from the EurAsEC's budget to mitigate the losses of member states and certain producers in cases where shifting customs duties affect industries which are strategically important to a country's economy.

However, EurAsEC member countries have not yet adopted a coordinated structural policy. The issue of compensation for budget losses resulting from customs tariff harmonisation has not been resolved since it entails substantial costs for Russia especially, which it is not ready to pay.

2) As well as the difficulties relating to the different interests of EurAsEC countries, linked to their economic structures, another problem stands in the way of foreign trade policy harmonisation and deeper integration, i.e., **Russia's role in the post-Soviet space**. The Russian economy is considerably bigger than those of the other EurAsEC member countries. As a result, Russia falls into a kind of "trap". On the one hand, it is regarded (and it sometimes behaves) as a powerful player, imposing

its rules on others. This raises concerns for other EurAsEC member countries, who fear that they will end up being dependent on Russia. They then recoil from processes which would involve them ceding part of their sovereignty to supranational bodies. This in turn hinders the development of integration. On the other hand, where necessary, Russia, as the largest player, is able to initiate integration processes in the post-Soviet space and act as their "sponsor"[6].

3) Since the break-up of the USSR, **trade and economic cooperation between EurAsEC member countries have been diminishing** in comparison to their cooperation with third countries. However, this trend is not constant: in 2000-2005, trade between member countries increased. In 2005-2006, it decreased once again. The dynamics of trade between EurAsEC member countries are largely defined by the nature of the goods traded, compared to those traded with third countries. For example, machinery makes up a substantial share of trade within the bloc and price increases for these products are below than for goods produced by the fuel and energy sector. Trade within the bloc is also declining because of a drop in the global competitiveness of goods made in the EurAsEC compared to goods from third countries. Another factor which impinges on trade is the continuing competition between EurAsEC producers in the Community's market. Competition arises from similarities in the structure of their economies, and specifically the dominance of low-value-added sectors (mining, agriculture and metallurgy). This provokes moves to raise barriers to intra-bloc trade and can lead to trade wars. Despite declarations that such barriers do not exist, in practice EurAsEC members (in particular, Russia and Belarus) have been waging trade wars more often, which have had a negative impact on trade and economic cooperation. Protracted debates between Russia and Belarus over conditions imposed on Belarusian sugar supplied to Russia and Kazakhstan's imposition of sugar import quotas are immediate examples to this matter.

Protective measures do not only reduce trade but also undermine the basis of integration, creating barriers to foreign economic relations instead of removing them.

Such developments have slowed the growth of trade between EurAsEC member countries in recent years compared to trade with third countries, and led to a reduction in intra-EurAsEC trade as a proportion of member countries' total foreign trade (Table 1). For Russia in particular, trade with EurAsEC countries declined from 9.5 per cent of total foreign trade in 2002 to 8.7 per cent in 2007. However, this figure did increase from 8.3 per cent in 2006 to 8.7 per cent in 2007[7]. This might be an indication that trade disintegration has passed its lowest point. One particularly

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[6] *Golovnin M. (2006) Prospects for Multilateral Cooperation in the post-Soviet Space from Russia's Point of View. Information and Analytical Bulletin of the Centre for Globalisation and Integration of the Institute of Economy, Russian Academy of Sciences, No. 4 (8), p. 9.*

[7] *From customs statistics (including data on Belarus) released by the Russian Federal Statistics Service (http://www.gks.ru/bgd/free/b04_03/IssWWW.exe/Stg/d030/i030780r.htm. as of July 2008).*

interesting trend is the continuing fall in EurAsEC imports from within the bloc, which are not affected the "VAT factor"[8] or the dynamics of energy prices. Since Russia is the engine of trade in the EurAsEC, this has also reduced intra-bloc trade in the EurAsEC. The low share of EurAsEC trade in Russia's total foreign trade would seem to indicate Russia's lack of interest in advancing integration in the post-Soviet space.

	2004	2005	2006
Belarus			
Exports	48.1	37.0	36.5
Imports	68.2	60.7	59.0
Kazakhstan			
Exports	16.0	12.8	12.1
Imports	39.5	41.4	41.6
Kyrgyzstan			
Exports	34.7	43.4	46.5
Imports	53.5	56.5	54.6
Russia			
Exports	9.0	7.5	8.0
Imports	13.4	10.2	8.9
Tajikistan			
Exports	7.7	19.1	12.4
Imports	36.1	46.0	48.4
EurAsEC			
Exports	12.2	9.8	10.1
Imports	25.6	20.9	19.5

Table 3. 1
Trade with EurAsEC member countries as a share of total foreign trade for selected EurAsEC countries, per cent

Source: Calculations based on information released by the Interstate Statistical Committee of the CIS (http://www.cisstat.com)

4) **Differences in the economic strategies pursued by EurAsEC member countries** have an adverse impact on the coordination of foreign trade policies and on integration process in general. During their transformation period, EurAsEC countries followed different models of transition to market economies. Some countries (Russia, Kazakhstan and Kyrgyzstan) based their models on more liberal principles, while others (Belarus and Uzbekistan) granted the state a greater role in the process of transformation and chosen a more gradual path to a market economy. These models also changed during the transition period (in Russia and Kazakhstan, for example). The resulting mix of economic and institutional systems continues to hinder the development of a single economic policy

[8] *In the beginning of 2005, VAT collection in Russian export to CIS countries was turned to a destination basis (for all countries except for Belarus it was applied to energy goods, for Belarus – to all goods). So, this measure had a one-time negative quantitative impact on the amount of Russian export to the CIS countries.*

and imposes serious obstacles to integration, the customs union in particular. This problem can be solved only if member countries draft a coordinated development strategy for the EurAsEC and, correspondingly, an agreed model for protecting their markets in the global economy. The other possible scenario would involve countries opting for a unified mode of development which encourages an active exchange of expertise and experience in the field of economic policy. In this scenario, differences in economic models play a positive role by offering greater scope for choice.

It is very hard to make a clear distinction between objective and subjective obstacles to integration. Modern objective factors (for instance, economic development models) may have developed as a result of subjective decisions and, conversely, objective trends create subjective influences. Nevertheless, in the context of this study, the most important subjective factors discussed are **the lack of an effective means of coordinating interests and implementing decisions** and differences in EurAsEC member countries' capacities to create a customs union.

1) The lack of an effective means of coordinating interests and implementing decisions. We believe that the current mechanism for coordinating the interests of member countries, notwithstanding the fact that a number of provisions are already in place (in particular, the aforementioned principle of "weighted" voting), has several shortcomings which are preventing the implementation of adopted decisions. While the key player – Russia – is not always willing to cede its national interests to a supranational association, other countries are trying hard to escape Russia's influence. This is one of the negative manifestations of Russia's dominant role in the post-Soviet space. In case of foreign trade, Russia would prefer other countries adapting its own regulatory system. As a result countries may face losses owing to differences in economic structure, which Russia will not compensate them for.

Integration is largely limited to foreign trade. Until recently, other aspects of integration have received inadequate attention. For example, hardly any major joint investment projects have been implemented. The situation has changed since Russia and Kazakhstan set up the Eurasian Development Bank (which we discuss later), but it will be some time before this institution is able to fund large-scale projects.

All this reduces the motivation to implement agreements and thereby hinders the creation of a customs union and other integration procedures. In practice, "disadvantageous" decisions are not implemented resulting in "integration on paper". A typical "integration on paper" works as follows: first, the basic integration decisions are taken and corresponding measures are drafted and started to implement; the implementation of these measures is then delayed, with some elements even rolled back. After this, new integration documents and new measures are drawn up (many of which are, in essence, inherited from the previous un-implemented documents), but their implementation is then delayed once again.

It is obvious that successful implementation of agreements depends entirely upon countries' vested interests, i.e. the degree to which the negotiated result corresponds to an agenda of interest groups involved. That is why efficacy in implementing decisions could be enhanced significantly if integration partners (particularly Russia) pay greater attention to the interests each EurAsEC member has in the agreement, and take account of each country's individual circumstances.

Barriers to the creation of a customs union are typified by the failure to coordinate EurAsEC member country positions vis a vis accession to the WTO.

In 1997, signatories to the Customs Union Treaty agreed to coordinate negotiating positions in their progress towards WTO membership. Although Russia, Belarus, Kazakhstan and Tajikistan agreed in 2002 to adopt Russia's position in these negotiations, in practice the coordination mechanism is not working perfectly. Kyrgyzstan's separate accession to the WTO is an example of the EurAsEC partners' poor coordination of their activities regarding WTO membership. One of the latest solutions to this problem of coordination over a customs union and WTO membership has been offered by Russian Deputy Prime Minister Sergey Naryshkin: "The heads of states of a future customs union have agreed that Russia will be first to join the WTO, after which the customs union will start functioning, and ultimately other member countries, as members of the customs union, will join the WTO".[9]

Obviously, this approach has practical merit but it also postpones the creation of a customs union indefinitely. Moreover, Russian conditions for WTO membership may turn out to be unacceptable to other countries, and this will either hold up the process of building a customs union for several years or will halt it completely.

2) **Differences in EurAsEC member countries' capacity to join a customs union and to progress to the next stages of integration**. In terms of preparedness to become a member of customs union (i.e. the level of custom tariff harmonisation), EurAsEC countries clearly fall into two groups:

1. Russia, Belarus and Kazakhstan (most prepared);

2. Kyrgyzstan, Tajikistan and Uzbekistan (least prepared).

These groupings shaped up historically: the first group was negotiating on cooperation for a longer time, while the second group joined them later. However, the underlying reason for this division is the difference in the level of their economic development (Table 2) and the structure of their economies. Such a differentiation challenges feasibility of an effective customs union among 6 member states concerned and raises an issue of modes of economic integration in EurAsEC.

[9] *Prime-TASS, 16 October 2007.*

Table 3. 2
GDP per capita in EurAsEC member countries

Sources: the Interstate Statistical Committee of the CIS (www.cisstat.com); Human Development Report 2007/2008. United Nation Development Programme, 2007

	GDP per capita at the official exchange rate (2006, dollars)	GDP per capita in purchasing power parity (2005, dollars)
Russia	6 915	10 845
Kazakhstan	5 045	7 857
Belarus	3 793	7 918
Uzbekistan	643	2 063
Kyrgyzstan	542	1 927
Tajikistan	402	1 356

Modes of Integration

Geographic expansion of the Agreement on Customs Union and subsequently of the EurAsEC itself, created preconditions for strengthening political status of the organisation. At the same time, however, it diluted the economic foundation of the Community.

Comparison of countries by GDP per capita clearly shows two groups of countries within the EurAsEC: Russia, Kazakhstan and Belarus that are relatively better off, and Uzbekistan, Kyrgyzstan and Tajikistan that are less advanced in terms of market transition (Table 2). Disparity is also seen in both the analysis of GDP per capita at the official exchange rate and in purchasing power parity.

Membership of relatively poorer countries in the EurAsEC was a lesser problem when it included only Kyrgyzstan with a population of 5.19 million people (as of end 2006) and Tajikistan with a population of 7.07 million people (as of 2006, preliminary data). But in early 2006, Uzbekistan with a population of 26.7 million people (preliminary official data) joined the organisation.

Comparison of average wages by country provides similar observation. In 2006, the nominal average wage in Russia was slightly over $391.1, in Kazakhstan and Belarus it was $323.5 and $271.2 respectively. In Kyrgyzstan nominal average wage recorded at $81 and in Tajikistan – at $35[10].

With Uzbekistan's accession to the EurAsEC, the polarisation of levels of social development between the member countries has increased considerably. The same observations apply to the status of economic reforms, with Uzbekistan being at a much earlier stage compared to many other EurAsEC member states[11]. Therefore, opportunities to implement formal integration projects shrunk.

The solution to this situation was the proposed leadership of the three founding states (Russia, Belarus and Kazakhstan) within EurAsEC, so

[10] *The Interstate Statistical Committee of the CIS (www.cisstat.com). Data is unavailable for Uzbekistan in 2006.*

[11] *EBRD (2007) Transition Report 2007. EBRD: London.*

called "troika". Following the decisions ratified in Dushanbe on 6 October 2007, these countries would form the basis of a customs union. EurAsEC documents were amended to this end, since they did not envisage a possibility for member states to inegrate at different pace. A formal decision was thus adopted creating an "integration nucleus" within the EurAsEC made up of the abovementioned countries, which are already part of another integration grouping – the Single Economic Space. SES includes Russia, Belarus and Kazakhstan plus Ukraine. For the purposes of this paper, we suggest to define them as SES-3 countries. Other countries will join this core group as and when prepared. At the first sight, this scenario may speed up integration, since it decreases the number of parties in negotiations, and focuses on countries with more developed negotiating capacity and comparable levels of economic development. However, the issue of differing economic systems remains. Higher convergence is theoretically possible though given recent liberalisation in Belarus, increased state involvement in the economy in Russia and Kazakhstan. These structural differences are very significant even among the countries that form the core of customs union. The Russian economy is diversified to a greater extent; mining sector dominates in Kazakhstan and in Belarus machine-building plays a key role.

It should not be forgotten that integration nucleus includes another association – the Union State of Russia and Belarus. Despite a recent cool-down in relations between the two countries and a gap between real integration and its declared goals, progress in cooperation between Russia and Belarus is quite significant compared with other CIS countries. High level of customs duty harmonisation and absence of customs barriers between the two countries are immediate examples to this end.

In the variable-pace model of integration, keeping other EurAsEC members in the troika's sphere of influence seems a serious problem, as delays in implementing integration initiatives may reduce the non-core members' interest in cooperation. It is extremely important to involve them in mutually beneficial projects which could bring tangible economic effects. These include the development of hydro power sector in Kyrgyzstan and Tajikistan and machinery in Uzbekistan, addressing migration issues, and so on.

Obviously, Russia does not intend to limit integration potential of the post-Soviet space to the EurAsEC only. Hence, it attempts to involve Ukraine, CIS second largest economy with enormous industrial potential, in the integration process by means of Single Economic Space and offer to join the EurAsEC. However, it should be noted that Ukraine, and other countries whose integration policies target Europe, will not be keen to build a customs union with predominant Russian influence. Therefore, in pursuit of this goal it is important for Russia to offer incentives and attractive initiatives to such countries, rather than provoke their resistance by imposing unacceptable decisions. One such initiative might be the creation of an integration group according to the principle of "open regionalism", as the third "concentration circle" of post-Soviet

integration after SES-3 and EurAsEC-6. Russia must not present this project as an alternative to EU. Moreso, Russia ought to seek collective solutions to common problems of countries that are part of this group. CIS could provide a foundation for such a regional grouping. A free trade zone within the group could be an option for formal integration, provided that all positive and negatives effects for Russian economy are carefully examined. It is perhaps more important to adopt a project approach and seek opportunities for a joint project financing, for instance, by establishing a regional development bank with a mission to facilitate mutual trade and favourable trade environment. Many CIS countries are now bearing costs of their trade wars to Russia and redirecting their foreign trade flows to other destinations, hence growing even further apart from economic cooperation in post-Soviet space.

Finally, the future of the integration nucleus (SES-3) poses some important questions, too. Growth of cooperation beyond customs union seems unlikely in the foreseeable future. Gradual abolition of restrictions on the movement of goods and services would require coordination of economic policies, and currently member-states are just not prepared for this. Therefore, attention should be focused on the creation of a customs union and implementation of mutually beneficial projects reaching to as many CIS countries as possible, including EurAsEC member countries. One of the most promising projects, we believe, is the strengthening of financial cooperation between the EurAsEC member states.

Financial Cooperation among EurAsEC Member States

Preconditions for financial cooperation in the EurAsEC are gradually emerging owing to active expansion of Russian and Kazakh financial institutions into other member countries' markets In the EurAsEC banking system Russian banks are mostly targeting markets of Kazakhstan and Belarus. For instance, Sberbank bought an 80 per cent stake in Texakabank (Kazakhstan); Vneshtorgbank has a majority ownership in Slavneftebank (Belarus); Alfa Bank has a subsidiary bank in Kazakhstan and is entering the Belarusian market; Rosbank and Gazprombank have subsidiary banks in Belarus. Kazakhstan's banks spearhead their investments even wider:

- Kazkommertsbank has two subsidiary banks in EurAsEC member countries (Moskommertsbank in Russia and a bank in Kyrgyzstan), and is establishing a subsidiary bank based on a representative office in Tajikistan;
- Kazakhstan's BTA Group includes Slavinvestbank, Omsk Bank, BTA Kazan, Agroinkom Bank (all in Russia), Astanaeximbank (Belarus) and Investment Export Import bank (Kyrgyzstan);
- Halyk Bank has subsidiary banks in Russia (NBK Bank in Chelyabinsk) and Kyrgyzstan (Halyk Bank Kyrgyzstan);
- ATF Bank owns 94.17 per cent of shares in ATF Bank Kyrgyzstan, 100 per cent in Sibir Bank and 75.1 per cent in Sohibkorbank (Tajikistan).

However, the share of EurAsEC member states banks' in the banking systems of other countries is insignificant with an exception of Kazakhstan's equity in the banking system of Kyrgyzstan[12]). For example, as of 1 September 2007, Russian capital accounts for mere 1.8 per cent of the total capital of the Belarusian banking system even though Russia is the largest foreign investor in the Belarusian banking system.

Investment companies are also entering neighbouring markets. This mainly concerns Russia and Kazakhstan:

• The KIT Finance company of St Petersburg has set up a KIT Finance subsidiary in Kazakhstan;

• Renaissance Capital demonstrates active presence in trade sector in Kazakhstan . For example, Renaissance Capital acquired a 15 per cent stake in Kazkommertsbank during an assault on the bank's shares on the Kazakh and London stock exchanges in February 2008 (on behalf of its client)[13].

• Russia's Troika Dialogue enters the Kazakh market through acquisition of Almex Asset Management[14].

• The Aton Investment Group has been active on the Kazakh stock market for some time. In April 2007, it offered investors a new index for the Kazakh stock market.

• East Capital, operating in Russia, is part of an investment and banking holding within Moskommertsbank. This company has representative offices in all the EurAsEC countries.

• Russia's Centras Capital investment company is a member of the Kazakh Centras Investment Group. The company has begun to expand into Kyrgyzstan.

• The Kazakh BTA Group includes Russian companies TuranAlem Finance, BTA Finance and BTA Capital.

• NBK Finance, owned by Kazakh Halyk Bank, is operating on the Russian market.

Financial systems of EurAsEC member-states are generally underdeveloped, with the exception of the Kazakh banking system and the Russian stock market (Table 3). Banking systems of Belarus and Uzbekistan are under strong state regulation, while Kyrgyzstan and Tajikistan have the least developed banking systems among EurAsEC member-states. Tajikistan does not have an organised stock market, and stock markets in Kyrgyzstan and Uzbekistan are very weak, although they have been growing rapidly[15]. The Kazakh stock market, despite

[12] The share of Kazakh banks in the Kyrgyz banking system is about 37%. http://www.24.kg/economics/2008/03/04/78359.html.

[13] Central Asia Monitor, 7 March 2008.

[14] Delovoy Kazakhstan, 7 March 2008. This deal has been finalised in summer 2008.

[15] In 2005, the ratio of stock market capitalisation to GDP was close to 0 in Uzbekistan and 1.7% in Kyrgyzstan.

dynamic progress in recent years, is lagging behind Russia's market in terms of capitalisation and liquidity.

Table 3. 3
Financial development indicators in EurAsEC countries
(per cent of GDP)

Sources: Kommersant Bank, 5 April 2007; Transition Report 2007. Life in Transition. EBRD, 2007.

	Banking systems (as at 1 January 2007)			Stock market (2006)
	Assets	Loans	Capital	Capitalisation
Russia	52.8	29.6	6.4	104.4
Kazakhstan	101.7	68.7	13.4	54.7
Belarus	36.7	26.2	6.6	...
Uzbekistan	34.7	...	5.2	4.3
Kyrgyzstan	26.7	11.4	4.8	3.1
Tajikistan	19.8*	15.3*	2.7*	-

* Data for 2004

These trends suggest potential directions of financial integration, including assistance from more advanced countries (Russia and Kazakhstan) in establishing financial markets in less developed countries. Although this is unlikely to yield sizeable profits in the short run, long term benefits will accrue from strengthened strategic positions on these markets. This is particularly the case in conditions of fierce competition for foreign markets and their infrastructure. For example, the Deutsche Bцrse, Scandinavian OMX Group and the Warsaw and Istanbul stock exchanges are all showing great interest in the CIS market and this poses serious challenges[16]. Russian and Kazakh companies have already made most of their IPOs on foreign trading floors (mainly on the London Stock Exchange and its AIM segment). The Russian stock market increased its share in Russian companies IPOs from 36 per cent in 2006 to 44 per cent in 2007 owing to Sberbank placing all of its shares and Vneshtorgbank placing 35 per cent of its shares in Russia (in total, these two IPOs accounted for 48 per cent of all deals in 2007)[17].

The institutional basis of financial integration model suffers of same weakness as integration initiatives in other spheres, i.e., a gap between ambitious declared aims and low enthusiasm for formal cooperation and weak preconditions for implementation. These problems become more acute, because in traditional integration process financial integration comes as a final stage of economic integration. The EU, for example, has not yet established a single financial services market and is currently implementing new integration initiatives as part of the White Policy Paper on Financial Services for 2005–2010.

Transfer of European experience on post-Soviet space is merely possible because integration in other spheres shows only moderate progress, while regulations of financial markets in member states differ significantly.

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[16] *For example, the Istanbul Stock Exchange is already a major shareholder of the Kyrgyz Stock Exchange.*

[17] *IPO in Russia: liquidity in the financial markets is slowing down growth. ReDeal Group, 2008.*

We believe that it is premature to define establishement of a common financial services market or common stock market as a key objective of the EurAsEC, especially in the short to medium term. Learning from Asian experience of financial integration, which focuses on specific challenges of financial markets development and efforts to address those, could be of benefit. Asian integration model is similar to post-Soviet context in a way that it is also implemented in the framework of numerous parallel integration organisations covering different groups of countries (APEC, ASEAN, the Asia Cooperation Dialogue, Executives' Meeting of East Asia Pacific Central Banks (EMAP) and others).

Creation of a regional bond market is an excellent example of a project implemented by Asian integration associations in the framework of financial integration[18]. Achievements are many, including: establishment of two Asian bond funds dealing with government securities in foreign and domestic currency; abolition of certain foreign exchange restrictions; joint efforts to address issues associated with the development of national financial markets (for instance there are six working groups in ASEAN established in the framework of the bond market initiative), etc. Such an initiative on development a specific segment of financial market – be that government securities, corporate bonds, stock or financial derivatives – could be implemented in the EurAsEC. This would be a way of demonstrating real benefits of integration to member-states, but would require financial resources from initiating countries (mainly Russia, and possibly Kazakhstan). We believe that development of a corporate bond market would generate particular interest. In some EurAsEC member countries, the state controls major enterprises, thus corporate bonds would allow them to attract additional investment without changing their ownership structure, including from member countries which have excess capital.

The first step in developing EurAsEC's financial integration could include the gradual abolition of regulations which restrict mutual access to financial markets and movement of capital between countries. In this regard, on-going foreign exchange liberalisation, which in Russia culminated with the abolition of restrictions on capital operations on 1 July 2006, is of particular significance. Kazakhstam liberalised its foreign exchange regime from 1 January 2007. This process is under way in other EurAsEC countries, but tight restrictions remain in countries with relatively strict foreign exchange regimes (Belarus, Uzbekistan and Tajikistan). In Belarus, for example, resident legal entities and individuals must seek approval from the National Bank in order to conduct the certain operations, including: direct or portfolio investment in the charter capital or securities of a non-resident company[19]); purchase of property

[18] *Golovnin M. (2007) Multilateral financial cooperation in the post-Soviet space: a new agenda for integration. Problemy Teorii I Praktiki Upravleniya, No 4.*

[19] *In general, any operations with securities issued by non-residents are conducted by permission of the country's National Bank; if a resident issues securities, they circulate without any restrictions.*

abroad; depositing money in foreign banks; and issuing loans with a maturity of over 180 days[20].

Gradual abolition of mutual restrictions (specifically preferential liberalisation) will increase the presence of companies from EurAsEC member-states on the markets of other countries and strengthen their support for integration "from below".

There are some indications that countries are searching for alternatives to integration projects within the EurAsEC. For example, Kazakhstan has set up a regional financial centre in Almaty to attract funds from Central Asian countries, the Urals and Siberia. This regional financial centre is an alternative to EurAsEC projects. Announced project on international financial centre in Russia can also be an alternative, but the opportunity still remains to direct it to the development of EurAsEC financial integration.

A separate, and in our opinion extremely important, factor in promoting financial integration is the creation of a funding mechanism for integration projects. In many international integration organisations this function belongs to multilateral development banks (i.e. Asian Development Bank for several Asian integration groupings, European Investment Bank for the EU, the Andean Development Corporation for the Andean Community of Nations, etc.). A bank which could perform such a function in EurAsEC region already exists – the Eurasian Development Bank (EDB). Thus far, however, the EDB, formally remains a bilateral bank (involving Russia and Kazakhstan only), which limits its integration potential.

The EDB has already selected and partially financed its first commitments, including development of the Zarechnoye uranium field (a joint project of Russia's Techsnabexport and Kazatomprom, the project will last for five years and has been fully funded in the amount of $63m); the Voskhod project to construct environmentally friendly chromite production and processing lines which will supply Russian enterprises (the project engages Western banks – WestLB and HVB; EDB has fully funded its share of $60m); the reconstruction of production capacity at the Ekibastuz hydro power plant-2 (the project is for 10 years and will cost $93.5m)[21]. As could be seen, these projects mainly relate to bilateral cooperation between Russia and Kazakhstan. In addition, the EDB is participating in syndicated lending to selected Russian and Kazakh banks.

Negotiations are under way to increase the number of the EADB's shareholders. The most possible next participant would be Tajikistan. Belarus, Kyrgyzstan and, noteworthy, Armenia (which is not a member of the EurAsEC) are among potential shareholders. Uzbekistan, with its sizeable economy, remains beyond the reach of the bank's activities.

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[20] *Centre for Globalisation and Integration Problems (2007) Preconditions, Problems and Prospects for Financial Cooperation in the post-Soviet space. Scientific and analytical reports by the, Economics Institute of the Russian Academy of Sciences, No 1, page 34.*

[21] *http://www.eabr.org/rus/projects/portfolio/, as of July 2008.*

We think that a regional development bank, such as EDB, could potentially facilitate integration processes in the EurAsEC through viable projects.

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In the medium term, the creation of a customs union will play a key role in encouraging formal integration in the EurAsEC. In our view, it will face impediments which are both objective (differences in the structure of member country economies) and political in origin (Russia's self-serving approach which fails to create attractive opportunities for partners prepared to make concessions from their side). We believe that potential for further integration is constrained by the need to coordinate many aspects of hugely varying national economic policies.

Nevertheless, aspirations for customs union should not be dropped off and concerns of stakeholders should be addressed with due consideration The most likely basis for a customs union at the moment is the SES-3 (Russia, Kazakhstan and Belarus); however, some major challenges continue to affect this association, too. Other EurAsEC member countries may gradually increase their involvement in the integration process, but their interest in joining this organisation must be courted. In a shifting to multi-paced scheme of integration, it would be beneficial to consider system of interaction between Russia and its regional partners on a wider scale. The EurAsEC may ultimately be "built-into" integration associations in the former Soviet Union, including the Union State of Russia and Belarus, the CIS and the Shanghai Cooperation Organisation. However, it is extremely important that it retains a "niche" role. This niche would most likely be in the move to formal integration and establishment of supranational bodies in common areas of interest of the member-states (primarily, but not exclusively, foreign trade).

We believe that financial sector holds the most promise for further cooperation in the EurAsEC. It is linked neither with the troubles of cooperation in fuel and energy, nor with the inefficiencies of machine-building industry inherited from the Soviet economic system. Corporate integration between Russia and Kazakhstan can be strengthened through the mutual expansion of their financial institutions. These two champions in financial services development could share their experience with others and facilitate development of the banking systems and financial markets in other EurAsEC member-states. It would be expedient, therefore, to initiate a joint pilot project in one of the sectors of the EurAsEC member countries' financial market. Development of the corporate bonds market would appear to offer most potential. We would also stress the importance of establishing a regional development bank to act as a catalyst of the EurAsEC integration process. Achieving this goal would require membership of all EurAsEC members-states in the Eurasian Development Bank.

4 Cooperation in the CIS Machine-Building Sector: Decreasing Rather than Increasing

Yuriy Shishkov

Introduction

In most CIS countries the machinery sector falls short of international standards both in terms of its share of the manufacturing sector and the quality of machines and equipment produced. This results from the difficulties involved in transforming a command economy into a market economy, the abundant energy resources which reduce the incentive to innovate in the mechanical industries, and other factors, including a shortage of engineers. This article discusses another deficiency which is usually overlooked – insufficient cooperation between the CIS machine-building industry and more advanced foreign partners.

International cooperation has enabled South Korea, Taiwan, Malaysia, Thailand, China and Mexico to make a phenomenal technological leap forward in the past few decades, increasing their GDP and improving the living standards of the population. Cooperation also promotes the integration of national economies. It harmonises technical standards between countries, expands international scientific and technical cooperation, reduces disparities in the legal regulation of economic relations in this sphere, etc. In successfully integrated organisations (the EU, NAFTA and others), the intermediate machine-building sector in member countries exports 50-100% more than in the CIS, where a rapid contraction of exports threatens to dismantle the industrial foundations of integration.

In modern times, machine-building and the production of equipment and components has formed the foundations of the manufacturing sector in all countries and have largely determined the rate and quality of economic growth as a whole. According to the UN Industrial Development Organisation (UNIDO), machinery created 55.4% of new value added in the manufacturing sector in developed countries in 2005, 35.4% of new value added in countries with transitional economies and 34.8% in developing countries[1]. For various historical reasons, the machinery sector in most CIS countries lags significantly behind international standards. This sector's share of value added in the CIS manufacturing sector is also lower than average world indicators. For example, in 2004 it did not exceed 25.2% in Ukraine, 23.5% in Russia and was even lower in other CIS countries.

[1] *UNIDO (2007) Statistical Database, August.*

This has various negative socioeconomic consequences. We will briefly discuss two of these: the hindrance of technological progress in CIS countries and the disincentive to regional integration.

International Cooperation in Machine-building and Technological Progress

Machine-building even in the highly industrialised countries of Russia, Belarus and Ukraine is technologically some distance behind that of other post-industrial Western countries, many of which are enjoying a technological revolution based on recent advances in micro- and nanoelectronics, genetic engineering, renewable energy engineering and information technology. Research, development and computerisation of the production of goods and services now account for 75% to 90% of GDP growth in developed countries. In Russia, most production lines utilise the technologies of the 1930s-1960s, an era associated with mining waste, chimneys, toxic effluent in rivers and lakes, poor infrastructure and mass poverty. The hi-tech production lines of Russia's defence industry are the exception that proves the rule, but they are isolated from the rest of the economy by a veil of secrecy and the industry's privileged status. It is hardly surprising that, according to analysts, the contribution of advanced technologies to Russian GDP growth does not exceed 10%, losing the country an estimated $12bn-14bn in potential national income[2].

In addition to these structural economic deficiencies, industrial facilities and equipment are also largely obsolete in CIS countries. In Russia in 2004, for example, 86.3% of machines and industrial equipment had been in operation for more than 10 years, 74% for more than 15 years and 51% for more than 20 years[3]. The situation in other CIS countries was no better. Is technical progress a realistic aspiration when machine-building remains so far behind the standards set by the leading innovators of the world?

UNIDO's estimates of the share of medium and hi-tech products in this sector and in total exports do increase our understanding of the impact that machinery has on the technological achievements of the manufacturing sector in general.

It is clear that such products make unequal contributions to the sector and to exports. The first indicator reflects the competitiveness of these products within a country's domestic market, and the second their competitiveness in world markets. In almost all post-industrial countries (except for Sweden) the second indicator is far larger than the first, suggesting strong international competitiveness. A similar situation can be seen in newly industrialised countries, e.g., South Korea, Malaysia and Mexico. But in Turkey, Russia, Ukraine and Georgia, medium and hi-tech products' share of total exports is much smaller than their contribution

[2] *United Russia (2006) Industrial Policy: Creation of Innovative Economy. United Russia's Keynote Policy, 2 December 2006; Lenchuk Y. (2007) Technological Quasirent, Nezavisimaya Gazeta, 23 May.*

[3] *Rosstat data.*

to the domestic manufacturing sector; moreover, in all of the bottom six countries this share is significantly lower in absolute terms. The seems to be a clear indicator of the technological deficiencies of former Soviet countries.

Why are these countries unable to match the achievements of the first and subsequent generations of new industrial countries? There are several reasons: the complexities involved in transforming the command economy into a market one; the CIS' huge energy and raw material resources which draw attention away from problems of competitiveness in the machinery sector; and a shortage of engineers and scientific specialists, etc. All these issues have been discussed at length in other papers, and therefore we will not examine them here. However, there is another important factor which receives little attention, namely the lack of international industrial cooperation in the machinery sector both within the CIS and with non-CIS partners.

Table 4. 1
Selected manufacturing indicators in 12 countries in 1995 and 2005

Calculated based on: UNIDO. World Industrial Development 2005, pages 158-163; UNIDO. Industrial Statistics Database, 2007; CIS Turns 15 (1991–2005). Statistics Selection, pages 100-101.

Country	Machinery;'s share of manufacturing %		Medium and hi-tech products as a percentage of total manufacturing			
			in the sector, %		in exports, %	
	1995	2005	1990	2002	1990	2002
USA	37.4	67.0	60.0	63.7	67.3	74.4
South Korea	40.8	61.5	55.1	64.1	52.9	70.6
Japan	37.8	57.1	66.5	68.1	83.9	86.3
Sweden	36.5	51.2	56.5	66.2	58.1	63.6
Germany	42.0	46.2	66.3	63.2	68.7	74.9
Malaysia	42.4	44.5	52.3	65.1	50.6	76.2
France	34.8	44.1	53.9	50.8	59.2	69.2
Mexico	23.2	29.6	40.9	42.8	64.1	77.1
Turkey	18.0	29.5	35.9	40.3	22.4	32.7
Ukraine	n/a	25.2*	45.3	47.9	n/a	47.2
Russia	n/a	23.8*	46.3	61.0	n/a	26.7
Georgia	n/a	4.3*	43.5	27.4	n/a	45.7

* 2004

Mechanical advances allow production processes to be divided into separate operations and facilitate the exchange of goods at different stages of the technological cycle (i.e. semi-finished products). There is, in essence, a qualitatively higher level of economic cooperation between countries when the traditional *division of labour* is transformed into a *division of the production process*. In the 1900s-1930s, international cooperation developed on this basis. Technologically and economically integrated production chains, whose separate links were located in different countries, performed according to a common schedule and in an agreed way, as if they were workshops in the same factory. Components,

parts and assemblies moved between them according to a strict timetable, ensuring the continuity of the entire technological process right through to the relevant finished product.

Some newly industrialised countries have demonstrated that the active involvement of enterprises in the technological production processes of certain finished goods have enabled them to improve their mechanical technology, and bring entire industries up to world standard. Involvement in international industrial cooperation begins, of course, with the simplest operations performed by local workers. These operations are not isolated but integral to an entire production process, and must be performed in accordance with strict technological standards in terms of quality, supply and many other features, in order to ensure that the particular finished product can compete internationally. A foreign parent company must not jeopardise the quality of its products, otherwise its competitors will eliminate it, and its brand will be irreparably damaged. This encourages suppliers of spare parts, components and finished products to attain international standards by producing increasingly scientifically and technologically advanced products.

China, for example, has made amazing technological advances in the last two decades. Initially, this country specialised in producing and exporting labour-intensive goods, but in the 1990s it began to specialise in the technology-intensive production of shoes and clothes. Chinese enterprises began to produce parts and components and to assemble finished products for the automotive and IT sectors. By engaging in international industrial cooperation, China has mastered with astonishing speed the advanced technologies of the electronics, machinery, automotive and other medium- and hi-tech sectors. This has made it one of the leading exporters of electronic machines (10.7% of the world's exports), office equipment (14.2%), telecommunications equipment (16.4%) and computers (26.1%)[4]. Presently, hi-tech goods constitute 37.2% of China's finished goods exports.[5]

Previously, South Korea, Taiwan, Singapore, Malaysia, Thailand and the Philippines had used these methods to speed up their modernisation and diversification. The results of this strategy are shown in Table 2 below, which shows foreign trade in machinery and vehicle products (since comprehensive customs statistics are available in these sectors). International industrial cooperation has been at its most intensive in these sectors in particular. The figures clearly show that hi-tech exports from these countries correlate quite closely with the imports and exports of parts and components (as a proportion of total machinery and vehicle imports and exports). The more actively a country participates in international production chains, the higher the share of hi-tech products in its manufacturing and exports.

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[4] *UNCTAD (2007) Handbook of Statistics 2006-07, p 159.*

[5] *High-tech exports. May 2007 (http://www.Global-production.com)*

Country	As a proportion of machine and vehicle imports, %		As a proportion of machine and vehicle exports, %		Hi-tech exports, %*
	1995	2005	1995	2005	
Philippines	62.9	87.0	75.3	88.0	79.4
Malaysia	60.3	74.2	57.6	59.2	70.8
Singapore	63.7	75.7	63.4	73.1	62.4
South Korea	50.9	60.9	50.3	44.1	47.2
Thailand	54.1	60.3	52.6	47.8	41.5
Hungary	39.0	59.4	58.1	49.8	39.5
China	35.9	67.1	33.8	36.5	37.2
Mexico	59.5	59.3	39.9	40.3	30.8
Indonesia	48.4	52.6	41.4	46.9	25.5
Czech Republic	41.2	56.0	56.2	49.8	21.2
Brazil	42.3	36.9	56.0	35.5	15.3

Table 4. 2
Parts and components as a percentage of machinery and vehicle imports and exports in 11 countries

Calculated based on: UN COMTRADE Database; the share of hi-tech products in exports: High-tech Exports. May 2007 (http://www.global-production.com)

*The share of hi-tech products in total manufacturing exports in 2006

Cooperation between machinery enterprises in CIS countries is very weak. Statistics indicating the degree of international cooperation in machine-building are available for only nine CIS countries. These show that imports of parts and components (at current prices) increased from $5.4 billion in 1996 to $21.5 billion in 2006, while exports increased from $4.6 billion to $9.1 billion. However, their share of machinery and vehicle imports is significantly lower on average than in the newly industrialised countries (Table 3). Moreover, by 2006 this share had fallen sharply compared to 1996. This hinders the flow of semi-finished products from developed countries to finished product assembly lines in CIS countries.

Semi-finished machinery forms a declining percentage of imports due to a sharp decrease in their imports from other CIS countries. It is increasing with non-CIS countries. Azerbaijan, Kyrgyzstan, Ukraine and Russia are making significant moves towards trade with non-CIS countries. This reinforces the expectation that their engagement in international cooperation will fuel their technological progress.

A similar redirection of international supplies may be observed in the exports of parts and components from Ukraine, Russia and Kyrgyzstan. This implies that their machinery companies are becoming integrated into the production chains of non-CIS enterprises as suppliers of semi-finished products. Their involvement in the earlier stages of the production cycle, as mentioned above, helps manufacturers raise the quality of their products to international standards. Belarus, Georgia and Azerbaijan are losing these opportunities by scaling down their parts and component exports to CIS and non-CIS countries.

Country	In total		From/to CIS countries		From/to non-CIS countries	
	1996	2006	1996	2006	1996	2006
Imports						
Russia	27.5	19.3	91.9	32.5	16.8	18.4
Ukraine	42.6	32.5	67.2	40.3	27.1	30.0
Belarus	51.2	37.3	64.1	47.2	38.2	25.1
Kazakhstan	33.8	24.9	47.7	30.6	15.2	22.6
Azerbaijan	33.2	35.3	59.2	12.1	23.6	45.2
Armenia	35.7	28.3	36.3	31.2	35.5	27.1
Georgia	30.0	22.3	39.5	37.7	26.7	19.4
Moldova	19.6	25.8	40.3	39.3	14.3	22.9
Kyrgyzstan	44.4	39.6	37.4	48.3	46.8	36.0
CIS-9	33.2	23.0	66.5	34.8	20.1	21.2
Exports						
Russia	35.7	37.4	56.6	36.5	16.4	38.2
Ukraine	18.7	44.2	55.7	36.6	7.6	61.3
Belarus	42.2	31.1	41.8	39.4	44.5	17.5
Kazakhstan	28.7	33.9	33.3	50.8	8.6	15.8
Azerbaijan	28.8	15.0	26.8	9.1	47.1	26.7
Armenia	33.5	35.2	32.5	32.2	34.9	42.4
Georgia	30.5	13.6	33.3	12.6	22.2	15.0
Moldova	17.1	31.8	19.4	36.2	13.5	16.0
Kyrgyzstan	38.4	59.3	41.5	20.5	20.4	60.0
CIS-9	42.6	37.5	60.0	38.2	22.9	36.9

Table 4. 3
Parts and components as a percentage of machinery and vehicle imports and exports in nine CIS countries (%)

Calculated on basis: UN COMTRADE Database.

No Cooperation, No Integration

Involvement in international manufacturing cooperation not only raises the technological standards of national industries and the quality of their finished goods, it also plays an important geo-economic role – helping national economies to integrate. International cooperation harmonises technical standards across partner countries, develops international scientific and technical cooperation, unifies the regulation of economic relations in this sphere and so on. Thus producers in these countries become integrated into international production and economic systems, which in turn promotes the convergence of their legal, fiscal and customs regulations. This undoubtedly strengthens the links between the economies of these countries.

One of the main indicators of the level of integration between countries is their intra-regional trade as a proportion of their total foreign trade. In 2005, the majority of intra-regional exports in the EU – 57.9% –

were within EU-15 (i.e., the countries which formed the EU prior to the accession of the 12 new Central European member countries). In NAFTA, 55.8% of exports were intra-regional and in ASEAN 26.2%. In "stagnant" integration groups, this figure was even less: 18.9% in the Central American Common Market (CACM), 12.9% in Mercosur and 8.2% in the Andean Community. We also examine machinery trading within these associations and their cooperation in the machinery sector (Table 4).

Table 4. 4
Intra-regional exports of machines, parts and components in seven integrated supra-national blocs in 1995 and 2005 (%)

Calculated using the UN COMTRADE Database and UNCTAD Handbook of Statistics 2006/07, p. 49.

Trade bloc	Machinery as a proportion of total exports		Parts as a proportion of machinery exports		Intra-regional exports as a proportion of total exports	
	1995	2005	1995	2005	1995	2005
EU-15	36.5	37.1	42.6	40.1	62.4	57.9
NAFTA	50.0	45.1	48.7	46.3	46.2	55.8
ASEAN	52.5	51.1	72.9	75.3	24.5	26.2
CACM	7.1	5.6	48.6	41.4	21.8	18.9
CIS	15.1*	15.2**	55.0*	51.5**	28.6*	17.5**
Mercosur	27.9	36.6	51.7	34.5	20.3	12.9
Andean Community	14.2	15.7	17.9	20.7	12.0	8.2

* 1996; ** 2006

We note that, as a rule, the bigger the share of machines and vehicles in intra-regional exports, the higher the level of integration between partner countries. This is true even when the share of machinery in total exports in relatively small (e.g., CACM). A reduction in machinery as a proportion of exports within a bloc is usually seen when there is also a reduction in the level of integration in that bloc (EU-15, Mercosur and CACM). As with any other general rule, there are exceptions to this, often as a result of external influences. For example, despite the rapid international spread of modern production processes, ASEAN's machinery sector still experiences less integration than the EU or NAFTA.

How does the CIS fare in this context?

Firstly, machinery and vehicle exports as a proportion of total intra-regional exports in the CIS, despite having increased since 1996, are half of the level seen in the other three successfully integrated trade blocs. CIS countries trade with one another mainly in fuel, raw materials, foodstuffs or consumer goods, and here the integration effect is negligible. Secondly, the share of parts and components in intra-CIS machinery exports has fallen by a quarter since 1996. As a result, parts and components for machines and vehicles have fallen from 8.3% of total intra-regional trade to 6.3% over the same period, which is three times lower than in the EU or NAFTA and six times lower than in ASEAN. Opportunities to

advance integration between partner countries in the CIS are therefore being lost.

Attempts have been made in the past to take advantage of such opportunities, however. In 1993 and 1994, Russia signed bilateral agreements "on industrial and scientific and technical cooperation in the defence sector" with Ukraine, Georgia, Azerbaijan, Kyrgyzstan, Moldova, Uzbekistan, Kazakhstan and Tajikistan[6]. The Ashgabat agreement on industrial cooperation between CIS countries, which exempted businesses involved in the joint production of certain finished products from taxes and cross-border trade tariffs, was signed in December 1993. This agreement came into force in February 1998. It has encouraged cooperation in aircraft building and other hi-tech sectors. For example, the AN-48 short-haul aircraft, which is being built jointly by the Voronezh aircraft-building association and the Kiev-based Antonov Aircraft Company, is made with Russian components (69%) and Ukrainian components (3%). About 70 Russian companies cooperated with Ukraine in 2004[7]. In fact, most supply relationships between defence companies continued to operate in the CIS as they had in Soviet times.

However, even this limited degree of cooperation, inherited from the USSR, was distributed very unevenly in the post-Soviet space. In 2005, Russia accounted for 32.4% of total exports of machine parts and components and 48.8% of total imports of these goods within the CIS, Ukraine accounted for 26.1% and 31.2% respectively, Belarus for 13.8% and 14.8% and Kazakhstan for 15.1% and 3.6%[8]. Thus, 86.3% of all intra-regional machine-building exports and 98.3% of imports were concentrated within these four countries. The share of other CIS countries was negligible.

Opportunities for industrial cooperation, even in this specialist field, have been dwindling in recent years. The "bonds" between machine-builders in different CIS countries, are weakening. Other manufacturing sectors are similarly affected. In May 2005, the Russian government unilaterally abolished Resolution No. 205, which provided tax breaks for enterprises engaged in cooperation in accordance with the Ashgabat agreement. This presumptive step was perhaps motivated by Russia's desire to concentrate defence production in Russia, a goal referred to more than once by President Vladimir Putin. However, this implicates Russia in the destruction of an important element of unity between the economies of partner countries[9].

Attempts have been made in the last two or three years to avert the disintegration of the CIS by increasing economic cooperation between CIS countries in the energy sector: leaders of the EurAsEC member

[6] *The Rossiyskaya Gazeta newspaper, 16 October 2003*

[7] *The Kommersant newspaper, 1 January 2006*

[8] *Calculated based on: UN COMTRADE Database.*

[9] *However, in September 2006, the Russian government adopted two resolutions (Nos 566 and 589) on duty-free imports of components and spare parts, but only for producing car and aircraft engines.*

countries reached agreement on this issue at a Sochi summit in 2006. The agreement envisages the construction of a system of oil and gas pipelines to supply energy resources from the CIS to Europe. Under this system, Turkmenistan, Kazakhstan and Uzbekistan would become suppliers of gas through Russian pipelines, with Ukraine and Belarus as the transit countries. The basis of this energy union is that the countries involved sell their energy or transport assets to Gazprom or exchange them between one another. Turkmenistan, for example, agreed to sell its gas to Europe through Gazprom. Russian companies are developing energy fields in Uzbekistan. Gazprom has bought a pipeline which brings gas to Armenia from Iran, and has become a co-owner of Moldova's gas-distribution system. Ukraine was invited to produce gas in Russia in exchange for transferring the Ukrainian transit gas pipeline to Gazprom management[10]. This is all good for the energy companies but such interdependency does not guarantee stronger links between national economies or progress towards integration. Moreover, in practice these relationships are fraught with conflict.

Integration in the former Soviet Union, both within the EurAsEC and beyond, can acquire solid foundations and be self-sustaining rather than a factor of externally imposed conditions. However, this can happen only when CIS countries develop their hi-tech machine-building sectors. The EU, NAFTA and ASEAN have succeeded as integration associations precisely on this basis. It is impossible to side-step this imperative, by choosing to develop the service sector, for example. Nevertheless it will take some time to strengthen these high-tech foundations.

The aforementioned redirection of trade flows in semi-finished machinery products from CIS countries to non-CIS countries is allied to the realignment of the integration preferences of certain CIS countries towards Western or Asian economic centres. In 2006, Ukraine supplied 67% of its exports to non-CIS countries, Armenia 79%, Azerbaijan and Kazakhstan 85%, Russia 86% and Tajikistan 87%[11]. The CIS economic area is gradually but steadily weakening. Since international industrial cooperation is not an option for the near term, this process will undoubtedly continue, influenced by various external factors.

[10] The Vedomosti newspaper, 6 February 2007

[11] CIS Interstate Statistics Committee (2007) Foreign Trade of CIS Countries in 2006, Moscow, p. 35.

Cross-border Cooperation on Russia's "Old" and "New" Borders

5

Leonid Vardomsky

1. The nature and purpose of cross-border co-operation

Cross-border cooperation is an early form of international activity engaged in by regions. The need to expand economic relations across borders has historically determined, and continues to determine, how border areas function. In recent decades, the co-operation which has existed between border regions has also been recreated within internal regions. Today, cross-boarder co-operation is seen as a particularly important form of international activity in border areas. Due to its political and economic significance, it will always play a leading role in international co-operation between regions.

International activity in border regions typically consists of three elements. *The first element* comprises the relationships which are essentially local, e.g., social and cultural interaction between the populations of border regions; border trade; shared utilisation of natural resources and environmental problems; health, educational and cultural services, etc. These components largely determine the nature of cross-border co-operation.

The second element is the co-operation between border regions in the joint execution of responsibilities generally in the hands of the state, such as transport, border control, protection of national economic space, prevention of and response to natural disasters, etc.

The third element consists of direct and intermediate foreign trade between border regions. The nature of this trade depends on the economic potential and structure of the border regions and the state of their transport infrastructure.

International economic contact is pivotal to the development of border regions, since it enables them to outgrow their status as "peripheral" to the national economy.

The factors that shape the structure and dynamics of cross-border co-operation are a combination of the contact and barrier functions of national borders; the socio-economic, ethnic and cultural peculiarities of border areas; the status of regional governments vis-a-vis international affairs; and the level of development of border infrastructure, including border control posts.

The nature and dynamics of cross-border co-operation are also determined by the degree of co-operation between the neighbouring

countries and the associated problems of national security, in its widest sense. However, all other things being equal, cross-border co-operation is more prevalent where the most developed parts of the two countries are close to the boundary which divides them. The level of socioeconomic development of border regions also has a significant bearing on the nature and diversity of cross-border co-operation, which in turn becomes a major force driving the development of the regional economy.

Experience of international regional co-operation suggests that "high-level" and "peripheral" integration are inseparable. High-level economic contact between countries encourages increased contact between their border areas, whilst close links between the border areas can pave the way for closer inter-governmental relations and the emergence of integration groups.

This is best illustrated by the evolution of national borders between EU countries. As European integration strengthened, these borders were gradually transformed into administrative borders. The disappearance of national barriers within Europe is largely attributable to the progress of cross-border co-operation facilitated by the 1980 European Outline Convention on Trans-frontier Co-operation between Territorial Communities or Authorities. The adoption of this Convention was, in turn, made possible by the creation of a customs union. Eventually, the activities of border regions and cross-border structures, such as the Euro-regions which are now widely recognised, began to catalyse European integration[1].

In contrast to Europe, the disintegration of the USSR resulted in the proliferation of new national boundaries that partitioned its common economic space. The borders of the former Soviet republics, fully traversable in the past, were transformed into barriers between countries. The emergence of regional organisations in the post-Soviet space, such as the CIS, EurAsEC, the Russia-Belarus Union State and others, could not reverse this trend. Ultimately, the fact that these new borders essentially serve as barriers demonstrates the high value the newly created states place on upholding their national identity, unity and organisation.

Nevertheless, in an environment of general enthusiasm for the preservation of national identity, the new border regions of CIS countries play a key role in decelerating the trend towards disintegration.

The progress of high-level integration enhances cross-border links. Importantly, for this mechanism to be effective, the country's administrative and territorial authorities must have the power to engage in international affairs. Today, all federal and most unitary states grant such powers to their regions. However, the special rights granted to regions in relation to international activities, and the extent of control central governments exercise over such activities, vary greatly between nations. Accordingly, the influence of peripheral integration on high-level

[1] *Granberg A.G. (ed.) (2001) The International and Foreign Trade of the Subjects of the Russian Federation. Moscow, Nauchnaya Kniga, pp. 238-270.*

integration is much stronger in countries that are highly decentralised and have well developed local self-government systems.

As the EU evolves into a unified socio-economic space, the cross-border co-operation in this region can be supported upon a uniform legal framework. Once national boundaries fade away, cross-border co-operation becomes virtually identical to the co-operation between a country's internal regions. The formation of a common economic, social and legal space within a group, and the adoption of the principle of subsidiarity[2], allows cross-border co-operation to diversify dramatically. Once economic and legal frameworks are unified, the various institutions that emerge in different social sectors and at different administrative and territorial levels become the engines of co-operation. The main functions of cross-border co-operation in the EU are to enhance the competitiveness of its border regions in the global economy, to support their sustainable economic development, and to even out the levels of socioeconomic development of the co-operating regions. The cross-border co-operation in which such institutions play a leading role can thus be described as the *institutional or partner model* of co-operation.

Where unequally developed countries begin to interact, cross-border co-operation is driven by the disparities principally in their consumer prices, salaries, unemployment levels, and business environment. Under such conditions, trade (including "shuttle" trade) and labour migration become central to cross-border co-operation. This model of cross-border co-operation is defined as the *trade* or *traditional model*.

In reality, TBC in any particular border area is characterised by a unique combination of both the institutional and trade models. As socio-economic development, national legal frameworks and the barrier and contact functions of state borders continue to evolve, so does the structure of TBC and, accordingly, its role in the development of border areas.

2. Institutions

Of all the factors that influence TBC, the most variable are those which relate to the border regime – for example, borders may be closed or opened just for several hours, if necessary. The balance between the contact and barrier functions of borders depends on the laws and regulations pertaining to the economic interaction between Russian regions and their foreign neighbours. Together, these regulations, and the bodies in charge of enforcing them, constitute TBC institutions. They form the operational framework for regional and non-government organisations involved in, or facilitating, cross-border interaction. The institutions which are especially important for cross-border co-operation include various national initiatives aimed at stimulating the development of border regions. These institutions, according to modern definitions of the term, also include local traditions and the populations' relationships and beliefs, since local communities play an important role in border regions.

[2] *The principle of subsidiarity means that management functions are transferred to a level at which they can be performed to maximum economic effect.*

The international activities of local governments and communities in Russia are regulated by a system of laws and regulations which can be divided into three categories. *The first category comprises federal laws. The most important of these are the laws On the International Treaties of the Russian Federation (1995); On Co-ordination of the International Relations and Foreign Trade of the Subjects of the Russian Federation (1999); On the Legal Status of Foreign Citizens in the Russian Federation (2002); On the Basis of State Regulation of Foreign Trade (2003); On the State Border of the Russian Federation; the Concept of Transboundary Co-operation in the Russian Federation (2001), and others.*

The most important regulations in this category are those which determine the powers of regional and local governments with regard to international affairs. In Russia, such powers are set out in the Constitution and the federal laws *On the General Organisational Principles of State Legislative and Executive Bodies in the Russian Federation and On the General Principles of Organisation of Local Self-government in the Russian Federation* (2003).

It should be noted that cross-border and inter-regional co-operation are not governed by any one federal law. Current legislation does not confer any preferential status upon border regions. The only exceptions to this, in certain regards, are federal laws on the special economic zones in Kaliningrad and Magadan Oblasts. Therefore, of particular importance to cross-border co-operation are passport, visa, currency, customs and migration laws regulating cross-border movement of people, money and products, and Federal Target Programmes (FTP) relating to the development of border regions. At present, a number of FTPs entitled *Reducing Disparities in the Socio-economic Development of the Regions of the Russian Federation in 2002-2010 and until 2015* are being implemented in south Russia, Russia's Far East, the Trans-Baikal region, Kuril Islands and Kaliningrad Oblast. FTPs specific to the transport and communications sectors and border and customs infrastructure are also important to border regions. Indeed, the 2008 federal budget allocates 10.5 billion roubles to the *State Border* FTP.

The second category comprises inter-governmental documents and agreements which outline the objectives, mechanisms and arenas of Russia's co-operation with international organisations and individual countries. This category was expanded when, in the summer of 2003, Russia joined the European Outline Convention on Trans-frontier Co-operation between Territorial Communities or Authorities. Under this Convention, TBC is subject to the powers of territorial communities and authorities which are determined by the national laws of each country. The Convention defines cross-border co-operation as co-operation between the governments and populations of neighbouring regions of different countries. By contrast, the definition provided in the *Concept of Transboundary Co-operation in the Russian Federation* places emphasis on well co-ordinated activities of the governments of neighbouring countries and focusing on particular

co-operation goals. In other words, in the Russian document, cross-border co-operation is construed primarily as co-operation between authorities. This restricts by definition the social basis of cross-border co-operation and raises the prospect that the interests of businesses and populations in border regions will be neglected in the process of adopting of federal laws or establishing customs, migration and border services.

In Autumn 2006, Russia signed the Supplementary Minutes and Appendix No.2 to the European Outline Convention. The Supplementary Minutes regulate the legal status and legal personality of cross-border co-operation bodies (Euro-regions). Appendix No.2 extends the provisions of the Convention and the Supplementary Minutes to regions which do not border each other directly. Both these documents still need to be ratified before they enter into force.

Other important elements of this category are the bilateral agreements between Russia and other CIS countries relating to free trade, and the agreements made under the aegis of the Russia-Belarus Union State and EurAsEC. The legal basis for co-operation between regions in the CIS is laid down primarily by the 2004 Concept of Inter-regional and Cross-border Co-operation of CIS Member Countries. In addition, a number of bilateral agreements were adopted by CIS governments to regulate inter-regional and cross-border co-operation. These include the agreement between the Governments of Russia and Ukraine on co-operation between border areas; the programme of inter-regional and cross-border co-operation between Russia and Ukraine in 2001-2007 and 2008-2010; agreements between the governments of Russia and Kazakhstan on cross-border co-operation in 1999-2007 and 2008- 2011; agreements between the governments of Russia and Ukraine on the procedure for persons from border areas crossing the Russo-Ukrainian border; and a similar Russo-Kazakh agreement adopted in 2006. The latter documents must be ratified before coming into force.

After withdrawing from the Bishkek Agreement on visa-free travel in the CIS in 2000, Russia entered into agreements with each of the CIS countries on passport and visa requirements for crossing borders.

Russia's relations with EU countries, including cross-border co-operation, are regulated by the Agreement *On Partnership and Co-operation with the EU*. In addition, Northern European countries and Russia established the Barents Euro-Arctic Region in an agreement of January 1993. This includes the first-order political bodies of Norway, Russia, Finland and Sweden. The regions of Russia and other member countries all participate in the Barents Euro-Artic Council founded in 1992. In 1997, under a Finnish initiative, the Northern Dimension was founded to develop co-operation both at country and regional levels. Russia is represented in the Northern Dimension by the regions of its Northwest Federal District.

The documents which form the basis of cross-border co-operation between Russia and China are the 2001 Agreement *On Neighbourliness,*

Friendship and Co-operation; the 1994 Agreement *On the Russo-Chinese Border Regime, and the 1997 Agreement On the Principles of Co-operation between the Administrations (Governments) of the Russian Federation and the Governments of the Provinces of China*.

The third (institutional) category comprises co-operation agreements which regional and local governmental bodies are authorised to make with their foreign counterparts.

The border regions of Russia and its neighbouring countries have been entering into trade and economic co-operation agreements since 1996. These agreements were necessitated by the continuing disintegration of traditional manufacturing and technological links, which were in turn caused by defaults on payments, dwindling working capital, the introduction of new currencies and the weakness of banking systems. Agreements between regions were expected to assist the relevant economies in bypassing the insuperable settlement and payment problems of the mid-1990s by encouraging barter practices.

A significant role in co-operation in this region has been played by the Council of Heads of Border Regions of Belarus, Russia and Ukraine, which was founded in 1994 and which now comprises 19 political units (7 Russian, 9 Ukrainian and 4 Belarusian).

Since the mid-1990s, Russian border regions have participated in the establishment and operation of Euro-regions – complex regional projects funded by various sources, including the EU.

The border regions of Russia and other CIS countries are now seeing the emergence of business associations and clubs aimed at promoting co-operation with neighbouring countries. These institutions help companies launched since the transition to the market economy and the creation of new national boundaries, to penetrate each other's markets.

The laws and regulations which fall into the first of the three categories described above are decisive in shaping cross-border co-operation. However, they do not provide any specific legal mechanisms for cross-border co-operation. The federal laws which relate to cross-border co-operation apply equally to all the subjects of the Russian Federation. The efficacy of the laws which are included in the second category is determined by the extent to which the provisions of national laws are adjusted to comply with international treaties. The significance of the third category of regulations stems entirely from the operability of the laws described in categories one and two, since all new regional cross-border co-operation organisations operate in accordance with federal laws and international treaties. However, regulations in this third category relate to initiatives of regional and local authorities and business associations which also strike agreements and establish structures at their respective levels.

The institutional environment of cross-border co-operation has been changing since the beginning of this decade. These changes are attributable to the growth of the Russian economy and individual income,

economic adaptation to new geopolitical conditions, changes in domestic and foreign policy in response to new threats to Russia's security, and new opportunities to pursue a more expansive foreign policy.

The growth of the Russian economy and individual prosperity has made Russia's labour market very attractive for immigrants from neighbouring countries to the south and east. This in turn has led to problems of illegal labour migration, terrorism and drug trafficking. In some regions, uncontrolled immigration is seen to have fuelled the proliferation of powerful cartels and criminal groups organised on ethnic lines. These undesirable developments led to the adoption of stricter passport, visa and immigration requirements. In 2006, in order to restrict illegal cross-border movement, Russia extended its border zone from 5km to 30 km of its border. Travel and business activity in this zone are strictly controlled by the Federal Security Service.[3]

The centralisation of power and financial resources in a federal entity, the redistribution of power between administrative levels and departments, and increased administrative control over international activities in regions, all have a negative impact on cross-border co-operation in Russia's regions, although no direct restrictions are in force. The expansion of cross-border co-operation is hindered in particular by the limited financial resources of regions whose expenditure must be commensurate with their power, as stipulated by Law No.122-F3, dated July 2004. This law, for example, prevents Russian border regions from participating in cross-border co-operation projects which require co-financing.

3. Scenarios of cross-border co-operation

Russia borders many countries with different economic and political systems, and therefore the institutional and economic conditions for cross-border co-operation vary from one border area to another. Moreover, these conditions continue to change, reflecting developments in national legal systems, the overall dynamics of economic interaction between Russia and its neighbours, globalisation, regional co-operation, and external and internal threats. These diverse conditions affecting cross-border co-operation, and the different ways in which cross-border co-operation operates, allow us to define three main cross-border co-operation scenarios: *European, Chinese and post-Soviet*.

The European scenario

That the EU is adjacent to Russia, albeit at its periphery, is certainly beneficial for Russia's border regions. Russia borders the EU at its most economically advanced northwestern part, which bears much of the responsibility for the full-scale modernisation of Russia's economy and social sector, and the spatial redistribution of its economic forces and population. Russian border regions are able to avail themselves of EU technology and the financial resources they need in order to resolve their social and economic problems, whilst the EU benefits from cross-

[3] *Gudko N. (2006) Russia Restores the Borders of the USSR. Kommersant, 02 August 2006.*

border co-operation with Russia through the accelerated the development of Baltic and Northern areas and, as a consequence, a reappraisal of their "peripheral" status. Finland is northern Europe's most fervent advocate of co-operation with Russian border regions.

Brussels also attaches great importance to the adoption of EU standards in neighbouring countries, viewing this not only as a geopolitical but also an economic step towards a "wider Europe".

The European scenario of cross-border co-operation is characterised by the presence of strong development institutions and relatively strict customs and border regimes. For example, in 2007, visa requirements for the inhabitants of Russian regions bordering Poland and the Baltic states were tightened significantly as the latter joined the Schengen Agreement. Until July 2007, Russian people from these regions were able to travel to Poland and Lithuania with free singe-entry or multi-entry visas. The new procedure made cross-border movement more difficult, also affecting people in the border areas of Poland and Lithuania[4].

Another characteristic feature of this scenario of cross-border co-operation is that the executive and local autonomous governing bodies of Russian regions take an active part in cross-border co-operation by entering into formal agreements with their counterparts from neighbouring countries. Co-operation involves not only transport and trade, but also environment, education, culture, information technology and innovation, and is dependent upon jointly developed and approved programmes and projects. Thus, the European scenario of cross-border co-operation exemplifies the institutional model of cross-border co-operation. Until 2007, European partners had provided technical and financial assistance to Russian regions through the TASIS and INTERREG programmes.

The Baltic region merits particular attention with regard to cross-border and inter-regional co-operation between Russia and the EU. Two major programmes, the Baltic Sea Region INTERREG III B Neighbourhood Programme, and Vision and Strategies around the Baltic Sea 2010 (VASAB), are being implemented here. The latter project focuses on cities and municipal economics. Other institutions active in the Baltic region include the Union of Baltic Cities and the Baltic Marine Environment Protection Commission (Helsinki Commission). Together, these regional and sub-regional institutions form levels of the Northern Dimension.[5]

Euro-regions also play an important role in cross-border co-operation between Russia and the EU. The municipal and regional authorities of

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[4] Lithuania proposes to eliminate this barrier by issuing special permits to individuals residing within the 30km border zone. However, this will not be sufficient to satisfy Kaliningrad Oblast, as the city of Kaliningrad lies 50 km from the border. Smirnov V. (2008) People of Three Quality Classes. Vremya Novostei, 19 February 2008, p. 4.

[5] Busygina I.. Deryagina A. (2007) EU Strategy towards Russia and Trans-border Co-operation in the Northwest. Research and Co-ordination Council for International Studies of Moscow State Institute of International Affairs, Russian Ministry of Foreign Affairs. Analytical Notes. Issue 7, August.

Kaliningrad Oblast co-founded the Neman Euro-region in 1997, the Baltic Euro-region in 1998 and the Saule Euro-region in 1999. In 2000, the Republic of Karelia and a number of neighbouring Finnish provinces co-founded the Karelia Euro-region. In 2004, Pskov Oblast and the neighbouring regions of Estonia and Latvia co-founded the Pskov-Livonia Euro-region. The aim of Euro-regions was to expand cross-border contact, to improve living standards in border regions, and to support the modernisation of border control posts. However, until 2007 the Euro-regions were largely reliant upon EU funding, which was somewhat modest. As a result, most of the commitments declared at the inception of these cross-border institutions have remained at the planning stage only.

On the whole, Russia has consistently been the weak link in this co-operation. In financing small projects, the EU sought principally to strengthen its influence in the neighbouring regions of Russia, and to secure supplies of fuel and raw materials from them. In this sense, co-operation between Russia and the EU was not equal.

The 2003 EU strategy with regard to relations with neighbouring countries following the dramatic expansion of the EU in 2004 envisaged that an Action Plan would be adopted by each new accession country, and that these Action Plans would later be incorporated into the "New Neighbourhood Programme". These Plans were launched in 2004, and until 2006 they were financed by TACIS and INTERREG III. In 2007, the European Neighbourhood and Partnership Instrument was founded to replace the latter two programmes. Six Neighbourhood Programmes were created for Russia: 1. North (Kolarctic), incorporating Murmansk and Arkhangelsk Oblasts and the Nenets Autonomous Territory; 2. Karelia; 3. Southeast Finland, Russia (Leningrad Oblast and St. Petersburg); 4. the Baltic Sea (Karelia, St. Petersburg, Murmansk Oblast, Leningrad Oblast, Pskov Oblast, Novgorod Oblast, Kaliningrad Oblast, Arkhangelsk Oblast and the Nenets Autonomous Territory); 5. Estonia, Latvia, Russia (Leningrad and Pskov Oblast, St. Petersburg); and 6. Lithuania, Poland, Russia (Kaliningrad).

In 2005, under the INTERREG III B programme, the Developing Excellence (DEX) project was initiated aimed at broadening co-operation between the regional authorities of central Finland and northwest Russia on the development and implementation of regional business support strategies. The Centres of Excellence to be set up under this project were expected to assist the authorities in developing and promoting co-operation projects as part of the Neighbourhood Programmes in five regions: Leningrad, Murmansk and Pskov Oblasts, Karelia and St. Petersburg.

However, Russia did not welcome these EU initiatives, since it does not consider itself to be a target of the New Neighbourhood policy. Russia refused to draft an Action Plan, and the proposed Neighbourhood Programmes were rejected by the Russian Ministry of Foreign Affairs. Instead, Russia insisted that its strategic partnership with the EU should

develop in a special way which far exceeded the scope of "neighbourhood" politics.[6]

The deadlock was broken at the end of 2006 with the reorganisation of the Northern Dimension. The key provision of the new Northern Dimension policy is that this organisation will be responsible for implementing roadmaps for the four Russia-EU Common Spaces. The EU, Russia, Norway and Iceland will each have the status of partner within the reorganised Northern Dimension. The partners will have equal rights in decision-making and may co-finance approved projects.

At present, the Northern Dimension has two partnerships: the Northern Dimension Environmental Partnership and the Northern Dimension Partnership in Public Health and Social Well-being. During its four-year existence, the Environmental Partnership has established itself as an effective multilateral mechanism of co-operation. The European Bank of Reconstruction and Development funds the Partnership and also acts as its project manager. The Partnership has a total EUR 1.8 billion at its disposal, and finances fifteen projects, typically through loans. Some of these funds are being allocated in the form of co-financing grants from the so-called NDEP Support Fund, which presently totals some EUR 204.7 million of donated funds (EUR 148.7 million for nuclear safety projects and EUR 56 million for non-nuclear environmental projects). Approval was granted for financing eight projects in northwest Russia. Since Russia is the largest recipient of NDEP aid, the Russian Government decided to donate an additional EUR 10 million to the Support Fund in 2006-2010.

The reorganisation of the Northern Dimension facilitated the launch of a number of cross-border co-operation projects. Russia intends to allocate about EUR 25 million for co-financing cross-border co-operation projects being implemented jointly with EU countries up to the year 2013. This accounts for about 10% of the total value of programmes proposed by the European Neighbourhood and Partnership Instrument for Russia (EUR 255 million). It should be noted that EU regions bordering Russia receive much heavier subsidies from EU structural funds as compensation for economic losses linked to their marginal position in the Union. This support brings the eastern regions of the EU to average national levels, but widens the gap between them and the adjacent Russian regions.

Nevertheless, inter-regional and cross-border co-operation between the Russian and EU regions is relatively effective. cross-border co-operation with the EU, in its various forms, enables Russian regions to access finance provided by European partners under co-financing schemes and, just as importantly, to access new technology. The approved projects all have specific targets; they are aimed at improving socioeconomic conditions and promoting investment opportunities in border regions. Although the existing multi-level system of cross-border co-operation between Russia and the EU is not sufficient to support full-scale economic

[6] *I. Busygin, ibidem, p. 12-13.*

modernisation in this part of Russia[7], it creates the institutional conditions and infrastructure for the redevelopment of regional economies, and generates new thinking on how to steer this redevelopment.

The prospects for cross-border co-operation between Russian and the EU border regions will depend principally on the scale and general direction of future Russian-EU co-operation. To a certain extent, these prospects will be defined by the agreement made with the Council of Europe establishing a European centre for inter-regional and cross-border co-operation in Russia.

The Chinese scenario

The Chinese integration scenario is characterised by the prevalence of trade in the cross-border co-operation structure. Cross-border co-operation with China is critical to Russian border areas since it compensates for the disruption of economic relations between these areas and the European part of Russia, the Urals, and West and East Siberia which resulted from soaring transport tariffs. Cross-border co-operation provides China with a market for its rapidly growing consumer goods industry, and access to Russian raw materials. Cross-border trade also allows both countries to maintain good employment levels in their border areas.

In its relatively early stages, Russo-Chinese cross-border trade boomed, thanks to significant disparities in the prices of consumer and industrial goods and the relaxed border controls that allowed visa-free travel. This initial boom began to level off in 1993 following the introduction of new visa requirements and restrictions on barter and shuttle trade.

Since 1993, day-return, visa-free travel has been increasingly popular in border areas. Interestingly, Russian visitors to China have by far outnumbered Chinese visitors to Russia. Buoyant shuttle trade has boosted the entire regional economy, and has provided the impetus for the development of local infrastructure, the building of new roads and the emergence of a huge number of new hotels in border towns.

In recent years, this spontaneous trade has become much more established. Trading estates have been built close to the main border control posts, primarily on China's initiative, to facilitate small-scale, wholesale trade. In 1998 and 1999, inter-governmental agreements were signed which simplified border crossing procedures for Russian and Chinese nationals visiting trading estates on both sides of the border. Generally, cross-border co-operation between Russia and China does follow the traditional model.

Unlike Russia, China pursues a systematic policy to exploit the potential of cross-border co-operation, granting its border areas preferential tax and customs status and extensive powers with regard to cross-border co-operation. These privileges apply only to certain border districts

[7] *Economic modernisation is viewed by the author as structural change with an emphasis on higher-value-added industries and ongoing renewal of product ranges based on new technology.*

and territories. In 1992, under State Council resolutions, large special economic zones and smaller provincial-level zones were founded in Inner Mongolia (Manzhouli), Heilongjiang (Heihe and Suifenhe) and Jirin (Hunchun). The government of Heilongjiang in turn adopted a number of resolutions to encourage cross-border trade, granting border districts certain privileges normally granted only at provincial level.

On 1 January 1999, the so-called "zero-rate" import duty on timber was introduced, and since then virtually every Chinese business licensed for import and export has been able to import timber. As a result, Russian timber has increased from 14% of China's total timber imports in the late 1990s to nearly 50% at present. The massive trade in timber began to threaten the future of forestry in Russian border areas, whilst an oversized wood-processing industry emerged on the other side of the border.

Labour migration is another important component of the Chinese cross-border co-operation scenario. China exploits the "Russia factor" to counter unemployment in its border provinces, and Chinese workers help to ease the labour shortages of Siberian and Far Eastern oblasts of Russia.

In recent years, border trade has become somewhat less lucrative for China, following the introduction of a unified customs tariff and the abolition of the 50% tax exemption for border trade. Since China's accession to the WTO, it is no longer able to apply liberal regional regimes to foreign trade.

It is increasingly apparent that the capacity of border and shuttle trade to act as levers of economic development is all but exhausted, and new mechanisms and opportunities have failed to develop fast enough to prevent a slowdown in cross-border co-operation. China is seriously concerned about this loss of momentum and is seeking ways to revive cross-border co-operation in the new economic conditions. One of the weaknesses to have been identified is the absence of an adequate financial infrastructure. Although leading Russian and Chinese banks have forged a number of agreements on the servicing of inter-governmental treaties, banks in Russia's Far East still have no direct clearing system to cater for the proliferation of border businesses.

Co-operation between banks began to increase rapidly in Autumn 2003, when the Central Bank of Russia and the People's Bank of China agreed upon the use of Russian roubles and Chinese RNB in border commercial transactions.

The Chinese authorities launched the concept of free trade border zones (FTBZ), formed under the umbrella of border trade and economic complexes (BTEC). This concept promises to revitalise cross-border co-operation despite the disparities which persist between the institutional frameworks of Russia and China. FTBZs could be regarded as an "oriental" form of the Euro-region: as in Europe, the emergence of these entities will be preceded and steered by the creation of an equal institutional

framework for cross-border co-operation on both sides of the border. However, it would appear that, so far, Moscow has failed to acknowledge the potential of FTBZs and BTECs. An example of this is the relatively poor trading in the Pogranichny-Suifenhe BTEC, which was co-founded by the administrations of the Primorsky Territory and Heilongjiang province. The Russian part of this BTEC has been situated in a border zone behind engineering lines, and access to it is restricted for both Russian and Chinese nationals.

China has focused on co-operation in investment; it invests in facilities being built in Russia and provides incentives for Russian investors in its border regions. China is a leading co-founder of JVs in Russia's Far East, but its cumulative investments account for a mere 5% of all foreign capital in the region. The investment climate in Chinese border regions is far more competitive than it is in Russia, hence the stark inequality in foreign investment flows. For example, the ratio of Russian investments in Heilongjiang to Chinese investments in Russia's Far East is four to one.

China is mainly interested in creating new enterprises in industries such as retailing, hotels and catering, gambling, forestry, wood processing, and construction.

On the whole, the Chinese scenario of cross-border co-operation, comprising mainly trade and export of labour to Russia, preserves the raw-material orientation of the economy of Russian border regions, but in the sectors which produce the lowest added value.

At the beginning of 2008, Russia and China signed an inter-governmental agreement on the efficient utilisation and protection of transboundary waters, thus adding an environmental aspect to the future agenda of cross-border co-operation.

Moscow is apparently running out of ideas on how to modify cross-border co-operation and use it to further improve prosperity in Siberia and the Far East, which still falls short of the national average. The development of border trading complexes has virtually come to a standstill, since no attempt is being made to provide a suitable legal framework for these.

Hopes for a renaissance in the regional economy are being pinned on the expansion of fuel and energy infrastructure. The most significant projects being undertaken in this field are the Bureiskaya Hydroelectric Plant; a new power transmission line from Boguchanskaya Hydroelectric Plant, a gas pipeline to northwest China and an oil pipeline from Taishet to Skovorodino, Amurskaya Oblast, with a spur to China. New transport networks and modern border control posts will all be built under a high-budget FTP for the Far East and Trans-Baikal region.

The post-Soviet scenario

The main facilitators of cross-border co-operation between Russia and other CIS countries are visa-free travel (except in Georgia) and the

various foreign trade concessions established under bilateral free-trade agreements and multi-lateral co-operation agreements. Until recently, the chief concern of Russian and other CIS border areas was the mitigation of the effects of disintegration. The partitioning of the post-Soviet economic space dealt a blow to all border regions. Most traditional supply and marketing channels were rendered uneconomic; new customs and border procedures, spiralling transport costs, and high financial and customs risks compelled businesses in border regions to restrict their output and seek new trading opportunities. Informal attempts to recoup the losses resulting from the new border controls ranged from commonplace smuggling to elaborate schemes to minimise transaction costs and commercial risk. These are the factors which have rendered cross-border co-operation within the CIS very different from cross-border co-operation elsewhere in the world.

Cross-border communication became very difficult, disrupting the lives of many inhabitants, particularly where communities are split across borders. In Belgorod oblast, for example, 40% of families have relatives or friends in Ukraine. Formerly, it was not unusual for people in border areas to have a job over the border from where they lived. But now, keeping such jobs, even where it remains possible, is beset by legal problems.

Historically, the larger cities of the Soviet republics served the needs of the neighbouring "foreign" economies. For example, Kharkov and Donetsk – the major industrial, research and cultural centres of eastern Ukraine – were just as important to adjacent Russian oblasts. Likewise, Novosibirsk, Omsk and Barnaul in Russia once maintained reciprocal relationships with large stretches of Kazakhstan. Regrettably, these extensive traditional links have been eroded, and with them the potential they had for diversifying the socioeconomic development of the cities in question.

In 1993, local government in the border regions of Russia and Ukraine proposed the establishment of a Council of Border Oblasts, and achieved this goal in 1994. The Council was intended as a means of assisting trade, economic and cultural co-operation between Russia and Ukraine, limiting the adverse impact of the new border regimes. It was also conceived as a lobbying body, exerting pressure to gain preferential tax and customs treatment for technologically interdependent companies divided by borders. From this point onwards, cross-border co-operation institutions began to emerge in Russia and neighbouring CIS states. This process was encouraged by the 1996 agreements on trade and economic co-operation between border regions, which have become integral to the institutional framework of cross-border co-operation.

The border regions of Russia and its neighbouring countries have been entering into trade and economic co-operation agreements since 1996. These agreements were necessitated by the continuing disintegration of traditional manufacturing and technological links, which were in

turn caused by defaults on payments, dwindling working capital, the introduction of new currencies and the weakness of banking systems. Agreements between regions were expected to assist the relevant economies in bypassing the insuperable settlement and payment problems of the mid-1990s by encouraging barter practices.

As Soviet-era supply and marketing channels became more and more expensive, and import substitution gathered pace, marketing became central to every border economy. Border regions promote their products in each other's markets through exhibitions, fairs, trading houses and specialised trading companies. The direct links between CIS regions have enabled small- and medium-sized businesses to enter foreign markets, whilst regional-level agreements have afforded them some protection against the risk of possible interference from local executive bodies. The latter is especially important, given the weakness of other protection mechanisms available to participants in cross-border co-operation. Until now, cross-border co-operation between Russia and other CIS countries has been dominated by elements of the traditional model.

The prevalence of the traditional model in cross-border co-operation paid dividends in terms of its contribution to economic recovery, but its efficacy has proved increasingly inadequate in the face of new challenges. *The post-Soviet cross-border co-operation scenario* promises little in the way of economic modernisation in border regions – moreover, its pace has slowed palpably. The potent catalyst of the traditional model, i.e., regional disparities in the prices of products and services, has dissipated, as price patterns incorporated transport costs and became more or less uniform across the CIS. In addition, the economic benefit of the increase in sales outlets and new sources of cheaper products and services has waned. Now, the remaining economic potential of the traditional model stems from differences in wage and unemployment levels and business environment. However, whether or not these differences play a constructive role is principally a question of border, migration and customs controls, and tariffs and taxes on exports and imports, i.e., the degree of liberalisation of cross-border movement. Ironically, the general trend is still towards tighter regulations, and there are few means available to restrict the ensuing losses. The Convention on cross-border co-operation between CIS has still to be adopted, although in draft form it has been under consideration by CIS bodies since 2005. The approval process for the laws *On Inter-regional Co-operation and On Trans-border Co-operation* drafted by the Inter-parliamentary Assembly of CIS Members Countries is similarly protracted. The cumbersome approval procedures of Russia's federal ministries are largely responsible for these delays.[8]

Russia's diplomatic relations with its neighbours in the CIS vary greatly, and these variations are manifest in cross-border co-operation patterns. cross-border co-operation is practically non-existent along the

[8] *CIS Executive Committee (2007) On the Socioeconomic Condition of CIS Member States in 2006 and Development Trends in 2007. Chamber of Commerce and Industry of the Russian Federation, Moscow, p. 311-313.*

Russo-Georgian border. In Abkhazia and South Ossetia, although most inhabitants hold Russian passports, the development of cross-border co-operation has been hindered by the lack of a legal framework. This situation is likely to change following Russia's withdrawal, in March 2008, from the 1996 Agreement of the Heads of CIS States *On Measures for Settling the Conflict in Abkhazia (Georgia)*. Russia does not intend to observe the ban on trade and other economic relations with Abkhazia which is imposed by that Agreement. Russia and Georgia still have to reach agreement on a number of cross-border regulatory issues. Control posts on the Russo-Georgian border are poorly organised and equipped, and their operability depends not only on political changes, but also on weather conditions. The development of cross-border co-operation between Russia and Azerbaijan is limited by the poverty of their border regions, the permanent threat of inter-ethnic clashes[9] and periodic disputes over the utilization of water from the Samur border river.

The highest level of economic interaction can be seen on the Russo-Belarusian border, thanks to a successful bilateral customs union and fully harmonised migration control procedures. Simplified access to Russian markets is probably the most important benefit for Belarusian border regions. However, systemic inequalities between the two economies appear to have had a negative impact on cross-border co-operation. In addition, Belarusian oblast governments are less powerful than their Russian counterparts vis-a-vis international affairs.

Cross-border co-operation between Russia and Ukraine reflects their comprehensive commitment to the concept of Euro-regions. Several Euro-regions are now in existence, including Dnepr (Bryansk, Gomel and Chernigov Oblasts), Yaroslavna (Kursk and Sumy Oblast) and Slobozhanschina (Belgorod and Kharkov Oblasts); the Donbass Euro-region (Rostov and Lugansk Oblasts) is in the pipeline. It is fair to say that Ukraine's input to the cross-border co-operation legislative work has been far more constructive, perhaps due to Ukraine's enthusiastic approach to European integration and proven EU instruments. The fact that Ukraine uses the concept of Euro-regions so extensively demonstrates the importance Kiev attaches to cross-border co-operation with Russian border areas.

Euro-regions do not function properly, however, in the context of Russian and Ukrainian border areas. The success of the EU Euro-regions model rests largely upon the powers granted to regional authorities, development initiatives and institutions created for local communities and financial support from the centre. Such conditions are not typical in highly centralised states such as Russia or Ukraine. The activities engaged in by cross-border structures "alarm state authorities, who fear that independent foreign trade and policies applied by Euro-regions may undermine the influence of the centre"[10] and threaten national territorial integrity. Finally, an absence of trust at the highest level – the sources

[9] Territories along the Russo-Azeri border are populated by the Lezgins. See also: Alenova O. (2007) Not Far from Here. Vlast, No.14, 2007, p. 26-31.

of which are well known – makes the outlook for deeper integration of Russia and Ukraine, including cross-border co-operation, somewhat poor.

Cross-border co-operation between Russia and Kazakhstan is quite extensive and has a sound institutional framework including inter-governmental agreements, bilateral inter-regional agreements, the Forum of Heads of Border Regions of Russia and Kazakhstan, etc. Trade fairs and exhibitions are held on a regular basis. Both Russia and Kazakhstan have highly-developed industries located along the border, pursue similar political and economic reforms and lead the CIS in terms of the diversity and scale of their governmental interaction. However, a persistent weakness of cross-border co-operation with Kazakhstan is that the financing of cross-border projects is uncoordinated and regarded as separate from the national and oblast budgets. Recently, Russian and Kazakh banks have begun showing an interest in financing these projects, and Kazakhstan has come up with a proposal to establish a number of bilateral cross-border co-operation centres. It is envisaged that the first such centre will be built near a border control post between Taskala, West Kazakhstan, and Ozinki in Saratov Oblast[11].

So far, post-Soviet cross-border co-operation has not been able to boast a profound effect on economic modernisation, reciprocal investment or exchange of technology. But its social component is nonetheless important to many Russian border regions in that labour migration helps them to reduce deficits in the permanent and seasonal workforce. However, this benefit is limited by the overly centralised and costly work-permit system in Russia. Permit procedures are very lengthy, and prospective employers are required to pay a deposit to the immigration authorities which is not returned to them if their employee is deported for any offence under Russian law. The 2007 amendments to Russia's new immigration law (adopted on 15 January 2007) cut immigrant labour even further in 2008. The new quota for foreign CIS nationals who may be officially employed in Russia is 1.2 million.[12] These amendments complicate matters for border regions which had heavily relied on the so-called labour migration "pendulum".

Besides the new passport and immigration restrictions, cross-border co-operation in the CIS is seriously impeded by delays in the harmonisation of national laws. For example, the continuing differences between Russia and Belarus on tariff and non-tariff regulation and export and import licences have prompted these two countries to restrict bilateral trade in certain products, causing economic losses to both parties. Another obstruction to trade within the CIS is the lack of uniformity in product

[10] Vendina O., Kolosov O (2007) Partnership that Bypasses Barriers. Russia in the Global Politics, January-February.

[11] Reshetnikova N. (2007) The Russo-Kazakh Forum Widens Co-operation between the Two Countries. Kontinent Partnerstva, Eurasian Development Bank. October, p. 17-23.

[12] Vykhovanets O. (2008) Labour Migration: the 2007 Results and 2008 Scenarios. Eurasian Heritage Fund, Moscow. 06.June 2008. http://www/euarasianhome.org./hml/t/expert=ru&nic=expert&pid=1425

certification requirements. Obtaining the necessary certificates is often a lengthy and expensive process, and sometimes small- or medium-sized businesses abandon the process altogether.

Many roads to border control posts are poorly maintained; the responsible regional authorities have limited budgets and have proposed that the duty to maintain these roads be transferred to Russia's federal Ministry of Transport. The Ministry, for its part, argues that increasing the number of border control posts and access roads to them serves the interests of the regions and therefore the latter should maintain them with their own funds.

Similar friction arises where regional authorities propose to establish new border control posts to simplify customs and control procedures for local inhabitants. Apart from the financial and technical considerations, such initiatives typically face insurmountable problems associated with the proper registration and monitoring of the movement of people, goods and vehicles across borders, and in reaching agreement with the foreign counterpart.

The future of cross-border co-operation between Russia and other CIS countries will depend primarily on their ability to counteract the disruption caused by new border controls. At present, mainstream political opinion in the CIS clearly prioritises border security over cross-border co-operation. However, the current speed of development of CIS economies requires a more decisive approach to wider co-operation.

The place of cross-border co-operation in Russia's economic development strategy is still to be determined, and there is a failure to perceive fully the effect that cross-border co-operation has on the economy. These appear to be the most pressing challenges for Russian co-operation with CIS countries. Finally, the emphasis on the security and defence functions of border regions limits the potential for cross-border co-operation even further.

The CIS Common Electric Power Market

6

Evgeny Vinokurov

1. Introduction

An effective electric-power industry represents a crucial infrastructural foundation for economic growth. In turn, developed mechanisms for transborder trade and investments can considerably increase the total effectiveness and reliability of the electric-power industry. Work on the introduction of such mechanisms is carried out within the framework of creating the Common Power Market of the CIS. The following chapter covers the CPM's prospects and potential obstacles to overcome.

The 1990s passed without much trace of activity and consequently mutual trade and investment levels in the CIS are very low today. Energy transmission between CIS countries has decreased by three to four times compared with the 1980s. Nowadays, statistics demonstrate the stagnation of energy flows between CIS countries. Imports and exports between them account for 5-6% of internal energy consumption. Overall, the CIS is a net exporter of electric power, however the absolute figures for both imports and exports are not significant. They do not reflect existing potential: with substantial deposits of coal and gas, huge hydro-energy potential and competitive advantages in power engineering, CIS countries should be realistically able to increase supplies.

The situation in the post-Soviet area is unique. Unlike the EU, North America, South America, South-East Asia and other macro-regions who wish to create a CPM, the USSR already had a single system, which was founded on a central administration. The CIS countries inherited a single set of technical standards from the USSR, as well as developed transborder capacity for transmission of electric power. Currently, the subject under consideration is creating an effective common electricity market based on market principles.

In its formation, the CPM may pass through four stages: (1) from individual national energy markets, (2) to a market, where transborder trade plays an important part, (3) to a regional market with common rules and finally (4) to a regional secondary or futures market.

Today, due to the serious measures taken to provide uninterrupted work in the parallel mode and increasing mutual energy flows, CIS countries are nearing the second stage, with the main drivers of the integration being Russia and Kazakhstan. However, the CPM can only be considered complete after the third stage – a regional spot market with common rules. On the way to creating such a market, CIS countries will

have to overcome a number of obstacles. In our opinion, the most obtrusive barrier is the incomplete liberalisation of the large Russian market system. The complete liberalisation of the Russian energy market, which is expected in 2011, will enable considerable progress to be made in forming a CPM for the CIS. Of course, a number of other issues should also be solved. E.g. the effective functioning of the Central Asian water and energy system represents a complex problem. Other issues are related to transit tariffs, customs controls and technical standards. Without solving these issues, the full participation of the region's nations in a CPM is impossible.

Finally, an interesting issue is extending the CPM beyond the post-Soviet area. We believe that the economic logic of the CPM urges its creation and expansion.

This chapter begins by considering the condition and dynamics of mutual trade and investments in the electric power industry of CIS countries and EurAsEC, which forms the basis for consideration and estimation of integration initiatives within the framework of the CIS and EurAsEC. Following this is an analysis of systematic, economic, legal and technical barriers, which set obstacles to the development of a common electric power market. In the following section we prove the expediency of going beyond the boundaries of the post-Soviet area and the creation of the Eurasian common electric power market. The conclusions of this review are summarised at the end.

2. Mutual Trade and Investment in the Electric Power Sector of the CIS

The intensiveness of the formation of common electric power markets can be characterised by the dynamics of trade in electric power and level of mutual investment in the sector. Using these indicators, one could track the level of regional integration in this sector. Within this, mutual investments are the most significant and sustainable indicators because of their long-term conditions, and also because trans-border investments in generation and distribution often create sustainable trade flows between countries. One example is the Ekibastuz thermal power plant-2 (TPP-2), 50 percent of which belongs to INTER RAO. A significant part of the energy generated in this plant was exported to Russia.

However, volumes of trade in electric power can adequately characterise overall levels of integration. In fact, the volume of electric power exchange between CIS countries has fallen 3 to 4 times compared to 1980s levels. At the present time, the volume of export and import between countries is 5 to 6 percent of domestic consumption of electric power.

Tables 1 to 3 cover the four years from 2004 to 2007 and demonstrate a *decrease in the overall volumes of imports and exports of the CIS and EurAsEC*. There are two basic explanations for this. Firstly, for the past few years, the rapid growth of the economies of the member states of these organisations resulted in increased current internal consumption,

Exportin Countries	Total	To countries		Importing countries					
		CIS	EurAsEC	Belarus	Kazakhstan	Kyrgyzstan	Russia	Tajikistan	Uzbekistan
					2004				
Belarus	798	0,4	-	-	-	-	-	-	
Kazakhstan	7403	7403	7403	-	-	-	7403	-	
Kyrgyzstan	3382	3381	3381	-	1258	-	1800	323	0,1
Россия	19201	6683	3784	1511	2272	-	-	-	
Tajikistan	4451	4423	4423	-	-	54	-	-	4369
					2005				
Belarus	901	19	19	-	-	-	19	-	
Kazakhstan	3978	3978	3978	-	-	-	3978	-	
Kyrgyzstan	2685	2684	2684	-	1531	-	936	217	
Russia	22568	9212	6599	4680	1919	-	-	-	
Tajikistan	4258	4219	4219	-	68	4	-	-	4147
					2006				
Belarus	1120	55	55	-	-	-	55	-	-
Kazakhstan	3286	3286	3286	-	-	-	3286	-	-
Kyrgyzstan	2509	2508	2508	-	2086	-	-	422	-
Россия	20927	5942	4214	2345	1869	-	-	-	-
Tajikistan	4231	4183	4183	-	-	-	-	-	4183
					2007				
Belarus	-	-	-	-	-	-	-	-	-
Kazakhstan	3528	3528	3528	-	-	-	3528	-	-
Kyrgyzstan	2388	2387	2387	-	1217	-	-	301	868
Russia	18468	5386	4824	2653	2171	-	-	-	-
Tajikistan	4259	4208	4208	-	-	-	-	-	4208

Table 6. 1
Export of electric power to CIS countries and EurAsEC in 2004–2007 (according to data from exporting countries; million kWh)

Source: Statistic Committee of the CIS

that, in turn, resulted in decreased exports. At the same time, the long investment cycle and underinvestment in the electric power industry did not allow for an increase in generated and exported electric power. Secondly, an increase in exports is impeded by the existence of weak mechanisms for foreign trade. Additionally, in the Central Asian region any essential expansion of trade in electric power is impeded by the sub-standard regulation of the water and energy complex.

With regard to imports, we can note a decrease in total imports of electric power and stagnation in imports from the CIS and EurAsEC states. One of the important peculiarities of the trade structure of electric power within the EurAsEC countries is that practically all of the imports (92%) come from CIS countries, whereas only half (54%) of exports is directed toward CIS countries. The other half goes to such countries as China, the EU (importers are Finland and the Baltic states), Iran etc.

Economic Integration: Industries, Sectors, Issues

Importing Countries	Total			Exporting countries					
		CIS	EurAsEC	Belarus	Kazakhstan	Kyrgyzstan	Russia	Tajikistan	Uzbekistan
					2004				
Belarus	4050	1511	1511	-	-	-	1511	-	-
Kazakhstan	5234	5234	5234	-	-	2949	2285	0,8	0,0
Kyrgyzstan	54	54	54	-	-	-	-	54	0,3
Russia	12154	7367	7116	-	5316	1800	-	-	-
Tajikistan	4810	4810	4810	-	-	329	-	-	4481
					2005				
Belarus	4936	4684	4680	-	-	-	4680	-	-
Kazakhstan	4552	4552	4552	-	-	2508	1976	68	-
Kyrgyzstan	0,2	0,2	-	-	-	-	-	-	0,2
Russia	10292	7021	3917	19	2962	936	-	-	-
Tajikistan	4508	4508	230	-	-	230	-	-	4278
					2006				
Belarus	5479	4847	2345	-	-	-	2345	-	-
Kazakhstan	4057	4057	4057	-	-	2127	1930	0,02	-
Kyrgyzstan	0,2	0,2	0,2	-	-	-	-	-	0,2
Russia	5171	4600	3785	55	3730	-	-	-	-
Tajikistan	4839	4839	4839	-	-	425	-	-	4414
					2007				
Belarus	4344	3405	2653	-	-	-	2653	-	-
Kazakhstan	3665	3665	3665	-	-	1287	2378	-	-
Kyrgyzstan	0,2	0,2	0,2	-	-	-	-	-	0,2
Russia	5670	5151	3308	-	3308	-	-	-	-
Tajikistan	4361	4361	4218	-	-	303	-	-	3915

Table 6. 2
Imports of electric power from CIS countries and EurAsEC in 2004–2006. (according to data from importing countries in million kWh)

Source: Statistics Committee of the CIS

	2004	2005	2006	2007
Export, total	35235	34390	32073	28643
Export, CIS	21890	20112	15974	15509
Import, total	26302	24288	19546	18040
Import, CIS	18976	20765	18343	16582

Table 6. 3
Import and export of electric power by the CIS, million kWh

Source: Statistics committee of the CIS

The CIS is a net exporter of electric power. However, the volumes are insignificant. The "Chinese" project alone, commenced by INTER RAO, will increase the volumes of CIS electric power exports by 200%. Given that they have the largest reserves of coal and gas, a huge energy poten-

tial, and the competitive advantage in power mechanical engineering, the CIS countries are capable of increasing supplies.

The "champions" of the integration processes within the CIS are Kazakhstan and Russia. The parallel work achieved since 2001 allowed expansion of mutual trade in electric power. During 2001 to 2005 electric power exports from Kazakhstan to Russia reached 17.1 billion kWh. Aside from this, the countries managed to organise the transit of power from Kyrgyzstan to Russia (3.6 billion kWh over 2003-2005).

Russia is the most substantial player. Russian export peaked in 2005 but had decreased by 10% by 2007 due to increased domestic consumption.

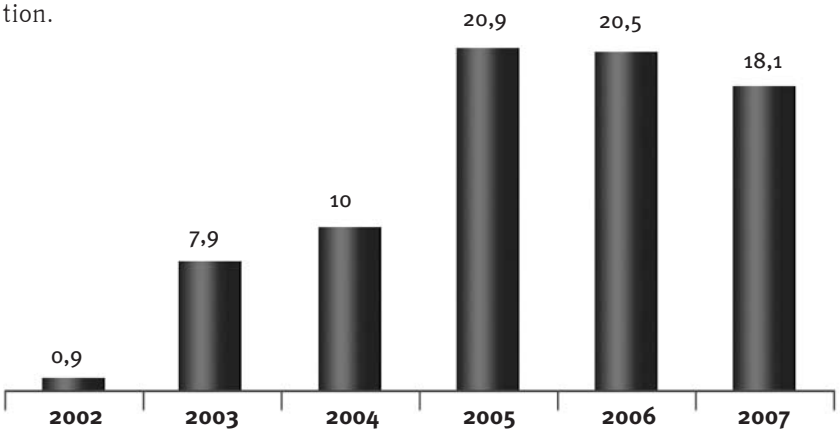

Figure 6. 1
Russian electric power exports in 2002–2007 (billion kWh)

Source: http://www.interrao.ru/busines/export/, available as of June 2008.

The main importers of Russian energy in 2007 were Finland (more than 54%), Belarus (about 14%), Kazakhstan, Latvia and Lithuania (over 11%, 7% and 5%, respectively). The leading role of Finland in 2006-07 can be explained by favourable pricing in the NordPool market. Energy exports to Norway and northern regions of Finland were made from the the hydro power plants "Borisoglebskaya", "Rayakoski" and "Kaytakoski" under the terms of border trade.

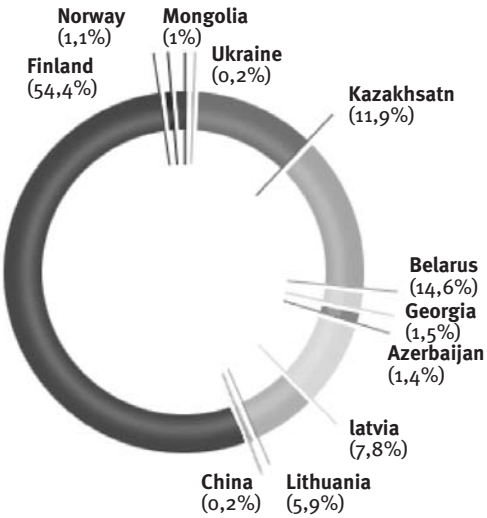

Figure 6. 2
Russian energy exports in 2007

Economic Integration: Industries, Sectors, Issues

In 2007 the total import of energy by the INTER RAO UES was 5.6 bln kWh which is 0.5 bln kWh (about 10%) more than in 2006. In general, last two years witnessed a considerable decrease in imports compared to 2004-2005. The reasons are quite evident: growing economies of Ukraine and Kazakhstan require more of its own energy supplies. Besides, Lithuania is preparing to dismantle Ignalina Nuclear power station.

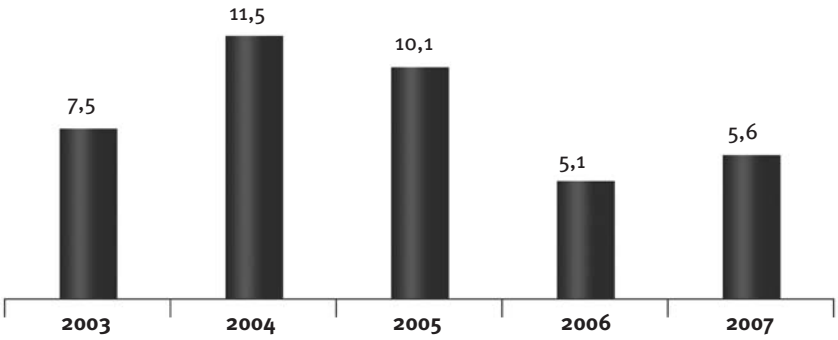

Figure 6. 3
Russian imports of electric power in 2003 – 2007 (billion kWh)

Source: http://www.interrao.ru/busines/import/, as of June 2008

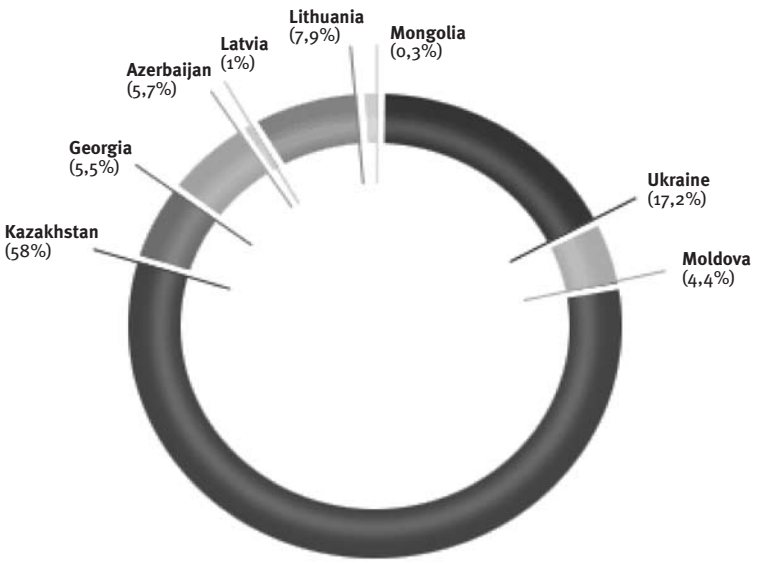

Figure 6. 4
Russian energy imports by country, 2007

In 2007, the share of imports from Kazakhstan in the total structure of electric power imports was 58 %, imports from Ukraine and Lithuania accounted for 17% and 7% of imported power, respectively, while imports from Azerbaijan and Georgia were approximately 5.5%.

In 2007 Russia imported 3263.3 mln kWh of electric power from the Kazakhstani supply network, which is 413,57 million kWh less than in 2006, due to increased consumption in Kazakhstan.

The structural imbalance between the production and consumption of electricity in Kazakhstan has pushed the country to intensify international trade. Of course, the planned construction of the Balkhash HPP with 4

	2000	2001	2002	2003	2004	2005	2006	2007
Production	51.6	55.4	58.3	63.9	66.9	67.8	71.7	76.3
Import	2.8	3.7	2.4	3.5	5.2	4.6	4.0	3.4
Consumption	54.4	57.4	58.7	62.4	64.8	68.4	71.9	76.4
Export	0.0	1.7	2.0	5.0	7.3	4.0	3.8	3.3

Table 6. 4
Kazakhstan: production, export and import of electric power in 2000–2007, billion kWh

Source: Ministry of energy and mineral resources of the RK

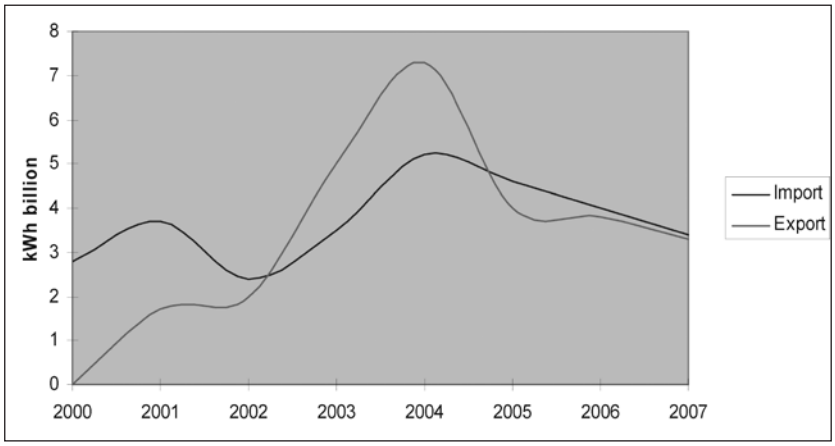

Figure 6. 5
Import and export of energy in Kazakhstan, 2000–2007

units producing 660 MW each and the construction of a North-South transmission line partially solves the problems. However, the need for international cooperation is rational and pertinent. We would mention, firstly, the optimisation of energy flows with Russia (import from Russia to the West region of Kazakhstan and export from the North region to Russia), secondly, the participation in the development of the water and energy complex of the Central Asian Region (CAR) with the view of covering the deficit of the South region with the hydro-energy produced by Tajikistan and Kyrgyzstan, and, thirdly, the increase of the transit potential from these countries to Russia via the territories of Kazakhstan and Uzbekistan. The economic viability of these solutions makes them promising in the long term.

Let's consider mutual investment. After the ruinous 1990s, mutual investments in the electric power of the CIS became a reality in the 2000s. However, *there are only Russian investments in the CIS countries*. During recent years, RAO UES has acquired assets in Armenia, Georgia, Kazakhstan and Moldova. One of the biggest projects is the construction of the 670 MW Sangtudin Hydro power plant (HPP-1) in Tajikistan. The first unit was successfully launched in January 2008, the second in July 2008.

Additionally, after reforms in the RAO UES, INTER RAO will operate foreign assets. Table 7 illustrates the foreign assets of the company in Azerbaijan, Armenia, Georgia, Kazakhstan, Moldova and Ukraine.

Economic Integration: Industries, Sectors, Issues

An interesting project is the participation of INTER RAO in the construction of the cascade of Kambarata HPPs in Kyrgyzstan. On 29 December 2007 the results were announced for the bidding for the preparation of a feasibility study for the construction of the Kambarata HPP-1 and HPP-2. The winning bid was a joint proposal made by Electricitй de France and PricewaterhouseCoopers. Russian and Kazakh power companies will finance the $3 million feasibility study. The bidding was conducted in accordance with decisions adopted at inter-governmental level between Russia, Kazakhstan and Kyrgyzstan. For organisational purposes a simple partnership between JSC Inter RAO UES, JSC Electric Power Plants (Kyrgyzstan) and the JSC KazKuat (Kazakhstan) was formed.

Among the large-scale initiatives of other players, we should note Rusal's attempt to construct the Rogun HPP in Tadjikistan. Within the project, the Russian aluminum company planned to invest as much as $1.5-2 billion, but Rusal was unable to agree with the Tajik government on the technical and economic parameters and, consequently, had to abandon the project. Nevertheless, Russia is still very interested in financing and constructing the Rogun HPP. This was confirmed during the latest meetings between Russian and Tajik government officials.

Table 6. 5
Trans-border investment in the electric power industry in the CIS

Sources: Kuznetsov (2007); Kheifets, Libman (2008); author's database

Acquirer	Acquired entity	Share, %	Amount, $ mln	Year	Notes
Inter RAO UES	Distribution company Telasi (75%), AES Mtcari (100%), AES Transenergy (50%) (Georgia)		57	2003	
JSC Ekibastuz Centre (RK) and Inter RAO EES	JSC Ekibastuz TPP-2, Kazakhstan	JV (50/50)	90	2003	
Inter RAO UES	Sevano-Razdan cascade of 7 HPPs, "Armenian electric networks" (Armenia)			2003	
JSC International Energy corporation, EMFESZ (Hungary)	Moldova thermal power station (Moldova, Transnistria)		39,2	2003	In July 2008, INTER RAO acquired further 49% from the Hungarian EMFESZ, thus consolidating 100% of shares.
JSC RAO UES	JSC Sangtudin HPP-1, Tajikistan	JV (50/50)	500	2005	2007 – $142 million, planned for 2008 – $164.3 million. Total amount of investment in the project – $720 million.
JSC Tekhsnabeksport, JSC Atomstroyexport, JSC NAK Kazatomprom	JSC Centre of Uranium enrichment	JV (50/50)		2006	In 2008, Armenia entered the project
JSC Tekhsnabeksport, JSC Atomstroyexport, JSC NAK Kazatomprom	JV Nuclear Power Plants	JV (50/50)		2006	Development and marketing of the nuclear reactor VBER-300

Table 5 provides information on trans-border investments in the electric power industry of the CIS. Despite considerable revival during recent years, mutual investments are at a low level and are characterised by unilateral structures. Practically all of the investments are made by the Russian INTER RAO. To sum up, *insignificant volumes of mutual trade in the electric power sector and a low level of mutual investment do not reflect the huge potential of the sector and represent an obstacle to the creation of a common electric power market.*

Table 6. 6
Foreign assets of INTER RAO

Source: Inter RAO data

Assets	Country	Type	Capacity, length	Comments
Sevano-Razdan cascade of HPPs (in operation)	Armenia	Generation	560 MW	Includes 7 HPPs
Razdan thermal power station (in operation)	Armenia	Generation	1110 MW	Russian state property
JSC Electric Networks of Armenia	Armenia	Distribution	29600 km	Acquired by Midland Group for $73 mln
JSC Armenian nuclear power plant (in operation)			815 MW	Managed by INTER RAO
Mtkvari Energetika (9th and 10th blocks of the Tbilisi HPP)	Georgia	Generation	600 MW	2 units of 300 MW
Telasi (75%)	Georgia	Distribution	5658 km	
Khrami HPP-1 and Khrami HPP-2 (in operation)	Georgia[1]	Generation	220 MW	Of 110 MW
Sandgudin HPP-1	Tajikistan	Generation	670 MW	1st power unit launched in 2008
INTER RAO Ukraine	Ukraine	Equipment supply	-	
Moldovan TPP	Moldova	Generation	2520 MW	49% sold to unknown buyer (supposedly Gazprom) in 2007
Ekibastuz TPP-2 (50%)	Kazakhstan	Generation	1000 MW	2 units of 500 MW; it is planned to construct a 3rd energy unit of 500 MW
RAO Nordic Oy	Finland	Trade	-	Trader in NordPool
TGR Enerji	Turkey	Trade	-	Trader

[1] *Georgian assets of INTER RAO may suffer (nationalisation is one option) as a consequence of the Russian-Georgian war (August 2008).*

3. Integration Initiatives in the CIS and EurAsEC

The re-integration of the CIS electric power industries was begun on the 14 February 1992 when the Council of the Heads of States signed the Agreements on Coordination of Interstate Relations in the Electric Power Industry of the CIS. The first legal document, which created the legal basis for the functioning in parallel mode, was the Agreement of Parallel Work of Electric Power Systems of the CIS member countries, signed at the meeting of the Council of the Heads of Governments of the CIS on 25 November 1998. At present, eleven CIS member countries work in parallel mode.

Within the CIS, active work has been done by the Electric Power Council (EPC, *Electroenergeticheskiy Sovet*) of the CIS, chaired from 2000 to May 2008 by Anatoliy Chubays. The EPC is considered the most effective of all the industry councils of the CIS.

The leading role of the CIS in the formation of the CPM can be explained by a number of factors. The predominant reason was a real need for coordination in the 1990s. It was necessary to maintain cooperation and parallel work on the energy complexes of the newly independent states that had previously formed a single energy system. At that moment, the EPC was the only platform for the coordination of several urgent technical issues. The work of the electric power council was gradually becoming more effective, and was in high demand by the energy companies of post-Soviet countries. Personnel factors also played a significant role – Anatoliy Chubays is one of the most effective managers in the post-Soviet area.

In the 2000s, the following important documents were adopted by the CIS:

- Strategy (main directions) of Interaction and Cooperation of the Member States of the CIS in the sphere of electric power until 2020, approved by a decision of the EPC on 26 May 2005;
- The Concept of the Formation of the Common Power Market among the Member States of the CIS, adopted at the Council of the Heads of the CIS Governments on 25 November 2005; and
- The Agreement on Formation of the Common Power Market between the Member States of the CIS of 25.05.2007.

The Concept of the Formation of the Common Power Market represents a coordinated approach to the formation of the common power market of the CIS. The concept takes into account the main principles of integration and liberalisation of the European energy markets. In accordance with the Concept, the following types of relations between its subjects determine the functional structure of the CPM of the CIS:

- First, wholesale trade of electric power with independent determination of prices based on bilateral agreements (between buyers and sellers of electric power);
- Second, a centralised market of electric power;
- Third, a balancing market;

• Fourth, a market for systemic and auxiliary services, including the mechanism of utilisation of the capacity reserves.

Each of the above-mentioned segments of the market are to be introduced as soon as countries are ready, taking into account the state of technical equipment and national legislations.

In order to provide the freedom to choose a power supplier to consumers, the CIS member states have agreed on conditions for the formation of markets on the basis of bilateral contracts, spot markets and a common CIS electric power trade platform, the status and powers of which are defined by the Concept. The CIS member states provide gradual liberalisation of internal electricity markets, decrease barriers for consumers' access to the CPM and integrate energy markets in accordance with the schedules of the main activities of joining the CPM. The Concept includes the protection of investments and the possibility of investment activity in the electric power industry of member states, as well as the possibility of sale of the generation, network and other types of assets on the basis of contracts between owners. The Electric Power Council of the CIS executes the general coordination of the formation of the CPM. Members of the CPM and the Electric Power Council determine the special body on the coordination of the functioning of the CPM. At the end of May 2007, the Agreement of the Formation of the Common Electric Power Market was signed at the meeting of the Council of the Heads of CIS Governments in Yalta. Only 6 parties signed the document: Russia, Armenia, Belarus, Kazakhstan, Tajikistan and Kyrgyzstan. This result once again confirms that some CIS countries have different attitudes with respect to integration processes in general and energy in particular. Consequently, V.Luchnikov, Ukrainian Vice-minister for fuel and Energy, declared that as long as the unified basic conditions are not created for all countries to work in a common electric power market, Ukraine will not join it and will not sign an agreement concerning the creation of the market.[2]

The states will have to make a list of trans-border transmission lines. The capacities of these lines are going to be auctioned, and the winners will be those suppliers and buyers that propose the best price per 1 MW. These auctions will be held over varying periods, ranging from a few months to several years. The first interstate sales of electricity using market prices should be held at the Russian-Kazakh border.

The Eurasian Economic Community started its own work on developing integration within the power sector later than the CIS. According to S.D. Primbetov, Vice-Secretary General of the EurAsEC in 2002-2007, the CIS and the EurAsEC do not fulfil the same role.[3] The EurAsEC does not claim to possess the leading role in the complicated organisational and technical issues of power network integration that are solved by the Electric Power Council of the CIS, but rather it facilitates the practical

[2] *Smirnov (2007).*

[3] *Primbetov (2006).*

implementation of the decisions adopted there and ensures coordination between various energy markets.

The documents developed by the EurAsEC:

• The Concept of Effective Utilisation of Water and Energy Resources of the Central Asian Region (CAR).[4] Optimal modes for the utilisation of the hydro energy potential of the region are pertinent not only for the CAR, but also for Russia and other states, such as China, India, Afghanistan, and Iran.[5] The Concept of the Formation of the Common Power Market of the EurAsEC member states is being developed taking into account the issues related to the formation of a single fuel and energy complex of the EurAsEC member states as well as international experience.[6]

The EurAsEC is also working on the Concept of the Energy Market, which theoretically comprises various energy sources. Therefore, the members of the working group of the EurAsEC are primarily oil and gas experts as well as employees of the economic ministries of the member states. The Principles of the Concept of the Common energy market of the EurAsEC are the following:

• Development of a balanced, mutually advantageous, regulated power market and coordinated power policy.

• Equality, mutual benefits and common interests. It sets as a goal the development of an optimum pricing scheme in the CPM based on a transparent market mechanism of pricing and supposing the creation of the most favourable treatment in the delivery and transit and unification of the national legislations.

• Single norms and rules of functioning of the technological infrastructure.

• Balance of production, supplies and consumption of power resources.

• Gradual liberalisation of the power sector, introduction of market principles and creation of a competitive environment.

The implementation of the Concept of the Common Energy market of the EurAsEC member states is based on the following priority programs of the development of the power sector:

• Construction of new hydro power plants in Tajikistan and Kyrgyzstan. This should be executed in compliance with rational river mode regulation.

• Intensive development of the system of power transmission lines between the EurAsEC member states.

• Interconnection of the energy systems of the CIS and Baltic countries with the energy systems of Central and Western Europe, repre-

[4] *Development of the Concept is made in accordance with the decision of the EurAsEC Interstate Council (No 314 and No 315 of 16 August 2006).*

[5] *Vinokurov (2007).*

[6] *The Concept is developed in accordance with the Foundations of the Energy Policy of the EurAsEC Member States, approved by the decision of the Interstate Council, February 28, 2003, No 103, and in compliance with the decisions of the EurAsEC Interstate Council, January 25, 2006, No 269 and August 16, 2006, No 314.*

sented by the Union for the Co-ordination of Transmission of Electricity (UCTE).

• Creation of common programs for the realisation of energy saving potential.

• Development of joint ventures to provide nuclear fuel to nuclear plants in EurAsEC countries (with participation of Russia, Kazakhstan, Uzbekistan and Belarus).

The all-embracing approach of the EurAsEC is somewhat artificial. (We must remember, however, that the idea of the formation of a complex EurAsEC energy market originated from the Byelorussians, who have specific interests, particularly with regard to access to oil and gas infrastructure). There is no doubt that, at the level of the concept, the energy markets should be considered as intertwined, which will allow the implementation of the principle of comparative advantages for the states involved in the process of integration. At the same time, the energy sectors can form separate markets with their own specific regulations. The implementation of the idea of a common energy market, which defines the systematic work of the EurAsEC, inadequately deals with specifics of energy sectors. *In our opinion, it is necessary to work on the creation of a number of common markets, namely*: a common electric power market; a common oil and gas market and a common coal market. After this a common uranium market could follow. In spite of the visible interrelation, the specifics of these markets demand independent regulation.

The common market for oil and gas is formed on the basis of intergovernmental agreements; its future is connected to the solution of the transit tariff problem and the development of oil and gas transport infrastructure. A common coal market already exists; in order to increase its efficiency, it is necessary to prioritise the optimisation of railroad tariffs. Also we should emphasise that the development of a common electric power market with the elimination of structural skews in the thermal power sector should result in further optimisation of the common coal market.

In the future, CIS countries may start forming a common uranium market. This is unthinkable without the partnership of Russia and Kazakhstan.[8] Other countries could be interested in a common market, including Belarus, Kyrgyzstan, Armenia, Ukraine, Uzbekistan and Tajikistan.

International experience of energy market integration demonstrates that the pace of integration of electricity markets is faster than the integration of gas markets. This is another supporting point for considering these markets as relatively autonomous.

4. Barriers to the CIS Common Power Market

The creation of a common electric power market faces a number of problems. In our opinion, the basic precondition of the development of the

[8] *See Vinokurov (2008).*

CPM is full liberalisation of the largest – the Russian market which forms the base for the CIS system.

1. In general, in CIS countries there are various models of markets for electric power with different degrees of liberalisation. The creation of the CPM is possible only after liberalisation of the prices, at least in the system's base market of Russia. *The liberalisation of prices for electric power is expected by 2011. It represents the basic precondition of the CPM.*

2. The barrier to the creation of common markets is the specific structure of the electric power sector, namely the natural monopolies, along with high levels of political regulation. If a state owns transmission networks and basic generation capacities, it will not be inclined to import cheap electric power while domestic power stations lie idle – no matter whether they are competitive or not. Therefore the development of regional trade in electric power demands separation of the commercial interests of generators and distributors[9].

Nevertheless, the experience of NORDPOOL and the integrated electric power market of the three Scandinavian countries, demonstrates that the more dominant national companies do not need to be an insurmountable obstacle. The Scandinavian electricity market is the most efficient integrated regional energy market in the world, dealing with both spot and futures trade. Its experience proves that, if the regulation is efficient enough, a common market may be created even with public companies dominating generation and distribution.[10]

3. Membership of the WTO also seems likely to facilitate the creation of a CPM, as it provides a legal foundation for member countries. The accession of Russia and Kazakhstan to the WTO will be a positive factor. Kyrgyzstan, Georgia and Ukraine are already members of the WTO. On the contrary, the progress of Belarus, Tajikistan and Uzbekistan towards membership is limited. In the meantime, the development of a legal base for the CPM will be smoothed by consideration of the requirements of the WTO.

4. There are also a number of technological barriers to the development of a CPM, although, due to the common technological base created in the Soviet Union, these barriers are less significant than in other regions. In particular, the development of a common methodology for

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[9] *ADB (2005: 18).*

[10] *The establishment of a legal framework is a key element of a CPM. Absence of this framework can lead to serious structural problems. The incident cited below vividly illustrates the danger and economic losses, which may occur when rules are not observed. In June 2007, Ukraine declared its intention to construct a new transmission line around Moldova to provide energy to Odessa region. This decision was related to the 2002 conflict with MoldElektrika, which, as UkrEnergo believed, consumed Ukrainian energy without sanction and refused to buy energy at new prices. UkrEnergo also alleged that there were charges for failing to observe schedules for transit of energy to Odessa region, refusal to regulate the remainder of the energy flow and refusal to follow the instructions of the dispatcher of the Ukrainian company during accidents. www.fin.org.ua/news.php&i=508492, available as of July 2008.*

calculating the cost of transit of power is urgent not only in the electric power sector but also in other power markets.

Let us compare the CIS to Central Europe where the creation of a CPM is also pertinent. Research carried out for this region's power industry describes in detail various technical barriers to the construction of an effective system for trans-border trade in the region[11]. Among them there are the following: insufficient capacity for trans-border transmission of electricity; initial creation of the networks using the principle "local generation – local consumption"; absence of a common methodology for coordination and planning, absence of a regional coordination centre; and technical complexities of trading the energy produced by thermal power plants (TPPs) using gas (more expensive energy source) and wind parks (unpredictable volumes of generation).[12] Comparing these problems to post-Soviet realities, we can see a more promising situation. From the very beginning, the Soviet system was developed as a single network. This creates suitable preconditions for the rapid expansion of trade in electric power within the CIS.[13]

Nevertheless, for a CPM to work effectively, a number of technical barriers and obstacles of legal character should be eliminated, including: customs control of interstate overflows of electric power, inappropriate to the requirements of a parallel mode; absence of uniform methods of calculation of tariffs for transit of electric power; discrepancy in some items of national tax legislation with respect to bi- and multilateral contracts and agreements on the development of integrated cooperation of states in the electric power industry.

The draft of the Concept of the Common Energy Market of the EurAsEC defines the following additional obstacles:

- Utilisation of agreements for the division of production leads to a process whereby regional integration should be coordinated with foreign power companies;

- Regional disagreements of a political nature, in particular, on the problem of the Caspian Sea;

- Powerful considerations concerning national energy security and sovereign energy policies (as a rule, targets for national energy security prevail over integration goals).

An integral part of the formation of the CPM of the Central Asian states and Russia is development of the water and energy complex of Central Asia, comprising (a) construction of hydro energy plants in Tajikistan and Kyrgyzstan, (b) construction of transmission lines, and (c) effective regulation of water flows in all Central Asian countries. EurAsEC

[11] *LaBelle, Kaderjak (2006: 24).*

[12] *The real capacity of German wind parks in 2006 fluctuated between 300 MW and 5000 MW. This leads to complexity not only in planning but also in regulating capacity of the system to absorb all generated energy during production peaks.*

[13] *LaBelle, Kaderjak (2006).*

is trying to solve the disagreements surrounding the water and energy network in Central Asia.[14] We see the key to the solution of this very complicated problem in combining availability of large financial sources (for the construction of additional generating capacities, water reservoirs and effective infrastructure for energy transit) and the creation of effective mechanisms for regional cooperation, which would take into account the vested interests of all countries in the region.[15]

Creation of a CPM does not necessarily require the conclusion of a uniform agreement covering the whole region. As an alternative, *a network of agreements* between the region's states could be possible. This network would be "woven" using two kinds of arrangements: bilateral agreements and multilateral agreements covering sub-regions. The most vivid example of this is Central Asia and Russia. Another power sub-region could be formed between Russia and the Caucasian states. However, we are referring to the technical and economic aspects of the problem, with the understanding that political issues may make both regional projects difficult to implement.

5. Eurasian Integration: Objective Conditions for Going Beyond the Boundaries of the Post-Soviet Space

As a rule, discussion of a potential CPM stops at the boundaries of the post-Soviet space. However, the economic logic of a CPM speaks in favour of the geographic extension of the concerned area.

Let us outline some of the perspectives of potential interest to the CIS nations:

- Azerbaijan – connection to Iran;
- Armenia – connection to Iran;
- Turkmenistan and Uzbekistan – Iran, Afghanistan, Pakistan and other South Asian countries;
- Kyrgyzstan and Tajikistan – cooperation with China, Iran, India in developing hydro-electric potential; exporting electricity to Pakistan, India, Iran, China, Afghanistan, (as well as CIS countries);[16]
- During the coming years, Russia is planning to execute a gigantic project in the Eastern Siberia, developing coal-fired generation and building transmission lines to China, which may lead to annual exports of 60 billion kWh;
- Connecting the common regional energy system with that of the EU, with the view of creating a common market from Lisbon to Vladivostok. This project may be of great importance for Russia, Ukraine, Belarus and Moldova.

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[14] The specific context of the water and energy network of the CAR is described in ADB (2005) and EABR (2008).

[15] Vinokurov (2007).

[16] The most recent example is an agreement signed by Pakistan, Afganistan, Kyrgyzstan, and Tajikistan on August 4, 2008, which foresees construction of a transmission line "Central Asia – South Asia 1000" (CASA-1000) connecting Central Asia upstream countries with their South Asian neighbours by 2014.

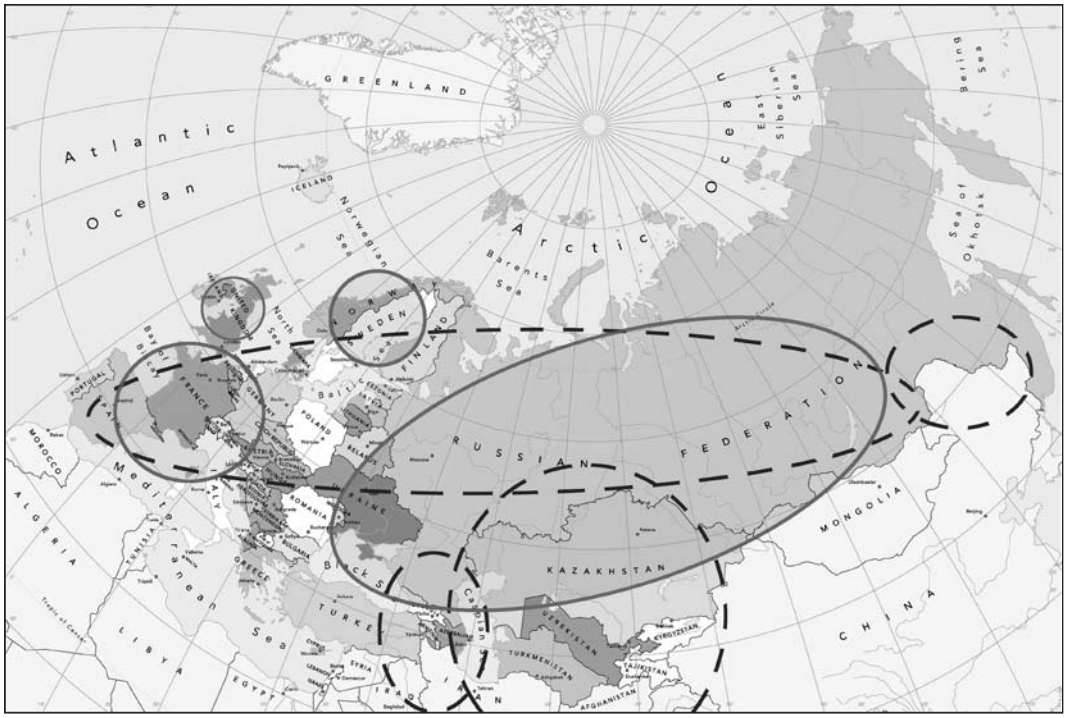

Figure 6. 6
Existing and potential regional and sub-regional electric energy markets

INTER RAO will be responsible for executing a gigantic project of electric power export from Russia to China. The project is divided into three stages, the first of which should begin in 2008. The Russian company plans to increase the export of electric power to China to 4.5 billion kWh per annum, using the capacities of the Far East power plants, which requires $450 million of investments into transmission capacities.

The two following stages, scheduled to last until 2015 will require more investment, totalling $17 billion in Russia alone. Additional generation capacity created shall provide annual exports of 18 billion kWh from the Urgal coal deposit, where a TPP with the capacity of 3600 MW will be built. Following this, export will be increased to 60 billion kWh with three new plants in Buryat Region and Chita Region (3600, 1200, and 2400 MW). Cash flow generated by this project will amount to $1.2-1.7 billion yearly, depending on the dynamics of electric power prices.

In the western direction, the leading role is attributed to the project of the synchronisation of the energy systems of the CIS and Baltic countries with the energy systems of Central and Western Europe, represented by the Union on Coordination, Production and Transmission of Energy (UCTE). RAO UES was planning to complete a feasibility study on uniting the energy systems of the CIS and Europe in 2008.

Among promising possibilities, the UCTE is considering several options: the first includes Turkey, the second is an outlet for Tunisia and

Libya which suggests further outlets to the Middle East; thirdly, UCTE is interested in working on synchronic unification of energy systems with the CIS.

Let us note that any Eurasian CPM would assume gradual development grounded in a number of bi- and multilateral agreements.

J. Linn points out that neither Russia nor the rest of the world have realised that the fall of the USSR triggered the process of economic integration throughout Eurasia.[17] We fully subscribe to this view. Due to its geographical position and national economic interests, Russia is directly interested in *Eurasian integration, which would not be constrained by the boundaries of the post-Soviet space*. Kazakhstan will become a direct ally of Russia in creating Eurasian institutions for economic and political integration. In fact, Kazakhstan's economic future is directly related to common Eurasian markets, transport corridors and security systems. In our opinion, Kazakhstan is the most "Eurasian" country in the whole continent. The EU, China, India and Iran may become the key partners of the CIS countries in the process of creating a real Eurasian CPM.

One of the most valuable lessons we can learn from the global experience of regional integration is the understanding that *les grands projets géopolitiques* do not create a reliable foundation for integration. Rather, specific integration projects in particular sectors could trigger progress of real economic and political value. Regional economic integration can begin in key sectors and then expand to the level of institutional integration. These sectors in the Eurasian context may be electricity, transport, telecommunications or agriculture. Undoubtedly, *common power markets are among the most promising integration projects* due to the strong economic rationale for creating Eurasian common power markets. Moreover, a common electric energy market may turn out to be one of the bases of a continent-wide security system.

6. Conclusions

1. Trade in electric power and mutual investments are at a low level and do not correspond with the sector's potential. The CIS is a net exporter of electric power, but the actual volumes of import and export are small. CIS countries are capable of more, having large coal and gas reserves with huge potential for energy production, vast hydropower potential, and competitive advantage in power engineering.

In spite of the considerable revival during recent years, mutual investments remain at a low level and are characterised by a one-sided structure. In fact, Russia has made all the investment. Small volumes of mutual trade in electricity and low levels of mutual investment do not correspond to the huge potential of the sector.

2. The CIS and its Electric-Power Council play a leading part in the work to instigate a Common Power Market (CPM). This can be explained

[17] *Linn (2006); Linn, Tiomkin (2006).*

by a number of factors. The urgent need originating in the early 1990s led to cooperation and parallel work on energy networks in the newly independent states, formally a single energy system. At that moment, the Electric-Power Council of the CIS was the only body able to address the many technical issues that had to be solved urgently. Gradually the Electric-Power Council's work became more and more effective, and essential for the power companies in post-Soviet countries.

3. Power markets (power industry, hydrocarbons, coal, uranium) are specific: it is necessary to combine a complex approach to fuel and energy balance with functional integration in these unique markets. In the 2000s, the EurAsEC began work on creating a common power market (CPM). It goes without saying that, at the level of conception, power markets must be regarded as interrelated, which allows the implementation of the principle of comparative advantages in the process of integrating different countries. Alongside this, power industries may form separate markets with their own specific regulations. The idea of a common power market, which is the basis of the systematic work of the EurAsEC, inadequately reflects the peculiarities of the power industry. In our opinion, the subject that should be considered is the creation of a number of common markets, such as: an electric power market, an oil and gas market, and a coal market. The creation of a uranium market may then follow. In spite of their evident dependence on each other, each of these markets is very specific and consequently should be regulated independently

4. Creating a common power market entails a number of solvable problems. The completion of the liberalisation of the Russian market, which is the biggest, networked market of the CIS, is one of the most important preconditions for the development of a common power market. In general, the integration of the power market is dependant on the institutional peculiarities of the national electric-power industry in the key countries. Despite this, if an optimal regulative environment is established, a common power market can still be created even with the preservation of a considerable presence of public companies in the generation and distribution of energy.

5. Advancement towards a continental Eurasian common power market is economically rational. Russia and its neighbours are interested in Eurasian integration, which would not be constrained by the boundaries of the post-Soviet space. The very logic of a CPM urges us to go beyond the boundaries of the post-Soviet area. Russia and Kazakhstan are keen promoters of the CPM, as are a number of other CIS countries including Armenia, Azerbaijan, Kyrgyzstan, Tajikistan, Uzbekistan, Turkmenistan, Ukraine and Belarus. Practically all of the CIS countries could gain real advantages as exporters and transmitters of electric power if real electric energy market mechanisms are introduced, thereby dealing with countries of Eurasia such as China, Iran, India, Turkey and EU countries. A CPM for Eurasia would develop gradually, founded on a number of bi- and multilateral agreements.

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7 Preconditions and Prospects for Banking Integration in the Eurasian Economic Community

Anna Abalkina

Regional economic integration in the EurAsEC member countries is increasingly often considered by academics from the point of view of cooperation in trade and investment. Much less attention is paid to the activities of banking intermediaries which fund these operations. The expansion and strengthening of cooperation in the region is accompanied by a growing demand for banking services. In the 1990s, cross-border banking operations were practically the only international system available. In the past few years, financial organisations have set up networks in EurAsEC member countries to service their regular clients, whose economic interests extend beyond national economic boundaries.

The development of mutual cooperation between their banking systems includes a commitment by EurAsEC member countries to create an integrated financial market as part of the regional bloc, in line with the EurAsEC member countries' Blueprint for Monetary Cooperation. Given this situation it becomes expedient to examine the level of banking interaction in the member countries and identify existing preconditions for the creation of a single banking and financial services market.

The Characteristics of Banking Systems in EurAsEC Member Countries

Although the development of banking systems in EurAsEC member countries (and in the entire post-Soviet space) has been successful in many ways, it is nevertheless not without certain persistent problems.

The banking systems of EurAsEC member countries have evolved significantly over the past 15 years. In particular, market reforms in the banking sphere have established two-tier banking systems and the legal framework for central banks and financial institutions. Financial institutions have been increasing their capitalisation in the EurAsEC member countries in recent years. In 2006 alone, their combined assets increased by over 60%.

Some member countries have switched to International Financial Reporting Standards, which are seen to facilitate risk-assessment and increase the transparency of banking operations. Banking regulation is largely conducted in line with international standards. Following recommendations from the Basel Committee on Banking Supervision,

most member countries have increased the minimum size of authorized capital to €5m, thus ptoviding the increase of the capitalisation of financial institutions. Some countries have adopted deposit guarantee scheme, which is, of course, a significant step forward in the evolution of banking systems.

Another positive trend concerns the growing transparency of the national banking systems and the increasing role of foreign capital, which have helped to boost competition in the market and improve standards in banking. IPOs by Russian and Kazakh banks have become more common in recent years.

Nevertheless, despite considerable improvement in EurAsEC member countries' banking systems, regional banking markets are quite poorly integrated and differ widely in terms of the structure and size of their operations. For example, the combined assets of all EurAsEC banking systems stood at $625 billion as at 1 January 2007. Moreover, these assets **are distributed unevenly between EurAsEC member countries**: Russia accounts for over 85% of the total assets. The second biggest banking system – Kazakhstan – accounts for about 11%. Belarus and Uzbekistan account for 2% and 1% respectively, while the Kyrgyz and Tajik banking systems' combined share is less than 1%[1].

A considerable concentration of banking assets is also apparent within national banking systems. Most assets and capital are shared by a limited number of financial organisations, which in Soviet times were, most often, regional branches of Sberbank or Vneshtorgbank. For example, Uzbekistan's National Bank of Foreign Economic Activity accounts for 70% of the country's total banking assets.

Despite quite high growth rates in banking assets in the six countries, their **role in servicing the economy is still insignificant**. The coefficient of financial intermediation, calculated as the ratio of assets to GDP, is extremely low in most of the countries in comparison both to developed and developing countries (Table 1). The role of the banking system is greatest in Kazakhstan where assets account for 86% of GDP.

	Russia	Belarus	Kazakhstan	Uzbekistan	Kyrgyzstan	Tajikistan
Number of banks	1189	28	33	28	21	15*
Assets, billion dollars	533.4	13.6	69.9	5.8	0.7	0.6**
Capital, billion dollars	64.3	2.4	9.2	0.9	0.1	0.1**
Assets / GDP	54.2	36.8	86.3	34.1	24.8	21.4

Table 7.1
Banking sector indicators in EurAsEC member countries as at 1 January 2007

Source: Interfax-1000: Banks of CIS Countries. 2006; World Economic Outlook Database, October 2007

* Excluding non-banking organisations and micro-credit institutions
** As at 1 April 2007

[1] *Interfax-1000: Banks of CIS Countries. 2006*

The limited role of banking systems in the economies of the EurAsEC member countries makes them considerably **dependent on global financial markets**. Around half of all loans in Russia are issued by foreign banks. Cross-border loans now constitute as much as 52% of the liabilities of Kazakh banks[2]. The Kazakh banking system suffered the adverse impact of this dependency in 2007 when, owing to the US sub-prime mortgage crisis and the liquidity crunch that followed it, ratings agencies downgraded Kazakhstan's sovereign rating. This was prompted by the anticipation of liquidity shortfalls for Kazakh banks which have debt liabilities of around $10 billion.

The structure of each EurAsEC member's banking system has a significant impact on its development. The role of state capital is still quite high in some member countries. For example, state-owned banks account for over 70% of total banking assets in Belarus, 44.6% in Russia and more than 90% in Uzbekistan where the banking system is least transparent. This high proportion of state capital affects the banks' ability to perform their financial intermediation function and distorts competition. Many state-owned banks enjoy preferential status in connection with state-funded projects, and major state-run enterprises hold their accounts in these banks. State-owned banks also rely on government support in times of difficulty.

Despite the significant development of these **banking systems**, they **remain highly vulnerable**. According to international ratings agencies, risks in the CIS banking system are among the highest in the world, due to the existence of the grey economy, the considerable debt liabilities of financial organisations, widespread distrust of banks, the poor quality of loan portfolios and the existence of "protected" banks.

There is no doubt that the banking systems of EurAsEC member countries **are at different stages of development**. Kazakh and Russian banking systems are playing a significant role in this region. However, the banking systems of the member countries are highly disparate and there is huge variance in their scale, structure, extent of operations and level of development.

Interstate Cooperation in Banking Sphere

"Formal" interaction within the banking sector is one of the financial integration initiatives formulated in 2004 by the heads of state of five EurAsEC members. In identifying priorities for EurAsEC development in 2003-2006 and beyond, the heads of state highlighted the creation of a common financial market as a key cooperation priority.

Plans to create a common financial market within EurAsEC were incorporated in 2005 in the member countries' draft blueprint for cooperation in the monetary sphere. The blueprint included proposals

[2] *Kazakh banks' high dependence on global capital markets is particularly noticeable in the global liquidity squeeze, Standard & Poor's, 2007.*

for cooperation within the monetary, credit and financial sectors and envisaged the step-by-step creation of a common financial market. The first stage (2005-2007) was aimed at bringing the banking legislation of EurAsEC member countries in line with the Basel Core Principles for Effective Banking Supervision; creating conditions for free access to national financial markets for legal entity residents in the member countries; and concluding bilateral agreements on the establishment of national treatment.

The second stage (in 2007-2010) envisages the unification of financial, banking and monetary legislation.

The third stage (from 2010) should see the creation of a common financial market and ensure free capital movement.

The success of this plan to create a common financial market largely depends on the extent of regional banking cooperation. Close cooperation in the sector creates the basis of national financial systems and may help to strengthen and accelerate the formal process of economic integration.

In general, a common financial market can only function when certain institutional, quantitative and pricing conditions are met. The first of these is the abolition of restrictions on the capital movement. Secondly, a fair and equal business environment must exist for financial organisations setting up foreign branches and offering cross-border services. Thirdly, consumers must have free access to services within the regional financial market.

The present parameters of national banking markets can be quantitatively assessed by analysing the level of mutual provision and consumption of financial services through cross-border operations and subsidiaries in local markets, and price differentiation. Institutional reviews consider existing restrictions on service providers' and users' mutual access to one another's markets.

Restrictions on equal access for market players. When post-Soviet countries gained independence, local banks became foreign to one another. As a rule, **the national legislation of EurAsEC member countries and bilateral and multilateral agreements between them do not establish preferential banking regulations for owners of banks who originate from EurAsEC countries, despite the declared objectives of regional integration.** Therefore banking entrepreneurs from EurAsEC member countries are treated like shareholders from any other foreign country.

Most favoured nation treatment (MFN) is now granted to bank founders from EurAsEC member countries, as it is to other non-resident shareholders, but MFN allows to apply restrictions for foreign financial organisations. These include exemption from national treatment, and thereby create different conditions for domestic and foreign financial organisations, including those from EurAsEC member countries.

These restrictions include limits on aggregate ownership by non-residents, certain stipulations regarding staffing policies and a ban on of the use of certain administrative and contractual business practices.

The most common exemption from national treatment is the imposition of a quota on foreign capital. It used to be applied in almost all EurAsEC member countries and varied from 12% of total banking authorized capital in Russia, to 50% in Kazakhstan (and was also applied to capital from EurAsEC member countries). However, member countries have been abolishing quantitative restrictions as part of a policy to liberalise access for foreign banks. This limit is still applied in Belarus, where non-residents do not have the right to own more than 25% of the total authorized capital of the banking system.

CIS countries are still imposing restrictions on the staffing policies of banks with foreign ownership. These apply both to bank management and ordinary staff members. For example, Russian legislation demands that at least 50% of managers of a foreign bank should be Russian citizens, because they are better acquainted with the specific banking conditions of the national market. At least 75% of employees of any bank with foreign investment must be Russian citizens.

In some countries legislation limits competition between foreign and local banks by applying restrictions on the opening of accounts by legal entities. In Belarus, for example, a legal entity has the right to open an account only in one bank. As a result, an enterprise is denied the opportunity to try other banks and will almost never opt to transfer its accounts to another bank.

Also exempt from national treatment are those measures which prevent foreign banks exploiting all available forms of service provision. The most widespread restriction is a ban on the opening of new branches as a means of expansion. A branch of a non-resident bank is not an independent legal entity or resident, therefore its activities are regulated by the laws of the country of origin of the parent bank. Russia, Kazakhstan, Belarus and Uzbekistan do not allow non-resident banks to open branches.

The policy of some countries regarding branch banking services has changed. For example, a branch of an Iranian bank has been set up in Tajikistan. The liberalisation of access to Kyrgyzstan's banking system as a result of the country's accession to the WTO has allowed the National Bank of Pakistan to open a branch there.

In addition to the existing legislative restrictions on mutual access for market players, post-Soviet countries may also use administrative measures and adopt a selective approach in relation to foreign investors. This applies particularly to mergers and acquisitions. However, it is fair to say that, since buyouts of existing banks in the EurAsEC are few in number, these operations are subject to fewer administrative restrictions than they tend to be in other sectors of the economy.

In addition, the current inaccessibility of some banking systems (Tajikistan, Belarus and Uzbekistan) to foreign investors is a considerable obstacle to the integration of markets within the EurAsEC.

The openness of national banking systems has increased immensely in the past few years. Generally, however, the liberalisation of access for foreign capital has taken place not under the auspices of the EurAsEC but as the result of national banking systems' integration into the global financial market and their preparation for WTO membership.

One of the few documents which EurAsEC member countries have adopted which does give preference to its own banking systems concerns resident bank access to currency markets of EurAsEC countries. Although member countries have ratified this agreement, no specific steps have been taken for its realization. Moreover, there are doubts about how successfully such measures could be implemented in some countries since, according to Paragraph 44 of this document, priority is given to obligations under other international treaties.

We believe that, from the point of view of legislating for cooperation in banking, it is still too soon to focus on the existence of tangible preconditions for the creation of an integrated market. Existing national legislation can only confer most favoured nation treatment, while the modern trend of reducing exemption from national treatment and encouraging banking interactivity is mainly connected with the integration of banking systems into the global market, rather than with one another. Moreover, the accessibility of national banking systems differs widely and, therefore, existing regulatory systems governing banking activity have not been harmonised.

These disparities in the regulation of financial institutions create serious obstacles to their integration. It is possible that cooperation will increase in the future, for example, through unilateral access for EurAsEC member country banks to various sectors of the financial market, but this cooperation will be somewhat asymmetric in nature.

The scale of bank participation in EurAsEC. EurAsEC member country banks have been actively penetrating each other's markets in the past few years. In 2007, banks' investments in the authorized capital of the banking sector stood at $522 million, with total assets for controlled financial organisations standing at more than $3.8 billion. The investment of EurAsEC member country banks in each other's authorized capital had doubled since 2005. This significant growth was facilitated mainly by an increase in the size of these banks' subsidiary branches rather than by the establishment of new financial organisations.

The entry of EurAsEC banks into foreign markets has been fairly characteristic. Firstly, until recently, their foreign activities tended to be one-off ventures, whereas now **regional banks have emerged whose development strategies involve expansion into post-Soviet countries** (for example, Kazakhstan's BTA Bank)[3]. Secondly, there have

[3] *It should be noted that Vneshtorgbank has also developed its regional development strategy and focuses its activities in Ukraine and Caucasian countries, and still does not have a single branch in the EurAsEC member countries. However, it plans to finalise a deal to integrate Belarus's Slavneftebank into the VTB Group.*

been many cases of banks in the EurAsEC being purchased by but not integrating with parent companies, continuing instead to operate under existing brands[4]. For example, BTA Bank has several subsidiaries in Russia which did not change their brands after BTA replaced their shareholders. Thirdly, EurAsEC member country banks have **asymmetric involvement in each other's markets**. Russian and Kazakh banks have the greatest competitive advantage. In addition, banks in these countries **concentrate their foreign banking assets in very few countries**. For example, Kazakh banks have prioritized partnerships within the EurAsEC (Russia and Kyrgyzstan), while Russia's main banking assets are in Belarus and outside the EurAsEC (namely, in Ukraine).

We have counted at least 13 banks in EurAsEC member countries which are expanding within the community (by comparison, there 24 such banks in the CIS). Usually, **the greatest presence of foreign assets is in the form of a small number of leading banks**, while other banks have only one branch in the region. For example, four Kazakh banks – BTA, Kazkommertsbank, ATF Bank and Halyk Bank – account for 75% of total investment in the authorized capital of banks in EurAsEC member countries. BTA has four subsidiary branches in Russia and one each in Belarus and Kyrgyzstan. The other three Kazakh banks each have one branch in Russia and one in Kyrgyzstan.

Russian banks are the main foreign banking presence in Belarus, where there are subsidiaries of Gazprombank, Bank of Moscow, Rosbank and others. In 2007, the role of Russian banks in the Belarusian banking system grew as a result of several acquisitions. For example, Belvnesheconombank was bought out by Vneshtorgbank, while Mezhtorgbank was taken over by Alfa Bank. Ownership of Slavneftebank, formerly controlled by a Russian oil company, will also be transferred to Russia's Vneshtorgbank.

The Kazakh banking system, which is the second largest in the EurAsEC, has seen less inward investment by Russian and other EurAsEC banks. For some time, only Alfa Bank had a presence in the Kazakh market. However, Sberbank recently moved into Kazakhstan through its purchase of Texakabank, which in turn owns Russia's Metrobank, a retail banking specialist.

Several Russian banks – Renaissance Capital, for example – are operating in Tajikistan. Russian shareholders are present in Kyrgyzstan only as minority owners.

With regard to other EurAsEC countries, a major Uzbek bank – Asia-Invest – has one branch in Russia. Banks in Kyrgyzstan, Tajikistan and Belarus have not expanded into foreign markets, partly due to the relatively small size of their banking systems.

Despite the quite high concentration of foreign assets held by certain banks, **foreign markets are not the primary target of these financial organisations** (Figure 1).

[4] *Buzdalin A. (2006) CIS Banks Increasing Presence in CIS, Kommersant Bank, 21 September.*

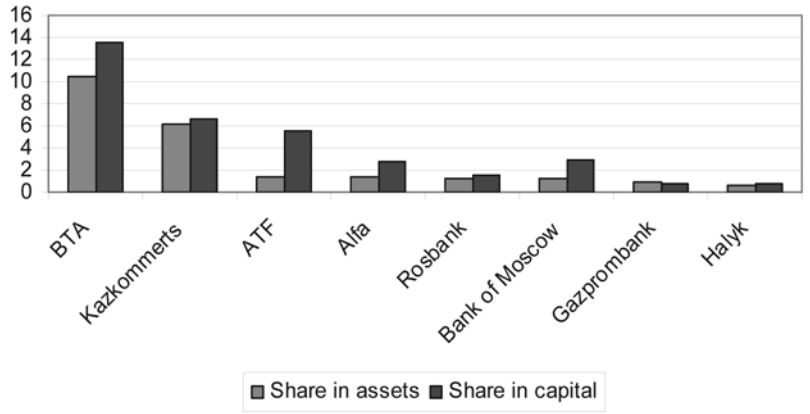

Figure 7.1
Foreign network in EurAsEC as a share of bank's assets and capital at the beginning of 2007, %

This graph shows Kazakh banks have the most significant foreign banking operations. For example, more than 10% of BTA Bank's assets and 14% of its capital are in EurAsEC countries. However, it should be noted that most banks which are expanding abroad either set up or buy small banks which account for an insignificant share in the country's total banking assets.

Subsidiary banks in the EurAsEC are playing a negligible role in national banking systems. Banks from EurAsEC countries are a significant foreign presence only in certain countries. For example, Kazakh banks are the most active banks in Kyrgyzstan and they have bought several Kyrgyz banks. As a result, the share of EurAsEC banks in the total capital of the Kyrgyz banking system exceeds 30% (Figure 2).

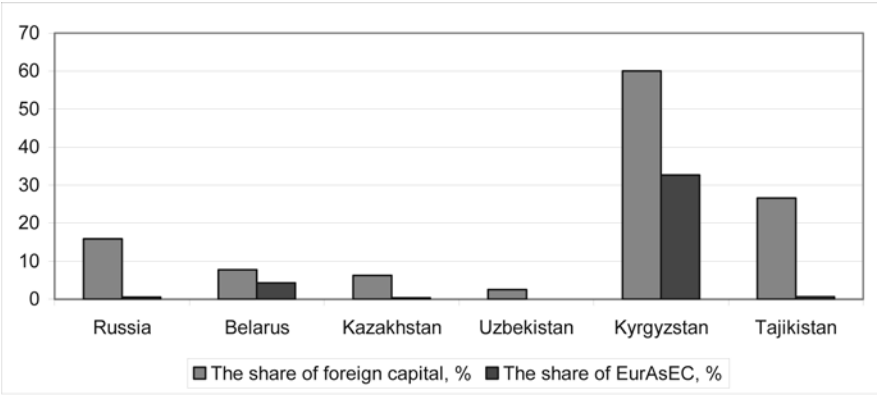

Figure 7.2
Share of foreign capital, including from EurAsEC member countries, in the banking system, %

The graph shows that foreign capital is a dominant presence in the banking system only in Kyrgyzstan, while its role in other EurAsEC countries is minimal.

In general, the level of mutual involvement of EurAsEC banks is slowly growing, but relative indicators are still low. For example, the

share of EurAsEC bank subsidiaries in the total assets of the EurAsEC banking system does not even reach 1% (whereas it stands at 1.2% in the CIS and 17% in the EU).

Banking interaction indicates to a certain extent the development of economic relations between countries, while asymmetric involvement of banks is often explained by the absence of significant bilateral economic cooperation. Furthermore, the low capitalisation of EurAsEC banks and the continuing high risk of banking activities are tangible obstacles to the development of foreign banking activities.

Banks usually expand into foreign markets to service their traditional clients and their trade and investment operations. This strategy is called "follow the client", which means that banks create branches only in those countries where they have clients. This motivation for foreign expansion is typical in the initial stages of the transnationalization of banking and is now affecting EurAsEC member countries.

This thesis is borne out by analysis of the correlation between Russian and Kazakh banks' penetration in EurAsEC member countries and trade relations in the region. There is a high interdependency in the expansion of trade and banking capital. For example, the correlation coefficient between banks' investments and the country's trade with the EurAsEC countries is about 0.99 for Kazakhstan and 0.89 for Russia, indicating high direct dependence. However, this correlation for CIS countries is lower (0.98 and 0.77 for Kazakhstan and Russia respectively). As a result, Russian and Kazakh banks' expansion in the EurAsEC is proportional to the level of bilateral trade.

However, there is not necessarily an economic imperative behind every bank's foreign investments. Russian banks' very limited involvement in Kazakhstan serves as a good example of this. Despite the extensive trade relations between Kazakhstan and Russian, economic cooperation is mainly in the form of cross-border transactions. Kazakhstan accounts for the bulk of correspondent accounts opened by Russian banks in the post-Soviet space.

The volume of banking operations between the EurAsEC countries is currently growing at lower rates compared to the growth of assets in the banking system. That is why investment between banks is minimal and cannot be a precondition for the creation of an integrated regional financial market. Moreover, banking cooperation is developing asymmetrically and the level of unilateral integration of some countries (for example, Kyrgyzstan) into the regional banking services market is quite high.

Price differential. One precondition for creating an integrated banking services market is the harmonised cost of loans, which results from competition in national and regional markets.

Certain standardisation in the cost of loans can be established by the dynamics of the interest rates on loans issued to non-financial sector and estimations of their fluctuations (Figure 3).

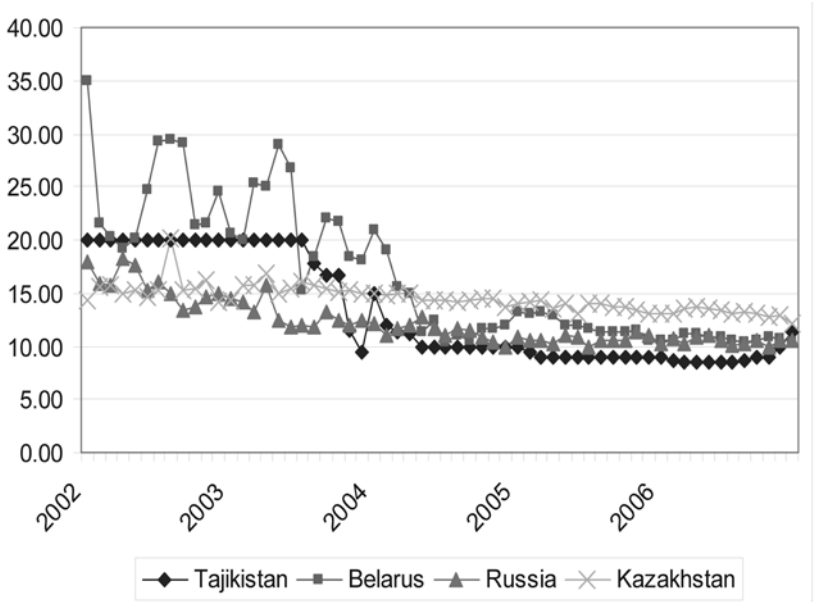

Figure 7.3
The dynamics of monthly interest rates on loans issued to non-financial sector in EurAsEC countries

Source: Central banks of the EurAsEC member countries

The graph shows that interest rates on loans issued to non-financial sector have stabilised to a degree since 2004, and that they have fallen somewhat in the past five years. At the same time, interest rate fluctuations are quite small in Russia and Kazakhstan, but a little greater in Tajikistan and Belarus.

Another indicator which allows us to assess price differential in the EurAsEC member countries is the dynamic of the banks' margins between interest rates on loans and deposits (Table 2).

	2000	2001	2002	2003	2004	2005	2006
Беларусь	30.1	12.8	10.0	6.6	4.2	2.2	1.1
Кыргызстан	33.5	24.8	18.9	14.1	22.6	20.8	17.6
Россия	17.92	13.06	10.75	8.5	7.61	6.69	6.41
Таджикистан	24.33	15.86	4.99	6.9	10.57	13.52	14.17

Table 7.2
Interest rate margin in EurAsEC member countries

Source: International Financial Statistics, 2007, October

The dynamics of the banks' margin in EurAsEC countries point to an insignificant convergence in its rates. Banking margin is relatively high in Kyrgyzstan and Tajikistan because of weak competition in their markets and the poor development of their banking systems. Vernikov (2006) believes that significant differences in money circulation parameters are due to the small amount of capital moving between post-Soviet countries[5]. Thus, according to price parameter financial markets of EurAsEC member countries are quite divergent.

The prospects of creation of integrated financial market. In principle, the prospects for cooperation between the banking systems of the EurAsEC member countries are very favourable. The increase in banks'

[5] *Vernikov A. (2006) Multinational Banks in CIS. Published in a collection of articles, entitled "Contradiction of processes of currency and financial integration in CIS", Moscow.*

penetration of each others' markets confirms that banking cooperation between countries has increased and this is an indirect indicator of a growth in trade and investment between them. Integration "from the bottom up", i.e., by the increase in cooperation between business structures, normally signals to the authorities that they should create favourable institutional foundations to encourage cooperation. However, the region's countries have not yet created the framework for attracting banking capital from EurAsEC member countries because there are often institutional restrictions to this. The market's infrastructure has not developed to the degree that is necessary in order to boost cooperation in the banking sphere.

Currently, banking systems are developing by integrating into the global, rather than into the regional banking services market. This has a dual impact on mutual cooperation within the EurAsEC. On the one hand, it facilitates the liberalisation and harmonisation of banking regulations necessary for creating an integrated banking services market. On the other hand, global financial markets are diverting the banks' focus away from regional cooperation.

A further substantial obstacle to cooperation is the expected takeover by Western financial organisations of EurAsEC banks which are expanding into neighbouring markets. For example, Kazakhstan's ATF Bank, which has branches in Russia and Kyrgyzstan, was taken over by the Italian UniCredit Group in 2007. We believe that BTA Bank is also a likely takeover target for a Western bank.

The fact that integration initiatives in the former Soviet space have stalled is further hindrance to the formation of a common policy for the banking sector. In such conditions, a paradox emerges: integration is delayed, but business interaction has been growing. We believe this is because the facilitation of bilateral and multilateral banking cooperation is not the key factor in ensuring the growth of this cooperation.

The promotion of investment and trade and relative stability in the national banking systems, the competitive advantage of major banks in less developed EurAsEC banking markets and prospects for economic growth all play a huge role in developing banking cooperation. In the future, cross-border operations and the establishment of regional networks, including through takeovers, will increase banking cooperation in the former Soviet space. Major Kazakh and Russian banks that wish to become regional banks with network in all CIS countries will make the greatest contribution to the development of banking cooperation.

It is possible that the future model for cooperation in the CIS will be based on the spheres of influence of Russian and Kazakh capital. For example, Russian interests will not be focused in countries that belong to a certain supra-national integration organisation but in the European countries of the CIS (Ukraine, Belarus and Moldova). Central Asia will be Kazakhstan's sphere of influence, while the Caucasus will fall into the spheres of influence of both Russia and Kazakhstan (Figure 4).

Figure 7.4
The spheres of influence of Russian and Kazakh banking capital

However, this development model does not preclude the presence of Russian banks in Kyrgyzstan or Tajikistan, for example. It envisages that Kazakh capital will play a dominant role in the banking systems of these countries.

It is also expected that banking cooperation will develop mostly on a bilateral basis. For example, Russia's financial cooperation with Belarus and Ukraine will increase (even though the latter is not member of the EurAsEC). Since domestic financial markets are not well developed, it is expected that stock-market players as well as banks will be implicated in the cooperation process. For instance, Russian banks will help Belarusian and Ukrainian companies enter the Russian stock market.

Kazakhstan is also adopting a similar strategy and has set up a regional financial centre in Almaty (RFCA) based on the Kazakh Stock Exchange (KASE). The RFCA's major advantage is its international status, which allows foreign issuers and investors to enter the market. It is anticipated, for example, that a list of potential issuers of the RFCA will include large- and medium-sized Kazakh companies and medium-sized Russian, Ukrainian and Central Asian enterprises.

The pursuit of formal integration through the creation of an integrated financial market and the abolition of restrictions is being addressed in two ways. The 2005 blueprint for cooperation between EurAsEC member

countries in the monetary sphere involves measures relating to financial and banking cooperation. The three-stage implementation of this blueprint will result in the abolition of restrictions on the movement of capital and the harmonisation of banking legislation. However, this will fall short of creating a fully integrated (i.e. reciprocally linked) financial market.

Adopting similar standards for the activities of banks and financial organisations will not encourage markets to converge and will not eradicate disparities. A possible outcome of this blueprint will be the uneven development of national markets with similar standards and the absence of restrictions on the movement of capital, but it is very likely that the deficient development of local banking services markets will persist. Domestic demands for a common financial market are not sufficient, but the system should not be imposed by external authority, since the integration process results logically in financial integration at a later stage.

Taking into account the current level of financial cooperation in the EurAsEC, we believe that it would have been more profitable to create a regional capital market which would reduce dependency on foreign sources of funding. To achieve this would require the establishment of a stable, rather than a single financial market in the EurAsEC member countries.

EurAsEC and CIS countries could look to the example of Asia Pacific countries, which chose to reduce the role of foreign loans by developing a regional bond market which is less exposed to global crises.

We believe that this is a very effective mechanism which reduces exposure to currency risk and keeps resources within the region in the long term. However, there are certain obstacles to its achievement, for instance, the absence of sovereign ratings for some countries. Also, this mechanism could be launched only in a limited number of countries (Russia, Kazakhstan, Ukraine and Belarus).

Given their present status, a substantial role in the model of CIS financial markets could be played by multilateral development banks (the Eurasian Development Bank and the CIS Interstate Bank). Capital markets can be developed only through the redistribution mechanism operated by multilateral development banks (raising funds through bonds and transforming them into loans). As a result, post-Soviet countries would be able to place their funds not on the global financial markets but in the former Soviet space, helping not just to retain capital in the region but also to boost economic growth. This mechanism of developing economies and financial markets will have a wider geography (compared to the development of the bond market).

As a result, we believe that the creation of a formal common financial services market is premature. It would be more beneficial to take steps to increase stability within national financial systems, to increase their capitalisation and to develop a regional capital market.

The Metropolisation of the FSU: Temptative Measurement via the Method of Hyperlinks Notoriety

8

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and
Ivan Samson

With the collapse of the USSR it was assumed that Russia, like the rest of the CIS, would not adopt the logic of metropolisation in terms of spatial organisation. Historically, the Soviet urban world has been built on spatial principles other than occidental ones, a legacy which is reflected by the existence of large industrial city networks. Advanced services, considered as unproductive, are conspicuous by their absence. Today the FSU still manifests itself as an area of monopolar territorial organization, with only Moscow qualifying as a global city. However, this territory, being the largest in the world, can no longer operate from a single global city.

The measurement of cities' metropolisation is not a simple task, especially in the post-Soviet context. On the basis of Brunn (2003) we devised a new method of measuring metropolisation according to the number of hyperlinks in Internet search engines. The aim of this paper is to tackle the question: Does the FSU follow Western patterns of metropolisation, or is it a specific model marked by the historical legacy that has emerged in the post-communist world? To answer this question the paper starts with the presentation of our tools of observation and the measurement of studied processes, it then develops the analysis and interprets the results.

1. INTRODUCTION

Historically global economic activity has been controlled by the established global cities, whose geographic distribution by continents is unbalanced. These global cities, concentrating advanced services of international level, also have decision-making abilities and represent a dimension of global economic command. It has even been written that, today, the power of a State is measured by the influence of its cities (Claval, 1997; Scott, 1998, 2001).

One of the geopolitical lessons of the world cities hierarchy conducted by the Globalization and World Cities Study Group and Network GaWC (Beaverstock, 1999, 2000; Taylor, 2001; Fossaert, 2001) is that under equal conditions, countries with multipolar urban networks are much better represented than countries with a monopolar network and tradition (P. Marchand, 2008). Within the Former Soviet Union (FSU) only Moscow achieves this ranking (Saint Petersburg, Almaty and Tashkent

are considered as potential world cities), whereas five German cities and eleven in the USA are ranked as such.

Undoubtedly, since 1992 the CIS has begun to adapt to the process of globalisation. Consequently, this territory, being the largest in the world, can no longer operate from a single global city. In other words, structurally, the territorial configuration of the CIS is not adapted to the current phase of globalisation. In fact, the entire area of the CIS has not yet been introduced to the economic logic of metropolisation. As shown by P. Marchand (2007) for Russia, at least at regional level, the CIS is still organised by politico-administrative capitals with "vampire" behaviour towards their environment (Marchand, 2007).

The measurement of a city's metropolisation is not a simple task, especially in the post-Soviet context. A number of studies have been devoted to Western cities and those in the Central European Committee of Construction Economists (Friedman, 1986; Samson, 1996; Sassen, 2001; GaWC, 1999, 2000, 2001; Cicille and Rozenblat, 2003; Bourdeau – Lepage, 2003; Brunn, 2003; Duféal, 2004; Agibetova, 2008). However, measurement methodologies are still rather vague. As for major cities of the FSU, they are currently a void in the global analysis of metropolisation[1].

2. THE QUESTIONS RAISED

This paper focuses on the evaluation of metropolisation throughout the FSU (twelve republics of the CIS, plus three Baltic States),[2] represented by an observed sample of 58[3] large cities.

The general aim is to tackle the following question: Does this region follow Western patterns of metropolisation, or is it a specific model marked by the historical legacy that has emerged post-communism? Indeed, with the collapse of the USSR, the territory of Russia as well as that of the whole CIS, did not adopt the logic of metropolisation in terms of spatial organisation (Marchand, Samson, 2008). There are five characteristics that deprive the post-Soviet cities from any metropolitan function (Marchand, 2007; Marchand, Samson, 2003): cities as clusters of factories with internalised services; under-development of economics

[1] Let us not forget that among the international studies devoted to the hierarchy of world cities no one is devoted to the FSU space. The exception is the recent work of Marchand (2007) «The Geopolitics of Russia», where the author raises for the first time the issue of metropolisation in major Russian cities. Among others, there has been an ambitious project on the "Big Cities and Metropolisation in Russia and Western Europe: similarities of processes, convergence of paths?", funded by CNRS (2003-2005), led by the team CIRUS-Cieu (Interdisciplinary Centre of Urban and Sociological Research - Interdisciplinary Centre of Urban Studies), University of Toulouse, under the coordination of D. Eckert and V. Kolossov, but no result has emerged.

[2] Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldavia, Tajikistan, Turkmenistan, Uzbekistan, Russia, Ukraine.

[3] Ashgabat, Almaty, Astana, Astrakhan, Baku, Barnaul, Bishkek, Chisinau, Dnepropetrovsk, Donetsk, Douchanbe, Yekaterinburg, Yerevan, Irkutsk, Izhevsk, Karaganda, Kazan, Khabarovsk, Kharkov, Kiev, Krasnodar, Krasnoyarsk, Krivoy Rog, Lipetsk, Lvov, Mariupol, Minsk, Moscow, Naberezhnye Chelny, Nizhny Novgorod, Nikolaev, Novokuznetsk, Novosibirsk, Odessa, Omsk, Orenburg, Ufa, Ulyanovsk, Penza, Perm, Riga, Rostov on the Done, Ryazan, Saint-Petersbourg, Samara, Saratov, Tallinn, Tashkent, Tbilisi, Chelyabinsk, Tyumen, Tolyatti, Vilnius, Vladivostok, Volgograd, Voronezh, Yaroslavl, Zaporozhye.

and finance; innovation under the tight control of the political and security services; under-development of services; and regional discontinuities.

The main issue to be addressed includes six sub-issues which will serve as reference in the interpretation of observations.

1) Are we witnessing a **unipolar or multipolar metropolisation** across the FSU?

2) Considering the pre-eminence of Moscow, **is the city's polarization strengthening or fading?**

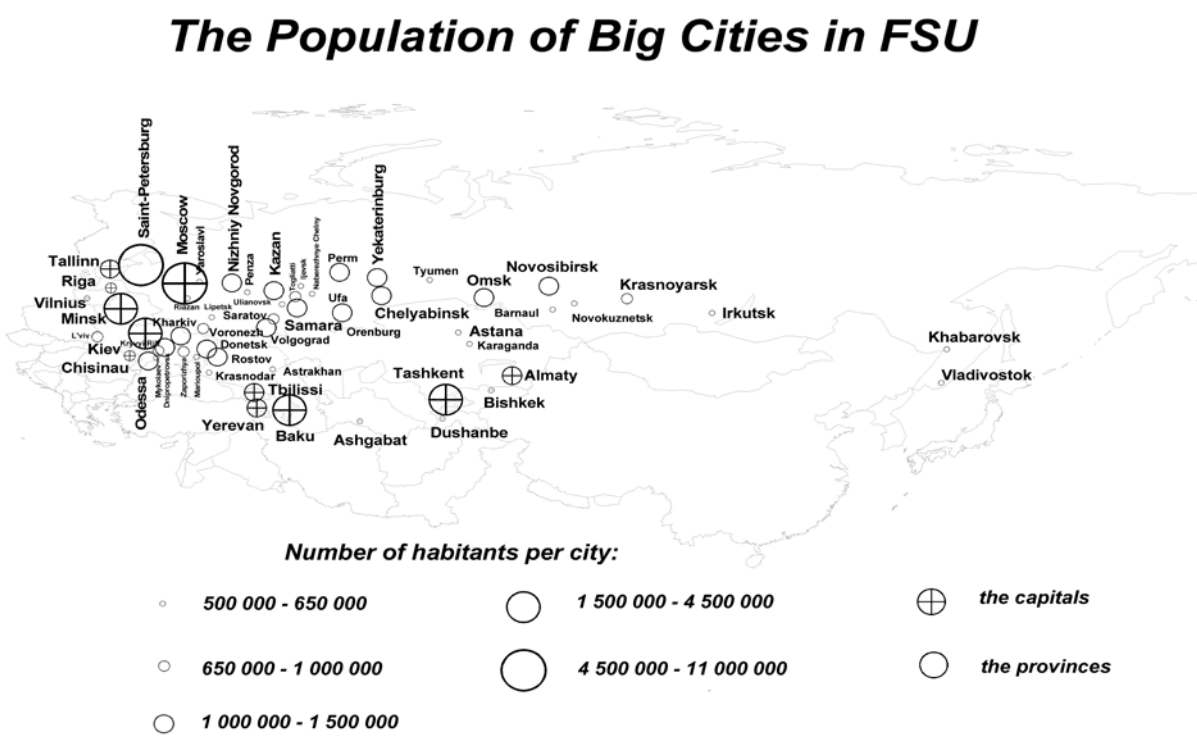
3) **Are the dynamics of metropolisation converging towards certain privileged centres?**

4) **Is the metropolisation we can observe driven by economic or political forces?** In other words, are the cities that emerge national capitals, or not?

5) **What are the metropolisation areas appearing in the FSU**?

6) **What global areas are associated with FSU sub-spaces?** The question of the geopolitics of the CIS anchoring into the global world is gaining in importance. In particular, we will try to identify areas that could help the large post-Soviet space to open up to the world. Eurasian integration comes on to the agenda, benefiting not only Russia but also the entire CIS (Mikami, 2005). However, the issues of CIS integration with Western and Eastern Europe, with Asia (China, Korea, Japan) and the South (India, Gulf), through energy policies, outsourcing operations and transportation, seem to have an impact on the Eurasian hypothesis (Linn, Tiomkin, 2005; Samaganova, 2008).

Figure 8.1
The population of Big Cities in FSU (2005)



To answer these questions we will proceed, firstly, to the presentation of our tools of observation and measurement of studied processes, and then to analysis and interpretation of results.

3. TOOLS OF MEASUREMENT AND ANALYSIS

Throughout history cities have emerged and increased in economic, cultural, and political stature based on the number and extent of their linkages to other places. We are witnessing today in the urban world in many regions of the planet *new urban geographies and geometrics or networks*. These are "electronic" linkages and they are connecting ancient and new, large and small, cities (Brunn, 2003; Dodge, 2001). These linkages are attributed to advances in information and communications technology (ICT) and they form the backbone of knowledge economies (Janelle et Hodge, 2000). These specific technologies include Internet and World Wide Web resources. Most parts of the world have been affected by the wired and wireless innovations in ICT during the past decade (Kolarova et al, 2006). Few large cities in the world have not been linked or wired, at least to some extent.

The observation of these urban linkages or ICT networks within any country or region would demonstrate the degree to which these places are linked to others, either on a global or regional scale (Brunn and Dodge, 2001; Brunn et al., 2002).

Additionally, in the context of the FSU, we can get an understanding of the diffusion of internet technologies by considering the number of web-pages or hyperlinks which exist for major cities. For Brunn (2003), the founder of this approach, data sources as an instrument of measuring the number of hyperlinks for any city can be obtained by using *Internet search engines*. In our case, we used Google and Yahoo (global engines), Yandex and Rambler (local Russian engines). The number of hyperlinks obtained by entering the single city name as a key word represents its "Simple Notoriety". Entering a pair of cities measures their "Joint Notoriety". So, what does it mean for a city to feature in the WWW network via a hyperlink? What information do Simple and Joint Notorieties provide?

For a city, being quoted represents the level of its engagement in the global economy. The two Notorieties are the two levels of the modern city's world-articulation. The "Simple Notoriety" is the capacity of a city to impose its notoriety within the world space as a centre of command. The "Joint Notoriety" is the degree of "connectivity" between two cities which evaluates their ability to work as a commuter with the global network of world-cities. At the same time, it is also an indicator of the city opening towards the global economy and its integration level on the international scene. In the context of the FSU space, the city's notoriety obtained via global engines is qualified as its *external notoriety*. The same obtained by regional engines is its *internal notoriety*.

Therefore, following Brunn (2003), we have been trying to develop a new indicator of metropolisation – an "Internet-Notoriety" indicator,

which has proven to be a good instrument of the metropolisation measuring process, adding to the list of hierarchy indicators of world cities in the context of a knowledge economy. Moreover "Internet-Notoriety" perfectly reflects the cognitive function or reputation hub of a city, where people and activities agglomerate in order to benefit from the clustering of advanced services, such as finance, information, research or culture. In the urban context, cyberspace has contributed to the reconstruction of urban space by creating the social environment in which "being digital" is a factor increasingly crucial for knowledge, wealth, status and power (Wheeler, Aoyama, Warf, 2000). In this era of the "City of Bits" (Mitchell, 1995) when social life is mediated through computer networks, the reconstruction of interpersonal relationships around spaces and virtual societies gains the upper hand. In addition, at a time when the quantity of available information makes economic intelligence a strategic resource, the ability to exist in cyberspace is increasingly a condition for the exercise of economic command. For all these reasons, we believe that "Internet-Notoriety" is an indicator well-suited to the approaching reality of metropolisation.

The results of our investigation into the dynamics of the period 2004-2007 have demonstrated that global and regional search engines represent two different visions of the world (Agibetova, 2008). Global search engines provide a "global vision" that considers the state of the opening-up of the CIS "as seen by the outside world", whereas regional search engines illustrate the vision from "the small world" perspective – opening-up to the world as viewed through internal "glasses". In what measure do these two visions differ? Both are characterized by cultural polarization, which includes history, language, and cognitive proximity.

The Russian search engines Rambler, headquartered in Moscow, and Yandex, headquartered in Moscow with subsidiaries in Saint Petersburg, Yekaterinburg, Kiev, Odessa and Simferopol are extremely regional, reflecting trends that affect processes happening only within Russian territory. They "magnify" Russian and FSU cities with an "optical effect" that marginalises other FSU spaces. We are shown an image of metropolisation altered in favour of Russian cities whilst the Internet-Notoriety of other areas is understated.

Besides, the second feature of regional search engines, discovered thanks to the construction of regression charts and the ratio of connectivity (Agibetova, 2008), is that in the measurement of metropolisation they are significantly affected by the size of a city's population. This distortion can be corrected via the global search engines, Google and Yahoo, whose "global vision" of the integration and liberalization processes helps to provide balance. Analysis of global search engines' data (including the construction of ratios, regression charts and zone typologies) has demonstrated their heuristic power.

The analysis of the phenomena of metropolisation through the prism of the Internet represents, in our opinion, a double improvement. It is

important to take into account the real importance of the knowledge economy in the contemporary world and its spatial organisation. It is also a new form of "subjectivity" that appears through cyberspace, structured here by the search engines: the indirect capture of metropolisation through the Internet and the occurrence of hyperlinks produces a "reflected" image produced by one of the communities that make up cyberspace, as described by a search engine. In other words, we start analysing the relations between the immediate areas of the spatial economy and the replicated or "reflected" dimensions of cyberspace. In this sense the use of "regional" search engines is able to provide new information reflecting the specificity of the post-Soviet space of intermediation. It proved to be quite efficient for reflecting the complex Russian gravitation and influence within the FSU, difficult to capture with other tools. The hyperlink notoriety thus provides an original contribution to the analysis of globalisation, and to describing the relationship between regional integration and globalization.

Like any tool, the use of Internet hyperlinks contains biases that must not be neglected. There are homonyms of some cities, such as Samara, for example, which is a Russian city and a car model, or Odessa[4], which is a Ukrainian port and a district of New York. Results may also be affected by breaking news such as elections and a referendum in Belarus (October 17, 2004) or Transnistria (December 6, 2006). As our tool is a measurement of occurrence of the names, these phenomena artificially boost the presence of some cities in cyberspace at a given moment. These biases were corrected.

4. THE OVERALL DEFICIT OF METROPOLISATION IN THE FSU

The analysis of all rankings shows that post-Soviet cities, mostly leaving the USSR after seventeen years of transition to adopt a market economy and democracy, have failed to integrate into the modern world order and to win a worldwide reputation. This observation is valid even for Moscow, a global city of beta-category according to the classification of GaWC (Taylor, 2001). In fact, it was found that the number of regional search engines' hyperlinks is double that of global search engines. It means that in 2007 the simple notoriety of FSU cities has a regional character.

Thus, taking into consideration the specificities of the post-Soviet mono-centred economy we can say that the FSU space does not follow the classic patterns of metropolisation. In order to be "metropolised" it needs some impulses from the top. Here, we distinguish the notion of *economic metropolisation* ("bottom-up") and *political metropolisation* ("top-down"). The first, known also as "western-like metropolisation" is initially caused by the market, driven by economic processes via local actors. The second is primarily an administered process where

[4] Nova Odessa in Brazil, 2 cities named Odessa in Canada (in Ontario and Saskatchewan), 8 cities and a lake named Odessa in USA (in Delaware, in Florida, Minnesota, Missouri, Nebraska, New York, Texas, Washington and Michigan).

Rank	Global Search Engines	City	Category	Rank	Regional Search Engines	City	Category
1	63 700 000	Moscow	Russian Capital	1	283 107 018	Moscow	Russian Capital
2	29 200 000	Kiev	FSU Capital	2	72 598 323	Saint-Petersburg	Russian Non-capital
3	24 435 000	Tallinn	FSU Capital	3	45 870 520	Kiev	FSU Capital
4	19 735 000	Saint-Petersburg	Russian Non-capital	4	38 935 087	Novosibirsk	Russian Non-capital
5	19 100 000	Riga	FSU Capital	5	26 716 641	Yekaterinburg	Russian Non-capital
6	16 150 000	Vilnius	FSU Capital	6	24 604 706	Saratov	Russian Non-capital
7	8 775 000	Minsk	FSU Capital	7	23 743 651	Lvov	FSU Non-capital
8	8 700 000	Perm	Russian Non-capital	8	22 281 839	Penza	Russian Non-capital
9	8 385 000	Odessa	FSU non-capital	9	21 813 066	Astrakhan	Russian Non-capital
10	6 870 000	Baku	FSU Capital	10	21 489 200	Orenburg	Russian Non-capital

The Leader-City

The First Three

The First Ten

Table 8.1
The First Ten Cities of the FSU with Strong Simple Notoriety, Global and Regional Search Engines, 2007

Source: www.google.com , www.yahoo.com , www.rambler.ru , www.yandex.ru , February-April 2007

metropolisation, hampered by spatial discontinuity and various conflicts, must be supported by the top – the government (Marchand, Samson, 2008). This metropolisation "from the top" may or may not favour the construction of a homogenous economic space, and promote, or not, economic metropolisation ensuring the space-market continuity.

On the whole, the post-Soviet urban space shows some zonal distortions. In particular, the polarity which "East-West" imposes and the "North-South" divide dominates. The "East-West" polarity dominates the post-Soviet space. It is due to the seemingly highly pronounced attraction of Europe to nearby Western cities such as Moscow, St-Petersburg, Kiev, Odessa, Minsk, Riga, Tallinn and Vilnius. The further we go East, the less FSU space is "metropolised". The "North-South" divide is the logic by which the weight of Russia slows down the metropolisation of the Southern CIS. Central Asia, Caucasus and some Russian and Ukrainian cities seem to be poorly integrated into the global space. In this divide we observe, however, three Southern cities – Baku, Tbilisi and Odessa – with a relatively significant simple notoriety.

5. THE PRE-EMINENCE OF MOSCOW

Moscow is the absolute leader according to regional and global search engines. It is in the forefront of all rankings. Its values are far above other cities, which is no longer the case for any other observed city (tab.1). This leads us to talk about "monocentrism". The "jealous" Russian capital city is strongly monopolising almost all advanced services, and through this most connections with outside channels. The conclusion is that the overwhelming weight of Moscow is blocking the influence of any other centres. In fact, the advanced services of other cities are limited to within their own territory. Moscow's advanced services companies have financial bargaining power in negotiations with regional authorities in developing their activities throughout the territory of the whole CIS. This "feudalisation" is prolonging the centralisation which promotes the economic expansion of Moscow groups and blocks the development of metropolitan services in the biggest post-Soviet centres (P. Marchand, 2007). We are currently witnessing a unipolar metropolisation across the CIS space. Nevertheless, a very light diminishing of Moscow's pre-eminence occurred during the period of 2004-2007.

6. A CONVERGENCE OF METROPOLISATION TO WHICH CENTERS?

During the period 2004-2007 we examined whether or not alternative candidate cities to Moscow are emerging, either in Russia or elsewhere in the FSU. One issue of interest is the measure of resilience to administrative metropolisation. We will analyse the results using the various different methods which we developed, and shall begin by measuring the Simple Notoriety.

As a basis for our rankings, a typology of integration ratios has been developed. It gives us a valuable interpretation, including a general overview of the metropolisation process within the FSU space. The observed cities are grouped according to the strength of their simple notoriety into 4 categories:

1. *Confirmed candidate global cities*: strong in external and internal notoriety
2. *Extraverted candidate global cities*: strong in external notoriety
3. *Introverted cities*: strong in internal notoriety
4. *Cities with weak simple notoriety*

For better classification purposes two metropolitan trajectories have been identified. The first is the dynamic where a city owns, or earns over time, a strong simple notoriety, both internal and external. We will say that this city is a *candidate global city* in the strict sense that the city installs its command on its territory (the hinterland) while highlighting its connection (hub) with the global space. The second trajectory is the dynamic where a city opens, first of all, with a strong external notoriety. Thus, it is an *extraverted candidate global city*. In this case, it is possible that over time, it also opens internally, winning a strong internal notoriety. What are the engines of such logic of metropolisation? We consider that a city which is already open to the outside world will use these resources to integrate into its own regional environment afterwards.

Let us divide the cities into 4 sub-categories: Russian capital-cities and FSU capital-cities; Russian non-capital-cities and FSU non-capital-cities.

GLOBAL ENGINES REGIONAL ENGINES	Strong	Weak
Strong	Confirmed Candidate- metropolises: ■ Moscow ■ Kiev ■ Saint-Petersburg ■ Odessa ■ Minsk (negative bias) ■ Novosibirsk ■ Vladivostok ■ Kazan (p+n bias) ■ Samara (positive bias)	Introverted Cities: ■ Yekaterinburg ■ Nizhny Novgorod ■ Chelyabinsk ■ Krasnoyarsk ■ Rostov-on-the Done ■ Saratov ■ Lvov (negative bias) ■ Penza ■ Astrakhan ■ Orenburg ■ Ulyanovsk
Weak	Extraverted Candidate-metropolises: ■ Chisinau (negative bias) ■ Riga ■ Perm ■ Baku ■ Kharkov ■ Tallinn ■ Vilnius ■ Tbilisi (n+p bias) ■ Tashkent ■ Yerevan ■ Almaty	Cities with Weak Simple Notoriety: ■ Astana ■ Omsk ■ Irkutsk ■ Bishkek ■ Volgograd ■ Donetsk ■ Yaroslavl ■ Duchanbe ■ Dnepropetrovsk ■ Voronezh ■ Krasnodar ■ Khabarovsk ■ Tyumen ■ Ufa ■ Nikolayev ■ Lipetsk ■ Ryazan ■ Mariupol ■ Barnaul ■ Ashgabat ■ Tolyatti ■ Zaporozhye ■ Izhevsk ■ Karaganda ■ Krivoy Rog ■ Novokouznetsk ■ Naberezhnye Chelny

Table 8.2
Integration Ratio Typology, 2004–2007

Source: www.google.com , www.yahoo.com , www.rambler.ru , www.yandex.ru, February-April 2004–2007

Ascending Cities

Descending Cities

White: Cities with no Changes

Confirmed Candidate Global Cities

In the category of "confirmed candidate global cities" among capital-cities and non-capital-cities we find, firstly, two Ukrainian cities, Kiev the capital and Odessa a port city and second economic centre of Ukraine, whose rankings have proven their metropolitan potential (Agibetova, 2008). Minsk's ranking is altered by bias caused by the presidential elections (March 19, 2006). Baku is placed here thanks to its oil resources and its strategic position on the Baku-Tbilisi-Ceyhan pipeline which benefits global players (Samson, 2008). Nevertheless, dynamics cause it to drop in ranking. Riga, which dropped in the hierarchy due to dynamics, is the only Baltic capital-city which appears as an influential city both in the CIS space and Europe, despite its integration into the EU and the disintegration of the FSU.

As for Russian non-capital-cities, Saint-Petersburg is in the lead position. Speaking of metropolitan functions, by its demographic weight, its cultural status, its advanced services, functions of command, and its nodal position in the flows, the city is in a favourable situation compared to other Russian cities (Agibetova, 2008). The impetuous development of its software cluster contributes to its strength (Samaganova, 2008). On the post-Soviet scale, the question that arises is the future of its influence in the Baltic area, especially because of the rivalry between Riga and Tallinn.

Russian non-capital-cities of the regions of Ural-Siberia and Volga, as Yekaterinburg (descending in dynamics), Novosibirsk, Kazan, Samara (ascending in dynamics)[5] and Perm (descending in dynamics) are also situated in this category. Their good internal and external integration is confirmed by all available analytical tools, which designate them without hesitation as candidate global cities. The presence of Russian Eastern non-capital-cities, such as Vladivostok and Irkutsk (descending in dynamics), also attracts attention. Our multivariate territorial analyses dedicated solely to Russian cities have shown that those Eastern cities situated far from Moscow in terms of geographical location, currently influence their Asian neighbourhood and have increasing success in their rivalry with Western Russia (Agibetova, 2008).

Extraverted Candidate Global Cities

The first observation to be made with regard to the extraverted cities sub-group is the absence of a Russian city. The second is that most are FSU capitals. This conforms to the precedent of the capital-city opening to the world space primarily, followed by the rest of the country (Samson, 1996).

Tallinn and Vilnius, strongly integrated into Europe due to EU membership, are not a surprise in this category. Tbilisi, with the pro-Western orientation of the government, combined with a bias related to the cyclical conflicts with Russia in 2007, demonstrates a strong external

[5] *A positive bias must be stressed, the EU-Russia summit on May 15, 2007.*

notoriety. Yerevan, the pro-Russian capital-city boosted by its global diaspora, is also found in the category of extraverted cities. The presence of Chisinau is due primarily to cyclical bias: the presidential elections and tensions surrounding Transnistria.

The major capitals of Central Asia, such as Tashkent, Astana (descending in dynamics) and Almaty, the former capital of Kazakhstan persisting today as an economic, financial and scientific centre, demonstrate openness to the world space. Let us not forget that Tashkent, Almaty and Saint-Petersburg are the only cities across the CIS space which are designated as potential global cities by GaWC (Taylor, 2001).

The only city in the non-capital category is Kharkov, which despite its geographical location and pro-Russian policy orientation, manages to integrate outside of the CIS space. This shows a certain general disintegration of the Ukraine from the CIS space and an orientation towards Europe due to a change of political course by President Yuchenko.

Introverted Cities

In this category we find only large Russian cities: Nizhny Novgorod, Chelyabinsk, Krasnoyarsk, Rostov, and Omsk (descending in dynamics). These are the towns which are in rivalry to become global cities with a Russian dimension, as a consequence of their vocation as historical regional centres during the Soviet era, and they manage to keep a strong internal command over a relatively narrow section of the country (Agibetova, 2008). In order to integrate into the globalised world, much remains to be done for these cities compared to extraverted cities.

The arrival in dynamics of five Russian cities (Saratov, Penza, Astrakhan, Orenburg, and Ulyanovsk) is not surprising. Thanks to their economic development, they gained strength in 2007 and imposed greater command. Noting that the category of introverted cities serves as a link between candidate global cities and cities weak in simple notoriety, the question of their future integration remains open.

Taking into account the pro-western orientation of Lvov, its ascension to the introverted cities subgroup does not conform to reality. First, this is conditioned by the presence in Ukraine (Kiev, Odessa, Simferopol) of Yandex' subsidiaries. Second, the test showed the presence of strong negative bias due to the multiple spellings of this city, which have not been counted in all our observations.

In conclusion, we can say that despite the strong rule of Moscow, a convergence process towards candidatures to the metropolitan function is beginning in the post-Soviet space. It deals more with capital-cities. This reflects the strong legacy of the Soviet mono-centred system which distinguishes this territory from the Western world in terms of territorial organisation and metropolitan articulations. It is quite logical that capital-cities by their vocation of centres (administrative, economic, political, commercial, and cultural) open-up to the global space first. Thus, almost all FSU capitals are involved, with the exception of Minsk, Chisinau and

some Central Asian capitals (Bishkek, Dushanbe and Ashgabat). Capital-cities able to compete with Moscow over the long term are likely to be Kiev and Riga. Among FSU non-capitals (non-Russian) which may function both as command centres and hubs, we identify the Ukrainian city of Odessa. Most Russian non-capital-cities appear as regional cities in conception whose influence does not extend beyond the Russian space. Among those managing to enter the ranking of confirmed candidates global cities are large cities like Saint-Petersburg, Yekaterinburg, Novosibirsk, Samara, Kazan and Vladivostok.

7. WHAT ARE THE INTEGRATION AREAS OF FSU CITIES?

The measurement of the Joint Notoriety associates the name of a FSU city with that of another city, FSU or non-FSU, when counting the number of occurrences in search engines. It helps indentify the areas of integration to which the sample cities are anchored.

The Joint Notoriety is discussed in two environments – the *regional environment* (RE) and the *global environment* (GE) – always measured by two types of search engines. The first is provided by the association of the cities to 20 cities in the observed FSU area, most of which are the capitals of the 15 relevant countries (Moscow, Kiev, Minsk, Chisinau, Riga, Tallinn, Vilnius, Baku, Tbilissi, Yerevan, Tashkent, Astana, Bishkek, Ashgabat, Dushanbe) plus four Russian cities, the largest in population (Saint-Petersburg, Yekaterinburg, Novosibirsk, Nizhny Novgorod) and the former capital of Kazakhstan (Almaty). These twenty cities are seen as centres of command in the regional environment, to which is anchored the process of regional integration. Thus, this environment will help us to question the process of convergence and to identify city networks in the light of the integration process.

The global environment is reproduced by the association of FSU cities to 18 world cities of alpha, beta and gamma category according to the GaWC (Shanghai, Delhi, Beijing, Seoul, Istanbul, Tokyo, New York , London, Hong Kong, Los Angeles, Singapore, Chicago, Toronto, Paris, Milan, Zurich, Dubai, Frankfurt) plus Cyprus which is regarded as an off-shore area of Russia. The choice of this particular list of world cities was based on the importance of their potential command on the space of the CIS. The geographic proximity, as well as geopolitical trends within the CIS space towards global cities, and vice versa, were also taken into account. The global environment is used to estimate the degree of commitment of CIS cities within the network of global cities, as well as to reveal potential candidate-cities.

To characterise the phenomena, large matrix tables of city-pairs were constructed (Agibetova, 2008). For better visibility, the data was sorted so that we could focus on cities demonstrating a strong joint notoriety.

The terms of "opening" and "integration" will no longer be used as synonyms. "Opening" will deal with the global environment, "integration" – the regional one, presuming that "opening" refers to "integration" in the global economy.

We will rely mainly on the results of global search engines because according to our observations regional ones have demonstrated poor performance in the measurement of joint notoriety.

Regional Environment

For simplicity a zonal typology was used. In 2004, we observed a split into two sub-zones between the Slavic-European" zone (Russia, Belarus, Ukraine plus the Baltic states) with a strong joint notoriety, and the zone of "Southern Caucasus and Central Asia" where the processes of integration are occurring to a lesser degree. This zonal divide clearly demonstrates a delay in terms of integration into the regional environment for the Southern Caucasus and Central Asia.

Thus, internal integration processes are concentrated in the Slavic-European zone of the CIS territory. All cities are relatively well integrated, and the Baltic region, followed by Kiev and Minsk, influence by their command. In contrast to its simple notoriety rankings, Saint-Petersburg has a very low degree of integration. This means that the city has an international image, but it does not act as a command centre in its region.

Because of ethno-territorial conflicts (the conflict of Nagorno-Karabakh between Armenia and Azerbaijan) and their remote location (Central Asia to the East)[6] from the Slavic-European area, the integration processes in Southern Caucasus and Central Asia are much less strong. The heterogeneous Southern Caucasus[7] is moving towards integration with the Slavic-European zone, while Central Asia, more homogenous[8] being land-locked and isolated from other regions, is focusing on internal integration processes in this region only.

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[6] It must be said that the region of Central Asia manifests the largest deficit in the process of metropolisation. Thanks to a strong industrial base built during the Soviet era and the presence of oil resources, Tashkent and Almaty fit well within the CIS by inertia expressing a regional command. Bishkek and Ashgabat are the two capitals of the FSU space which are the less involved in metropolisation. As we indicated earlier, Turkmenistan (Ashgabat) is a special case despite its wealth in oil resources, it is a country absolutely introverted under the authoritarian political regime. Regarding Bishkek, its integration and economic development have suffered from an acute political instability since the Tulip Revolution. Dushanbe, leaving the war (1992-1997) having just recovered from the military disaster, gradually integrated with the countries of Central Asia as with the CIS.

[7] Baku and neighbouring Yerevan barely integrate together, while Tbilisi is open to both. This disintegration of Azerbaijan and Armenia is explained by the territorial conflict over the Armenian enclave Nagorno-Karabakh.

[8] Unlike the Southern Caucasus, the process of integration in the central Asian network between countries of this region is sufficiently strong and homogeneous. We can see that all the capitals of Central Asia integrate well among themselves, except Ashgabat the Turkmen capital. This is because of the introverted politics of Turkmen-Bachy. The closure of the real space and cyberspace, as we see, is quite pronounced even within this region. It is worth noting that the first Internet cafe in Ashgabat was opened on February 16, 2007 at the request of the new President of Turkmenistan, Berdymuhammedov (www.centrasia.ru, 2007). Today, their number is growing at a moderate pace, but they are not popular. It should be noted that one hour of Internet connection costs about three euros (average monthly wages did not exceed 30 € in 2005), and most comprehensive information sites are blocked by the sole Internet server. In addition, the presentation of an identity document is required and the name of the Internet user goes straight into the archives of the Ministry of Communications.

In 2007, the zonal break of the regional environment into two clubs, the "high" and "low" in terms of level of integration, became obsolete, distortion decreased and integration was widespread. In contrast to the year 2004, values rebounded and converged towards a relative balance: Moscow is losing some joint notoriety while, conversely, some other cities have seen an increase. This trend reflects a decline in the pre-eminence of Moscow on the one hand and the convergence of metropolisation to the FSU capital cities and some major Russian cities on the other hand. The relational integration between cities becomes more visible over the Internet via the global search engines: indeed regional integration can be viewed as part of the globalization process.

In addition, the rate of 'internetisation' of central and eastern regions of Russia, as well as in the rest of the CIS, increased significantly between 2004 and 2007 (Agibetova, 2008). This increased penetration of the WWW system into the FSU space has a certain impact on the image of convergence.

At the end of 2007, some centrifugal forces were in operation in the territory of Russia, despite Moscow's resistance. The Baltic capitals lost much influence in the CIS after their integration with, and eventual accession to, the EU. The Southern Caucasus region is experiencing an attractive trend in intra-regional[9] integration while Central Asia is opening-up more towards Russia[10].

Reading the observations in turn, it is still the category of FSU capital-cities (as per the analyses of simple notoriety) which shows the convergence of metropolisation towards certain privileged centres. Baltic capital-cities are leading as the strongest gravitational cities. As for non-capital cities, Yekaterinburg, Novosibirsk, Odessa, Vladivostok and Irkutsk dominate this sector.

In conclusion, the results of analysis of the regional environment demonstrated the presence of certain centrifugal forces *à la Krugman* (1991) affecting both Russia and the whole FSU territory, despite the resistance of jealous Moscow. The latter, as a result of centripetal forces, is still a leader, but facing a rise in opposing forces penetrating the CIS. They come primarily from capitals, which are in a favourable situation in terms of metropolisation. The metropolisation area taking shape in the FSU is the Slavic-European zone, with Kiev, Minsk, Odessa and the Baltic capitals commanding the post-Soviet space. The Caucasus is experiencing attractive dynamic trends in integrating more at an intra-regional level and with the Slave-European area. Central Asia manifests the largest deficit of metropolisation, but cooperation in energy and aerospace drives the recent dynamism of integration between Central Asia and Russia.

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[9] The three capitals are better integrated and more open to the Slavic-European zone with the leadership of Baku.

[10] The dynamism of the recent integration of Central Asia with Russia is especially marked by the integration process in the fields of energy and aeronautics (Vinokurov, 2007 a,b). In 2006, the Eurasian Development Bank with its headquarters in Almaty was inaugurated by Putin and Nazarbayev.

Global Environment

The 19 cities forming the global environment of CIS cities can be divided into four geographical areas: *Europe, Pacific* (East Asia + West of the USA), *Atlantic* (East USA + Canada), and the *Middle East-South Asia*.

The issue of convergence towards capital-cities is still relevant in this global environment. Among the nineteen cities ranked, ten are capitals. This confirms that the trend towards the dominance of capitals strongly marks the FSU space. Moreover, if we compare the list of cities of both environments, it is almost the same, except for Astana and Irkutsk which disappear from the global environment.

It is interesting to note that the triad of Sassen (2001) – London, New York, Tokyo – does not have equal influence within the CIS: the first two have strong links with this space whereas Tokyo has only a slight presence there. The behaviour of the Japanese global city in terms of hyperlinks coincides with the geopolitical strategies whereby Tokyo is turning towards the Pacific area, with little involvement in "CIS-World" networks. In terms of dynamics the triad improves its cohesion.

The Atlantic zone also has a very stable situation where Chicago and Toronto have strong links with the post-Soviet gravitational cities. Despite somewhat complicated "USA-Russia" relations, North America exerts a strong influence in the FSU.

Europe reinforces its influence in the post-Soviet space via Paris, defined as a "soft global city" that is catching up with London and New York (Sassen, 2001). But in terms of dynamics, Frankfurt, Milan, Zurich and Cyprus appear as the least active. Europe is in the process of being overtaken by the Pacific.

The Pacific zone marks a very pronounced presence due to the high command of Singapore, Hong Kong, Beijing, Seoul and Los Angeles. In 2007, Hong Kong showed a very considerable increase in influence on the space of the CIS, which even surpassed that of the triad. Shanghai, which in 2004 was one of the weaker centres of world command, in 2007 reached the level of Beijing. Henceforth, the Pacific as a whole wins in influence, reaching the levels of the Atlantic and Europe. This logic reflects the recent development trends of China and Southeast Asia. This should be considered as a major geopolitical turning point where the attraction of the FSU of the East becomes stronger than that of the West.

The Middle East-South Asia area (Istanbul, Dubai and New Delhi) has the least influence in the CIS. Nevertheless, this area increases via trade flows with the Caucasus, Central Asia and the Far East of Russia.

Reading the matrix in rows allows us to identify in the FSU area the gravitational centres which are beginning to anchor to world growth poles. In turn, Moscow has started disintegrating from the Pacific and the Middle East, which opens a small window of opportunity for the rest of

the FSU space to catch up. The profile for the integration of the Russian capital-city is aimed primarily at the European triad, Paris, and then the Atlantic zone (Chicago) and the Pacific zone (Hong Kong and the Los Angeles).

Kiev and Riga as gravitational cities are the most open to the global space. Slightly less open are Tallinn, Odessa, Vilnius, Saint Petersburg and Samara. Let's not forget that the opening of the Baltic capitals is conditioned by their membership of the EU. Among the Russian non-capitals significant cities are Novosibirsk and Vladivostok. The orientation of their international opening is marked by their immediate neighbours. Novosibirsk fits better with the zones of Europe and Atlantic while Vladivostok turned to the Pacific.

Therefore, it appears that the opening of post-Soviet metropolisation areas is strongly marked by their geographical neighbourhood and geopolitical trends. The Slavic-European zone anchors to Europe and Atlantic, while the *Far East* of Russia, Southern Caucasus and Central Asia are turning increasingly towards the Pacific and Middle East. The proximity of the EU, with its enhanced integration across the European continent and with its recent enlargement of the CEECs and extension of neighbourhood policies seems, to exert a strong attraction for some members of the CIS. Thus, Ukraine, Belarus, Moldova, without mentioning the Baltic countries which are already a part of the EU, and Western Russia as far as Siberia (Irkutsk) are open to Western Europe.

The "East-CIS" zone is attracted by Asian proximity and influence. In this sense, the concept of Eurasia (Linn, Tiomkin, 2005) appears to be seriously questionable, or considerably reduced for the Asian side. In any case the CIS is under the double attraction of the West and the East, through which it is being integrated into the global economy. One of the challenges of the metropolisation of this immense space is the design of its internal organisation, namely the internal extension of the benefits of economic integration in the context of extraversion.

8. GENERAL CONCLUSION

Metropolisation is a key-issue, which is essential to the CIS for its contemporary economic modernization and its opening to the world space.

The method we developed based on the enumeration of occurrence of hyperlinks in global and regional search engines for potential global cities, and analysing their simple and joint notoriety, produced valuable tools for measuring the situation in 2004 and 2007. It helped enrich the knowledge of the studied phenomena by providing new information which proved to be robust.

It also helped to develop two new concepts of analysis of regional economic integration. The first one is a new reading of economic integration in the context of a knowledge economy through the concept of the image reflected by the virtual community in a cyberspace formed by

"regional" search engines, namely Russian ones. This regional specificity of the representation of the world, be it global or CIS, is identified by comparison with the images reflected by global search engines. Furthermore, analysing the joint notoriety linking two cities allows a new measurement of economic integration. This approach, which paves the way for an alternative to existing gravity theories, is promising because it is more relevant to economic processes dominated by information and knowledge flows.

Our analysis showed that currently, marked by the Soviet legacy, the CIS space still functions as a mono-centred space, where the only commuter into the world is Moscow. Moscow cannot be the only centre of such an immense territory and the deficit in metropolisation is therefore clear and measurable. In dynamics, both simple and joint notorieties in the regional environment show a slight decline in Moscow's pre-eminence and some convergence of the metropolisation process towards certain privileged cities.

These cities are primarily capital-cities such as Kiev, Riga, Tallinn, Vilnius, Baku, Tbilissi, Erevan, Tashkent, and "Almaty", but they are also large urban centres such as Saint-Petersburg, Odessa, Yekaterinburg, Novosibirsk, Samara and Vladivostok. There is thus a simultaneous movement from the top and from the bottom of the metropolisation process, in other words administrative-political and economic. However, the discontinuity of the economic space in the vast territory could endanger the trend to economic gestation of metropolisation and create a post-Soviet specificity with dominance of movement from the top.

The analysis of the joint notoriety in the global environment provided a new grid for analysis of international integration with a twofold anchoring of the CIS with Europe and Asia. Located in the middle of the "super-continent" of Eurasia, the CIS, since the fall of the Iron Curtain, is experiencing geopolitical change. At the regional level the ambitions of Russian domination are in place. Regional integration with Central Asia is increasingly expanding, unlike with Southern Caucasus. However, from a global point of view, Russia seems a little lost in its immensity and is not yet able to generate its own metropolisation through its homogenous economic space. For metropolisation as well as for the integration of global areas, the Russian territory is divided into two zones: West and East. The dream of building a large Eurasia is not necessarily ill-fated if it is the path towards CIS metropolisation. However, Russia is now facing the challenge of its own metropolisation, with the need to develop and to preserve its unity.

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9 Nuclear Energy Complexes in Russia and Kazakhstan: Prospects for Development and Cooperation. EDB Industry Report no.1

Evgeny Vinokurov

1 Summary

1. *2005–2006 was a critical period in the development of the nuclear complexes of Russian Federation and the Republic of Kazakhstan.* These years have ushered in a "nuclear renaissance". Russia's nuclear sector was subject to a total systemic review; the Federal Target Program (FTP) allocated to it funds totaling more than USD 55 billion. A decision was taken to consolidate all nuclear assets within one state corporation. Kazakhstan implemented the "15000 tons uranium by 2010" state development program. Its development programs for reactors and nuclear power plants are worked out jointly with Russia. Closer cooperation is also being pursued with other leaders in the field, primarily Japanese companies. Cooperation agreements between the two countries were adopted. The foundation of three joint ventures (JV) was the first tangible outcome of above agreements.

2. Meanwhile *Kazakh uranium has become a focus of attention and fierce competition between the world's largest consumers, including France, Canada, USA, Japan, China, South Korea, and Russia.* Early this decade, Russia's substantial production capacity and highly competitive uranium ore conversion technologies added to calls for the country to renew its economic links with Kazakhstan in the uranium mining and nuclear industries. Given Russia's ambitious plans to develop nuclear energy, and the fact that its uranium stocks are practically depleted, the benefits of closer cooperation with Kazakhstan are clear. *However, Russia will have to compete with well-established players on Kazakhstan's uranium market.*

3. Kazakhstan has aspirations to become a world leader in uranium mining and to focus production at the highly processed end of the nuclear fuel cycle. This was the backdrop for a recent transaction which will have a significant impact on the country's nuclear industry. In the autumn of 2007, KazAtomProm purchased Toshiba's 10% share in Westinghouse Electrics, a leading producer of nuclear reactors, for USD 540 million. This transaction has secured a permanent nuclear alliance between KazAtomProm, Toshiba and Westinghouse Electrics. For Kazakhstan, this creates new opportunities to develop a hi-tech nuclear industry and

to market its output in the West. *Supplying high-end nuclear products to Western markets is one of KazAtomProm's development priorities, along with continued cooperation with Russia in supplying Soviettype reactors*.

4. The need *to integrate the nuclear power complexes of Kazakhstan and Russia* along the entire production chain is a logical response to their urgent need to reduce their energy deficit, and to the synergies which exist between their production capacities and technologies at each stage of the nuclear fuel production chain: (1) uranium mining, (2) uranium enrichment, (3) production of fuel pellets and fuel elements, (4) reactor design and production, primarily 300 MW VBER-300 power reactors, (5) construction and operation of nuclear power plants, and (6) nuclear waste processing and disposal.

5. Kazakhstan has plans to develop its own nuclear power industry and is likely to base this on 300 MW Russian-Kazakh reactors and, in the longer-term, 1000 MW Westinghouse reactors.

6. The development of this capital-intensive sector will require extensive financing based on credit from a number of sources. *International and national development banks are one promising potential source of such funding*. The ability to secure this capital from international and national development banks rests entirely upon the nuclear energy industry's potential for development, innovation, diversification and integration. The Eurasian Development Bank, VEB (Russian Development Bank) and the Development Bank of Kazakhstan have indicated their recognition of this. E.g., the EDB has extended credit to the Russian-Kazakh Zarechnoye JV.

2. Global Development Trends in Nuclear Energy and Uranium Mining

Nuclear power plants generate every sixth kilowatt of electricity produced in the world. Nuclear is third largest source of energy after coal (39%) and hydro energy (19%). Today 440 nuclear reactors in 31 countries generate a total 370 GW, which is double Russia's thermal and electric energy output.

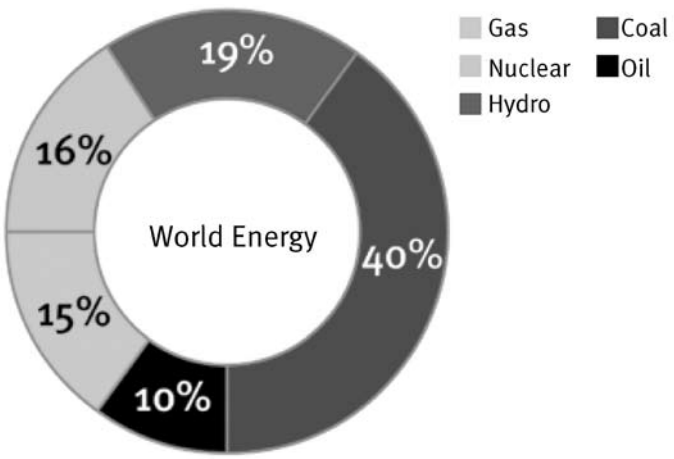

Figure 9.1
Nuclear's Contribution to World Energy Supplies

Canada, Australia, South Africa and Kazakhstan are the world's major suppliers of natural uranium. Russia has almost no uranium production but generates uranium under the warheads disposal program.

Russia's TekhSnabExport, USEC of America, AREVA of France and the Anglo-German company Urenco are leaders in uranium enrichment.

Moreover, Russia has a 20% per cent share in the fuel elements market, specifically fuel pellets for reactors. It is a leading builder of nuclear reactors, alongside America's General Electric and Westinghouse, AREVA of France and the Franco-German company Siemens-Framatom. In 2005–2006, *nuclear energy sector saw a global renaissance*. After two decades of environmental protest and most projects being frozen in the wake of the Chernobyl nuclear accident in the USSR and Three Mile Island in the USA, many countries are set to increase the share of nuclear energy in their national power supply. The safety and economic viability of this form of energy at a time of record high and still rising hydrocarbon prices have played a significant role in decision-making process.

The International Energy Agency (IEA) has predicted that there will be a 53% increase in global energy consumption by 2030. The International Atomic Energy Agency (IAEA) estimates that the cost of nuclear energy development will exceed USD 200 billion by 2030. Finland, Switzerland, Spain, India and the USA have specific plans to ramp up their nuclear capacity. Vietnam, Egypt and Turkey are considering building nuclear power plants. Ambitious plans for the construction of nuclear power plants may be introduced in South Korea, China and Japan and it is evident that developing Asian economies will be responsible for considerable growth in the nuclear energy sector.

AREVA has estimated that some 500 nuclear reactors will be commissioned by 2030 (20 new reactors annually). The expansion of nuclear capacity will be curtailed to some extent by the relatively small number of companies capable of building the reactors. Given the predicted rate of growth, the concept of competition between companies may prove to be redundant. At a conference on International Cooperation in NPP Construction Projects held in Moscow in late October 2006, representatives of Westinghouse, a nuclear reactor producer which controls 25% of the market, emphasized that a shortage of engineering capacity was a major problem. The company has received six orders for new AP-100 reactors, which takes Westinghouse to the limit of its existing capacity. AREVA also has a full order book and plans to build five nuclear reactors by 2010.

The leading consultancy firm, Ux Consulting, has predicted that global uranium mining and consumption are set to increase dramatically (see tables 1 and 2). Significant growth is expected in Kazakhstan and Russia. However, Russia ranks third in terms of uranium stocks, and since deposits are hard to access, will have to make huge investments in order to develop uranium mining.

	2005	2010	2015	Average annual growth, 2005–2015, %
Canada	13713	16500	21772	4.7
Kazakhstan	5144	14800	19200	14.1
Russia	3921	6400	8000	7.4
Africa	8154	12445	12645	4.5
Australia	11222	10874	16654	4.0
other	7123	8943	8122	1.3
Total recovery:	49277	69962	86393	5.8
HEU supply[1]	7258	9072	-	-
Other recoverable resources	18733	13744	11703	-4.6
Total supply	75267	92778	98096	2.7

Table 9.1
Global Uranium Recovery, 2005–2015, t.

Source: Uranium Market Outlook. Ux Consulting, 2007

	2005	2010	2015	2030
USA	24765	25086	25923	30916
Canada	2118	1931	1931	2370
EU	27195	24593	24156	19376
Japan	9651	9908	13084	16940
South Korea	3551	4247	5910	7983
Taiwan	1126	2211	1562	1593
Russian Federation	4020	6880	8069	10427
China	1594	3378	3806	15771
India	414	474	1229	4177
Worldwide consumption:	78818	84786	91719	117193

Table 9.2
Largest Uranium Consumers, 2005–2030, t.

Source: Uranium Market Outlook. Ux Consulting, 2007

3. Nuclear Energy Demands in the Republic of Kazakhstan and Russian Federation

Kazakhstan: On the Way to No.1 Uranium Producer, Striving to Add Value

There are a number of factors prompting Kazakhstan to develop its nuclear energy sector:

• The country's generating capacity is rapidly ageing. By 2012-2014, production capacity will be 80-90% obsolete, compared to 60-70% currently.

[1] *HEU – highly enriched uranium*

• Generating capacity is poorly diversified. Over 80% of all electricity is produced by combined heat-and-power (HPP) plants. The sustainability of Kazakhstan's grid would be improved if more generating capacity was built in southern and western parts of the country.

• The production and consumption of electricity are geographically too divided. The largest generating capacity is in Pavlodar Oblast in the north of Kazakhstan, whereas core consumption is in the south. The annual rate of growth of electricity consumption in southern Kazakhstan is 12-13% compared to 6-7% for the country as a whole. To avert a widening of energy deficit in the south, an extra plant needs to be built. The Balkhash power plant is one planned way of spreading energy production more evenly across the country[2].

• The growth in electricity consumption is outstripping the rate of supply increase in western Kazakhstan (the Mangistau and Atyrau oblasts).

• Constructing new capacity in southern and western Kazakhstan will allow the country to increase its energy exports to Russia. Currently, energy exports are generated mostly in northern Kazakhstan.

Kazakhstan's ambitious plans to expanding nuclear power generation reflect Kazakhstan's desire to forge ahead in world energy markets and to avoid a force-majeure situation in the domestic energy market. Kazakhstan is at risk of changing from an energy-abundant country into one with a significant energy deficit. Against an annual rate of growth in GDP of 9%, the average annual rate of energy consumption stands at 6%. There are 71 power plants in the country, half of them built before 1980. The maximum generation capacity of these plants is currently below 73 billion kilowatt hours, yet annual energy consumption is predicted to reach 74 billion kilowatt hours by 2008.

The uneven development of the national grid has exacerbated the situation. Major generating capacities are located in the northern part of the country. Three oblasts – Pavlodar, Karaganda and East Kazakhstan – account for over 70% of total power generated, but power loss in transit amounts to 20% of the total, on average. The construction of small- and medium-capacity power plants is one way of reducing power loss and geographical inequality. The greater the distance between generating capacity and feedstock supply, the lower the cost effectiveness of the power plant; it is very costly to transport coal across the entire country or to lay a dedicated gas pipeline.

Developing hydro-electric generation in some Kazakh regions will not be a significant factor in reducing the energy deficit. Nuclear power plants are a more effective solution to this since nuclear reactors are refueled every five years. Also, Kazakhstan is able to supply nuclear fuel for all its domestic requirements. According to KazAtomProm's president,

[2] Earlier discussions have envisaged construction of a 2 GW NPP on Balkhash but final decision has been taken in 2008 in favour of an HPP (600x4 MW) on Ekibastuz coal.

Mr. M. Dzhakishev, a new nuclear power plant should be ready for commissioning in 2014–2015. The design and feasibility study for the plant will take three years, and its construction will take a further five years.

Russia: Breaking the "Infrastructural Bottleneck"

The development of nuclear energy in Russia is particularly expedient for the following reasons:

1. Russia's anticipated near-term energy deficit is a major "infrastructural bottleneck".

2. The development of nuclear energy will allow for further growth in gas exports.

Russia's existing technological capacity and the fact that energy deficits may soon become (have already become in some regions) a major infrastructural barrier to economic development, make the development of nuclear power in the country a particularly urgent priority. In addition, there is significant potential for Russia to increase gas exports if nuclear plays a larger role in domestic energy supply.

Nuclear energy capacity is currently exploited to its maximum limit. Current feedstock reserves are only sufficient to supply existing generating capacity. In Russia the ratio of reserves to capacity is just over 70%, compared to the average European level of 83-85%. Large-scale investment is required to increase this ratio. It is expected that up to USD 10 billion will be invested in a program to extend uranium mining; 60-70% of Russia's uranium needs will be met domestically and 30-40% by uranium mined by joint ventures in Kazakhstan, Ukraine and other states.

Environmental Aspects of Nuclear Energy Development

The relatively limited environmental impact of nuclear energy is another factor favoring NPP development in Russia and Kazakhstan. It is a more important factor for Kazakhstan than for Russia, since Kazakhstan's existing domestic generating structure means that over 80% of its energy is produced in combined heat and power plants.

According to statistics from the AES Corporation, it costs USD 800 for each new kilowatt hour of generating capacity from a co-generation plant compared to $1600-$1800 for each new kW of nuclear capacity (preliminary estimates for the Russian-Kazakh VBER-300 reactor are around $1000-$1200. However, both estimates were subject to high inflation over the last years. Our current estimates are in the range of $2000-3000/kW, depending on the type and location). However, it is a lot cheaper to operate a nuclear power plant and the environmental cost is also smaller. Generating 1 gigawatt hour in a coal-fired plant produces 766 tonnes of carbon dioxide, compared to 3 tonnes from a NPP (Table 3).

Nuclear plants are regarded as one of cleanest sources of energy. The economic indicators of nuclear plants bear comparison with fossil fuel plants. As an illustration, the operating parameters of 4,000 MW co-generation and nuclear power plants are given below (the table shows typical data for the USSR).

Table 9.3
Quantitative Indicators for Operating 4,000 MW coal-fired HPP and Nuclear Power Plants

Source: T. Zhantikin, A. Bladov, S. Koltyshev (2005), Report. Nuclear Energy Development in the Republic of Kazakhstan. See also Appendix 4.

Note: Fuel consumption is expressed in conventional fuel tonnes; the actual quantity of fuel consumed depends on its calorific value and varies for coal, depending on grade, by 15-20 MM t/y.

Description	Quantity (tons)	
	CHP	NPP
Fuel consumption	* 12 000000	4
Atmospheric oxygen intake	32 000 000	0
Carbon dioxide waste	36 000 000	0
Sulphur dioxide waste	800 000	0
Nitrogen oxide waste	400 000	0
Solid wastes	8 000 000	200
Particulate emissions	400 000	0
Environmental heat discharge capacity, MW	6 000	8 000

4. Russian Nuclear Industry

NPP Name	Unit #	Reactor Type	MW, gross	Power Unit Generation	Operation	End of Service Life, yr
Beloyarsk	3	BN600	600	II	1980	2010-2020**
Bilibinsk	1	EGP-6	12	I	1974	2004-2014**
	2	EGP-6	12	I	1974	2004-2014**
	3	EGP-6	12	I	1975	2005-2015**
	4	EGP-6	12	I	1976	2006-2016**
Balakov	1	VVER-1000	1000	II	1985	2015
	2	VVER-1000	1000	II	1987	2017
	3	VVER-1000	1000	II	1988	2018
	4	VVER-1000	1000	III	1993	2023
Kalinin	1	VVER-1000	1000	II	1984	2014
	2	VVER-1000	1000	II	1986	2016
Kolsk	1	VVER-440	440	I	1973	2003-2013**
	2	VVER-440	440	I	1974	2004-2014**
	3	VVER-440	440	II	1981	2011
		VVER-440	440	II	1984	2014
Kursk	1	RBMK-1000	1000	I	1976	2006-2016**
	2	RBMK-1000	1000	II	1979	2009-2019**
	3	RBMK-1000	1000	III	1983	2013
	4	RBMK-1000	1000	IV	1985	2015
Leningrad	1	RBMK-1000	1000	I	1973	2003-2013**
	2	RBMK-1000	1000	II	1975	2005-2020**
	3	RBMK-1000	1000	III	1979	2009-2019**
	4	RBMK-1000	1000	IV	1981	2011
Novovo-ronezhsk	3	VVER-440	417	I	1971	2001-2011**
	4	VVER-440	417	I	1972	2002-2012**
	5	VVER-1000	1000	II	1980	2010
Smolensk	1	RBMK-1000	1000	II	1982	2012
	2	RBMK-1000	1000	II	1985	2015
	3	RBMK-1000	1000	II	1990	2020

Table 9.4
Description of Operating NPPs

** First and second generating units of above NPP have been shutdown for decommissioning*

*** A 10 year extension of service life taken into account*

Crucial 2006

2006 was a crucial year for the Russian nuclear industry. Reforms were introduced throughout the industry in that year, and the attitude of the Russian authorities and the public towards nuclear industry changed. V. Gagiyev, General Director of Russia's Union of Nuclear, Energy and Scientific Industry Employers, described some of more notable achievements of Russia's nuclear industry in 2006:

• The regulatory framework for nuclear industry reform was established. The Government of Russian Federation approved a Federal Target Program (FTP), entitled "The Development of Russia's Nuclear and Energy Complex in 2007–2010 and Potential Development to 2015". In 2007, a Federal Law on "Management and Disposal of Property and Assets of Organizations Active in the Nuclear Energy Sector and on Amendments to Certain Legislative Acts of Russian Federation" was adopted.

• In 2006, work began on the construction of a fourth generating unit at the Beloyarsk BN-800 fast-neutron reactor nuclear power plant. Construction work began on a fourth generating unit began at the Kalinin NPP, and on the first offshore KLT-40S ice-breaker reactor.

• In 2006, Russian nuclear engineers bid successfully for the contract to build the Belene nuclear power plant in Bulgaria, the first post-Soviet nuclear construction project in Europe to be awarded to Russian engineers. The contract was awarded to AtomStroyExport, which is also building five generating units at nuclear plants in China, India and Iran.

• Zarechnoye, the Russian-Kazakh JV, began mining uranium and has planned capacity of 1000t/y U. Russia's first overseas uranium mining project is financed by a five-year, USD 63 million loan from the Eurasian Development Bank

• Kazakh uranium will be enriched at a dedicated site at the Angarsk Electro-chemical Complex.

• TVEL Corporation expanded its exports of nuclear fuel, bidding successfully to supply the Temelin nuclear power plant in the Czech Republic.

• Joint ventures were established with engineering companies producing equipment for nuclear power plants. Social progress was made, too.

• Finally, public attitudes towards the nuclear power industry changed radically; the sector regained its priority status[3].

FTP "Development of Russia's Nuclear Power Complex in 2007–2010 and Potential Development to 2015"

On October 4, 2006, the Government of Russian Federation approved the Federal Target Program entitled "The Development of Russia's Nuclear Energy Complex in 2007–2010 and Potential Development to 2015".[4] The program establishes the timetable for the startup of new nuclear power generation units serving the 'hotspots' of Russian economic growth (Moscow Oblast, European Russia, Russia's Far East and the Urals). It envisages that ten new generating units with a total capacity of over 11 gigawatts will be commissioned by 2015. Today,

[3] *http://www.rosatom.ru/comments/3437_16.01.2007, as at October 2007*

[4] *http://www.government.gov.ru/government/governmentactivity/rfgovernmentplans/8123133.htm, as at October 2007*

ten nuclear power plants are operating in Russia and these have a total output of 23.3 gigawatts; nuclear power accounts for 15.5% of Russia's total power generation. As a result of this FTP, nuclear's share of total power generation will increase to 22% according to the baseline scenario, and up to 30% according to the optimistic scenario.

Overall funding for the program totals 1.47 trillion roubles (USD 55 billion), including 674.8 billion rubles from the federal budget and 796.6 billion rubles from the industry. It is assumed that the nuclear power industry will not require central funding after 2015 since the foundations built over the next eight years are designed to ensure the industry becomes self-financing. The unit cost of nuclear power plant construction is expected to fall by 10% and the net cost of power generation by 20%.

Due to the insufficient funding of a previous project, the "The Safety and Development of the Nuclear Power Industry", which received only 70.6% of its planned budget, the Federal Target Program "Energy Effective Economy for 2002–2005 and Potential Development until 2010" is behind schedule. Only two generating units were commissioned, adding two gigawatts of new capacity, out of a planned three new units which were due to bring on stream three gigawatts of new generating capacity.

The government-approved FTP does not concern itself with RosAtomProm's development. The industry's organizational development is addressed in the Federal Law on the Management and Disposal of the Property and Assets of Organizations Active in the Nuclear Energy Sector, which came into force on February 20, 2007.[5] The main premise of this law is to consolidate nuclear assets in a single corporation, i.e., AtomEnergoProm. The corporation will control the entire nuclear energy production chain, including uranium mining, power and fuel production, domestic and overseas power plant construction, nuclear machine building, and design and research organizations[6]. AtomEnergoProm's assets are estimated at USD 40-50 billion.

In the second half of 2007, the decision was taken to consolidate nuclear assets in the state firm RosAtom. This company will comprise the industry's scientific base, nuclear safety facilities and 100% of the assets of AtomEnergoProm, which, in turn, will manage all the civic entities within the nuclear industry. The relevant draft law was passed by State Duma by the end of 2007.

Finally, in April 2007, Russia began constructing the first offshore nuclear power plant in the world. The 70 MW plant is scheduled for completion by 2010. Its output will mainly be consumed by Sevmash, and around 20% will be sold. Project costs stand at USD 200 million.

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[5] *Federal Law on Factors for Management and Disposal of Property and Assets of Organizations Operating to Use Nuclear Energy as of February 5, 2007.*
Rossiyskaya Gazeta, #4291 of February 9, 2007.

[6] *http://www.minatom.ru/News/Main/view?id=40957&idChannel=73 as of June 2008.*

The investment will pay for itself in less than seven years. A total of seven offshore nuclear power plants, including high-capacity plants, are due to be commissioned by 2016. Offshore nuclear power plants may be positioned in any coastal area to generate power and heat and also to desalinate sea water. These plants are considered safer and have a re-fuelling interval of 12-15 years.

A Swing of Public Opinion

Public opinion towards nuclear power in Russia is changing, and attitudes are becoming more positive. In a survey, 45% of respondents answered "yes" to the question, *"Do you think new nuclear power plants or nuclear generating units should be constructed in Russia?"*; 28% said "no" and 27% gave no answer.

Those who supported nuclear expansion gave the following reasons. "They are more environmentally friendly than fossil fuel heat-and-power plants and hydro-electricity plants"; "Nuclear power has no cheaper alternative as yet"; "Wind power is still a 'futuristic' option"; "Nearly all Western countries rely on nuclear power whereas we produce only 12% of our energy in nuclear power plants"; "It is inevitable given current energy demand"; "Natural resources have limits; sooner or later oil and gas will run out"; "Nuclear power is the future, whether we like it or not".[7]

5. Nuclear Power Industry of Kazakhstan: Current Situation and Development Prospects

KazAtomProm after the Year 2000

In 2006, KazAtomProm's position in world markets supplying the nuclear power industry was as follows:

- It supplied 8% of the world's mined uranium, putting KazAtomProm in fourth place in the world compared to 16th place in 1999;

- It supplied 29% of the world's beryllium products (3% in 1999), putting it in second place globally;

- It supplied 8% of all tantalum products (0.4% in 1999) and was fourth in the world. After a long crisis in the world's uranium industry, KazAtomProm commissioned three new mines: South Moinkum, South Karamurun and Akdala.

In 2002, the High-Technology Institute was founded to conduct scientific follow up on KazAtomProm's projects.

In 2003, KazAtomProm purchased, by tender, the former Mangistau Nuclear Power Plant and established the MAEK-KazAtomProm company.

In 2004, management of the Stepnogorsk Mining and Chemical Combine (Tselinny Mining & Chemical Co.) was handed over to KazAtomProm.

[7] *http://www.rosatom.ru/news/3348_09.01.2007 as of October 2007.*

Today, the KazAtomProm holding manages six areas of activity: geological exploration; uranium mining; metallurgical engineering; energy; scientific support for production and staff training; and social security. KazAtomProm owns shares in several uranium mining joint ventures: KatCo (with French company Cogema/Areva); Inkai (with Canadian company Kameko); Zarechnoye (with Russian TekhSnabExport): and UKR TVS (producing nuclear fuel with Russian-Ukrainian partners).

In 2004, KazAtomProm highlighted the global uranium production crisis. Company experts suggested that the global uranium shortage would grow to 16,000 tonnes in six years. By 2010, KazAtomProm plans to produce 15,000 tU, making it a leading player in the world's industry. Its confident predictions are based on the solid commercial relationships it has forged with the world's largest energy and commercial companies, and upon its financial stability, advanced scientific knowledge base and a strong network of peer enterprises.[8]

The company's management estimates that Kazakhstan's uranium stocks amount to around 900,000 tonnes.

Program "15 000 tU by 2010"

Having identified growing world demand and hence competition for uranium fuel, KazAtomProm drafted its "1500 tU by 2010" development program. If the program is implemented successfully KazAtomProm will become a world leader on the uranium market.

The Program includes:

1. Upgrading and extending uranium extraction and production of uranium fuel.

2. Constructing and commissioning new mines.

3. Constructing and optimizing power distribution, and new road and rail infrastructure

4. Financial reorganization.

5. Uranium extraction will increase to a planned 15 000 tU to meet increasing demand for uranium fuel.

Program's Investment Needs

KazAtomProm requires USD 700 million in order to implement the "15 000t U by 2010" program.

The program's financial sources were initially identified as follows:

1. KazAtomProm's own funds: USD 170 million;

2. Uranium pre-payments: USD 220 million;

3. Bank loans: USD 210 million;

4. Eurobonds: USD 100 million.

[8] *http://www.KazAtomProm.kz/cgi-bin/index.cgi?p8&version=ru as at October 2007*

Mines	2005	2006	2007P	2008P	2009P	2010P	Planned Capacity
Uvanas	420	300	300	300	300	300	300
East Mynkuduk	633	500	1000	1000	1000	1000	1000
Central Mynkuduk	-	-	200	600	1200	2000	2000
Akdala (JV, Canada)	726	700	1000	1000	1000	1000	1000
South Inkai (JV, Canada)	176	308	508	300	1970	2000	2000
Inkai	-	-	100	300	600	1000	2000
Kanzhugan	440	400	400	400	400	400	400
West Mynkuduk (JV, Japan)	-	-	-	100	300	600	1000
Budenovskoye (JV, Russia)	-	-	-	100	300	600	1000
South Moinkum	502	500	500	500	500	500	500
Moinkum (JV, France)	39	400	500	500	500	500	500
Tortkuduk (JV, France)	-	100	350	750	900	1000	1000
North Karamurun	700	750	800	980	980	1000	1000
South Karamurun	214	200	200	150	250	250	250
Irkol (JV, Japan)	-	-	100	250	500	750	750
Kharasan (JV, Canada)	-	-	100	300	600	1000	2000
Zarechnoye (JV, Russia)	-	250	500	500	1000	1000	1000
SMCC mines	507	525	545	645	815	450	500
Total :	4357	4933	7103	8675	13115	15350	18200

Table 9.5
Uranium Recovery by Mine

Source: KazAtomProm

Note: according to preliminary data, KazAtomProm produced 6637t U in 2007. The production target for 2008 is 9600t U. The 2007 data for mines is as follows: 0.6 million pounds at Inkai; 871t at South Moinkum; 300t at Irkol in 2008, 500t in 2009 and 750t in 2010, and 0.5 million pounds planned for South Inkai in 2008 (Ux Consulting, January 2008). Zarechnoye has produced 100 tU in 2007 but is expected to see substantial increase in 2008.

Later in September 2005, a more precise estimate for the program was announced, totaling USD 660 million. By then, KazAtomProm had already raised USD 210 million in loans and USD 60 million in prepayments for uranium; the company's own contribution will eventually total USD 224 million. It is expected that the remaining USD 166 million will be raised by a Eurobond issue.[9]

[9] *To implement the program "15000 tU by 2010", Kazakhstan will require $660 Million". M. Dzhakishev. Kazakhstan today. September 14, 2005.*

Given Kazakhstan's success to date in raising funds there seems little reason to doubt that the company will raise the full amount required to fund its program. The national company enjoys credit ratings at the sovereign level for Kazakhstan.

The Development of Kazakhstan's Nuclear Complex in 2000–2006

In mid-June 2001, KazAtomProm's President, M. Dzhakishev, stated that Kazakhstan could become a world leader in the world's uranium market within ten years.[10] Uranium prices had slumped in recent years, he said, after the market was flooded with military uranium after the end of the cold war. These stocks, however, would run out some time between 2005 and 2008, and prices would increase rapidly, making uranium effectively 'priceless' by 2010, in that there would be "no uranium at any price". His estimate was based on the development targeted by the nuclear states.

In 2002, the Kazakh government published its "Development Strategy for the Uranium and Nuclear Energy Industries 2002–2030[11]. The plan was conceived to transform the country's nuclear energy complex into a hi-tech, dynamic and progressive sector that would be the keystone of vigorous and sustainable economic development. It emerged as the result of KazAtomProm's crisis management and in response to the rapid growth of the Kazakh economy.

The strategy targeted production of 15,000t/y U by 2028, which would make Kazakhstan the world's largest producer. To implement the project would cost USD 540 million. The uranium produced would be worth USD 82-85 million annually, and the national budget would receive USD 2 billion annually in tax revenues.

In 2004, the Uranium Industry Development Strategy for the Republic of Kazakhstan 2004–2015 was approved.

In recent years, the company has been increasing uranium extraction. In 2002, KazAtomProm was the fourth largest uranium producer in the world (accounting for 8% of global uranium ore production), according to statistics from the World Nuclear Association. Uranium production volumes were increased by revamping old mines (Uvanas, East Mynkuduk, Kanzhugam, South Moinkum, North Karamurun) and exploiting new deposits (South Karamurun and South Moinkum). Further increases in uranium production would be achieved by developing deposits which had been discovered but which had not, up to now, been exploited (Zarechnoye, Ilpak, Irkol, Central Mynkuduk, Budenovskoye and part of the Inkai deposit which was estimated to contain 473,000 tonnes uranium). In pursuit of its goals, KazAtomProm increased uranium production from 794 tonnes in 1998 to 2,850 tonnes in 2002. In 2003, Kazakhstan increased uranium recovery to 2,952 tonnes. In 2004, Kazakhstan produced 3,719 tonnes

[10] 7 Kazakhstan may become a leader in the world's uranium trade. Kazakhstan today. June 18, 2001.

[11] Decree of the Government of the Republic of Kazakhstan #926 of August 20, 2002.

uranium and became the third largest producer in the world. Interim data estimates uranium production in 2005 totaling 4,300 tonnes. This rapid production growth prompted KazAtomProm to issue more optimistic forecasts. In March 2005, the company announced its development strategy aimed at increasing uranium recovery to 15,000t/y U by 2010, making Kazakhstan the world's top producer.

To achieve this ambitious growth rate, the company pursued radical measures to rehabilitate and develop Kazakhstan's nuclear industry. As well as revamping its infrastructure, KazAtomProm expanded by acquiring nuclear enterprises. In late April 2003, the Mangyshlak Nuclear Power Plant, which had been placed in bankruptcy a month before, was sold to KazAtomProm for USD 800,000. The plant was a strategic enterprise engaged in the entire production cycle, supplying constant heat and power from a safe reactor. The new company, MAEK-KazAtomProm, was registered on May 1, 2003.

Competition for Kazakh Uranium

Kazakh uranium is becoming the focus of fierce competition between the world's large consumers, primarily France, Canada, Japan, China, South Korea, and Russia. External investors are poised to "conquer" the market through direct investment, loans and trade funding to guarantee supply. In such circumstances, KazAtomProm has no worries about raising capital.

In late September 2004, KazAtomProm and Kazsabton Ltd. (Cyprus) signed a contract placing Stepnogorsk Mining and Chemical Plant under trust management. At the time, the uranium mines in northern Kazakhstan were producing some 100t U. Although production was due to rise to 600t/y uranium ore (the maximum possible production from the northern deposits), for two years the Stepnogorsk complex could only work at full capacity for two months in a year. KazAtomProm worked out a plan to enable the plant to operate using ore supplied from southern deposits. However, because of the high estimated cost of implementing this project (USD 75 million), the company temporarily delayed any investment in it while it pursued its "corporate strategy to increase uranium production five-fold by 2010". A year later, the company announced plans to invest over USD 180 million developing Stepnogorsk in 2005–2007.

In late February 2004, a new uranium refining plant was commissioned in Taukent in the Suzaksk Region of the South Kazakhstan Oblast. The project cost was USD 4.3 million, and plant capacity, 1500-1700t/y U.

In August 2005, KazAtomProm declared that it intended to build a molybdenum ore processing plant in Stepnogorsk within three months. The plant was to produce 1,000 tonnes of molybdenum oxide a year. A Kazakh-British JV enterprise, Moliken, was set up to supply ore to the enterprise by developing the 21,000 tonne estimated deposit at Shorskoye. During 2005–2007, around USD 180 million would be invested in the plant.

KazAtomProm has been very successful in leveraging finance from the banks in recent years. In June 2005, the company signed a three-year pre-export financing contract with a syndicate of 11 of the world's largest banks (organized by Natexis Banques Populaires and Citibank) in the amount of USD 150 million. KazAtomProm intended to use these funds to finance geological exploration, mining and the production of natural uranium concentrate. In September the same year, a USD 60 million pre-export loan was extended to KazAtomProm by Mizuho Corporate Bank Ltd for a tenyear period. Collateral for the loan was an export contract for the supply of uranium oxides (natural uranium concentrate) which had been struck with Itochu Corp.

KazAtomProm has been actively developing new deposits. In 2006, it commissioned the East Mynkuduk mine, which has a design capacity of 1000t/y U. In 2007, similar mines with on-site leaching facilities were due to be commissioned, as follows: Central Mynkuduk (2,000t/y), South Inkai (2,000t/y), Irkol (750t/y) and Kharasan (2,000t/y). In 2008, there are plans to begin ore extraction at West Mynkuduk (1,000t/y) and Budenkovskoye (1,000t/y). Kazakhstan's total uranium resources amount to 900,000 tonnes, around 600,000t of which, according to estimates, can be extracted at the current level of commercial technology.

France boasts the world's largest nuclear and energy complex and most up-to-date nuclear technology. In 2001, the French-Kazakh joint venture KatCo was founded (AREVA holds 51% and KazAtomProm 49%) and will consist of an experimental uranium plant at the Moinkum deposit in South Kazakhstan. Development of the deposit will require investment of nearly USD 90 million which will be provided by the AREVA group. Reserves at Moinkum are estimated at 43,700t U.

Canada has a well-established uranium industry and is the largest uranium producer in the world. It made its first foray into the Kazakh market back in the 1990's, but was initially unsuccessful. In 1996, the Government of Kazakhstan and Canada's World Wide Minerals signed a contract to take over the joint management of the Northern Uranium Production Plant and the Tselinny Mining and Chemical Combine. A year later, WWM applied to the Kazakh government for a license to sell uranium to the USA, but was refused, since there are strict quotas governing such imports into the USA. As a result, the company halted production, citing poor sales. The Kazakh government therefore took over the management of the complex and terminated the contract with WWM since the latter had failed to fulfil contract obligations. The government transferred the complex to KazAtomProm. WWM filed numerous suits with the US courts but all were dismissed. In February 2003, the US Supreme Court finally ruled in Kazakhstan's favor. In March 2006, however, the company filed a suit with the International Arbitration Court, claiming USD 3.8 billion in compensation. Cameco, another Canadian company and one of the world's largest uranium producers, was more successful in its business ventures in Kazakhstan. In 1998, it founded the Inkai joint venture KazAtomProm to develop uranium deposits in the Suzaksk Region of South Kazakhstan Oblast.

The USA is the largest investor in Kazakhstan's economy overall. It accounts for more than one third of the direct investment in Kazakhstan since independence, amounting to USD 40 billion.[12] However, large-scale joint projects in the nuclear power industry between the US and Kazakhstan are currently limited to one joint venture involving KazAtomProm and the US Nuclear Energy Ministry. Based at the Ulba Metallurgical Plant, the company refines scrap containing uranium into fuel pellets for nuclear power plants. The second stage of this project includes plans to increase capacity and revamp production of beryllium bronze alloy. The USA is represented in this project by Brush Wellman and RWE NUKEM, which invested USD 4 million. The US Government invested USD 1.5 million and provided consultants' reports on the project. The Ulba Metallurgical Plant invested USD 4.5 million. Analysts expect this project to make profits of around USD 10 million per year.

In March 2004, the ground-breaking ceremony took place at the BN-350 liquid metal reactor coolant refinery. Project cost is estimated at USD 3 million which is being supplied in full by the US State Department in accordance with nuclear non-proliferation agreements. The plant will refine spent liquid-metal coolant into a concentrated alkaline solution.

Japan's influence will continue to grow in Kazakhstan in the years to come in terms of uranium recovery. Nuclear energy accounts for one third of the Japan's energy complex, and the country has several leading nuclear industry enterprises.

In September 2005, Itochu Corp and KazAtomProm signed a ten-year, USD 60 million loan agreement under which the Kazakh company would supply Itochu with 3,000 tonnes of uranium concentrate. In January 2006, KazAtomProm concluded an agreement with Japanese companies Sumitomo Corporation and Kansai Electric Power Co. on the development of West Mynkuduk field. The Japanese partners will invest in the APPAK JV founded by KazAtomProm with KazAtomProm, Sumitomo and Kansai taking 65%, 25% and 10% shares respectively. This project is being financed with USD 100 million.

In May 2007, various contracts were agreed relating to the supply of uranium concentrate to Japan. In the longer term, Kazakh may begin exporting some 8,000 t/y uranium to Japan, which would be equivalent to 30% of total Japanese import market. The agreements also envisage the opening of a USD 500 million trade insurance credit line funded by Japan's NEXI, and, in the medium term, the supply to NEXI of refined uranium products such as fuel pellets produced at the Ulba Metallurgical Plant. These agreements alone will double or triple the added value of uranium products made in Kazakhstan.

Three months after the above agreements were concluded, KazAtomProm took the ambitious step of buying out Toshiba's 10% share in Westinghouse Electric, the leading US producer of nuclear reactors,

[12] *The outcomes of the investment conference in California: USA is willing to and will develop cooperation with Kazakhstan. Kazakhstanskaya Pravda, September 15, 2005.*

for USD 540 million. This transaction sealed a long-term alliance between KazAtomProm, Toshiba and Westinghouse Electric in the nuclear energy industry.

For Kazakhstan, this step constitutes a major step forward in creating *new opportunities to develop its hi-tech nuclear industry* and increase its presence on western markets. Supplying processed uranium products to western markets is the Kazakh company's top development priority alongside cooperation with Russia in the supply of Soviet-type reactors. The production of fuel for western reactors at Ulba Metallurgical Plant by the Cameco JV will be a major contribution to the Kazakh company's goal of producing processed uranium fuel. It has stated that the first output will be available in 2012.

South Korea is showing a keen interest in Kazakhstan's nuclear complex. The two countries are exchanging scientific and technical expertise, and South Korea's government has declared its interest in further cooperation with Kazakhstan.

China. No Kazakh-Chinese joint ventures have yet been founded in Kazakhstan, although Ulba Metallurgical Plant has a representative office in China. The Ulba-China JV company registered in the Waigaochao free trade zone near Shanghai in June 2004 to sell and market Ulba's beryllium products in the Chinese market. In November 2004, KazAtomProm and China National Nuclear Corporation (CNNC) signed a long-term strategic partnership agreement and a program of works in the nuclear industry. Negotiations are under way relating to the co-development of the Zhalpak field in the southern part of Kazakhstan.

The low interest rates on credit extended to KazAtomProm are testament to the keen interest that overseas firms are showing in its uranium industry. The company has raised loans from Citibank at 6.3%, from West LB loan at 7.7% and from Natexis Banques Populaires's at 6.7%.[13]

Prospects for Russian-Kazakh Cooperation amid Competition for Kazakh Uranium

In the first half of this decade, Kazakh uranium became a highly sought-after product, much scrutinized by the world's leading uranium producers and consumers alike. This created an environment of intense competition, and has enabled Kazakhstan to be discerning in its choice of *partners and investors*. Nevertheless the country remained steadfast in its policy of diversifying its trade and economic relations in order to avoid dependency on any one partner, be it France, Russia or Japan.

Concurrent with this development, Russia, with its large production capacity and highly-competitive uranium refining technologies, had sought to restore its economic ties with Kazakhstan based on uranium recovery and the nuclear sector. Given its ambitious plans to develop

[13] *KazAtomProm. Report 2005. www.kase.kz*

nuclear energy, with an all but depleted uranium stock, it is very much in Russia's interest to pursue cooperation with Kazakhstan.

However, Russia will be competing in the uranium feedstock market with some highly accomplished competitors. As the cost of developing its own uranium deposits increases, and demand for nuclear fuel spirals as the role of nuclear energy expands globally, Russia will have to be resolute if it is to have influence in a strategically important region controlling a significant proportion of the world's uranium stocks.

Russia does have a number of competitive advantages which will favor Russian-Kazakh cooperation in the nuclear sector.

• Both countries wish to further economic integration. They are members of EurAsEC, CSTO, SCO, CES and the CIS and are pursuing the creation of a customs union.

• The nuclear complexes of Russia and Kazakhstan complement each other: Kazakh uranium production feeds into Russian uranium enrichment; Kazakhstan produces elements and Russia fuel pellets. The joint development and construction of VBER-300 reactors is the logical completion of this vertically integrated nuclear production cycle.

• Many leading Kazakh scientists, businessmen and researchers in the nuclear industry studied in Russian higher education institutions and maintain close relations with their Russian colleagues. Scientific exchange programs and traineeships have been established in Russia, which may favor the selection of Russian technologies and cooperation with Russian partners.

Practical steps are being taken to launch an integration project in the nuclear sector. The foundations for this have been laid in the form of strategic partnerships already forged between Russian Federation and the Republic of Kazakhstan in the use of nuclear energy.

Russia's moves to enhance the integration of the Russian and Kazakh economies along the whole nuclear production chain is a crucial step in its quest to resolve its own energy problems. The Kazakh economy will benefit similarly from cooperation with Russia. One further benefit of this cooperation between Russia and Kazakhstan in the construction and operation of a nuclear power plant is that it may lead to a breakthrough in the machine building industry.

6. Cooperation of Russian Federation and the Republic of Kazakhstan

1998–2005: Post-Crisis Cooperation

The first steps towards Russian-Kazakh nuclear cooperation were made after the collapse of their integrated economic systems in the late 1990's. In 1998, the governments of the Republic of Kazakhstan and Russian Federation signed agreement on the integration of nuclear fuel enterprises (Moscow, July 6, 1998). The main provision of the agreement

was Russia's purchase of a stake in Ulba Metallurgical Plant (as TVEL OJSC).

After the break-up of USSR, the Ulba complex was the only link in the nuclear fuel production chain to be located outside Russia. The plant began producing uranium pellets to be u sed in the downstream assembly of reactor fuel elements (fuel cells). Fuel cells are produced in Russia at a plant close to Novosibirsk, and pellets are made in Kazakhstan by Ulba Metallurgical Plant in Ust-Kamenogorsk.

A joint venture to produce nuclear fuel for NPPs was one of the first projects founded since 2000 by KazAtomProm. Its partners were TVEL (Russia) and EnergoAtom (Ukraine). The three companies took an equal share in the JV and its USD 0.45 million charter capital. The venture was aimed at integrating the entire nuclear production cycle in a single enterprise: uranium production and processing, fuel assembly production and nuclear energy generation. In early June 2001, the agreement establishing the JV was signed.

In May 2003, Kazakhstan, Russia and Ukraine signed a further JV agreement on joint production of fuel assemblies for VVER-1000 reactors and the supply of nuclear fuel to Ukrainian NPPs. The agreement resulted in numerous orders for Ulba Metallurgical Plant and requests for it to produce nuclear fuel elements. Russia's TVEL began producing fuel assemblies for Ukrainian NPPs and the National Nuclear Energy Company of Ukraine launched production of zirconium tubes for fuel assemblies.

The Beryllium JV was another big project established in September 2002 by the Ulba Metallurgical Plant (UMP) and Moscow Non-Ferrous Metal Processing Plant (MZOTsM), each with a 50% share. The JV's operations include the fabrication of ingots at UMP and the flat-rolling of these ingots at MZOTsM. These are widely used in hi-tech electronic instruments and in other specialist electronic components. The beryllium plant at Ulba signed contracts to supply Chinese consumers and made its first shipment to China. This UMP plant is the world's second largest beryllium producer and performs the entire processing cycle from ore concentrate to beryllium metal and its alloys.

2006: Economic Integration within Nuclear Cycle

Russian-Kazakh cooperation in the civilian use of nuclear energy gained momentum in 2006. On January 25 that year, Russia's President, Vladimir Putin, and the President of Kazakhstan, Nursultan Nazarbaev, made a joint declaration on cooperation in the non-military use of nuclear energy. The declaration launched a number of initiatives aimed at integrating the nuclear industrial enterprises of both countries.

On July 25, 2006, MAEK-KazAtomProm held a meeting in the city of Aktau attended by Sergey Kiriyenko, the head of Russia's Federal Nuclear Energy Agency. The meeting was called to discuss the strategic partnership between Russia and Kazakhstan on use of nuclear energy

for non-military purposes. This program was the outcome of the joint statement made by Putin and Nazarbaev in January.

The program outlines six major areas of cooperation:

• Cooperation in nuclear fuel production;

• Cooperation in the nuclear energy industry;

• Development of transport infrastructure to deliver uranium products to the world market;

• Improved regulation of Kazakh-Russian cooperation in the non-military use of nuclear energy;

• Scientific and technical cooperation;

• Cooperation in training personnel to work in the nuclear industry.

Under the program for strategic cooperation in nuclear fuel production, a memorandum of understanding was signed between KazAtomProm (Kazakhstan) and TekhSnabExport OJSC (Russia) establishing two joint ventures.[14]

The first JV is established in Kazakhstan to produce natural uranium fuel for Russian-designed reactors.

The second JV is established in Russia to enrich uranium. Subject to completion of feasibility studies the partner companies will contribute equally to the initial asset base for the joint ventures:

- uranium production facilities will be provided by Kazakhstan;

- uranium enrichment facilities will be provided by Russia.

At a meeting of the presidents of Russia and Kazakhstan on October 3, 2006 in the city of Uralsk, it was agreed that Kazakhstan would participate in the introduction of a Russian initiative to establish, in Russia and under IAEA monitoring, an international nuclear fuel services centre, including uranium enrichment. On October 12, 2006, Russian and Kazakh representatives signed documents in Moscow establishing three Russian-Kazakh joint ventures in the non-military use of nuclear energy. On May 10, 2007, the presidents of Kazakhstan and Russia witnessed the signing of the agreement which established the International Uranium Enrichment Center (IUEC) in the city of Angarsk.

Under the program of strategic development of the nuclear energy industry, a third JV of is due to be established between KazAtomProm and AtomStroyExport. This JV will design a Russian-Kazakh nuclear reactor with VBER-300 power units designed by OKBM. The charter documents were signed in October 2006.

A revolutionary new 300 MW generating unit is also due to be built in Kazakhstan. Although reactors now commonly generate 1000 MW and

[14] *http://www.KazAtomProm.kz/15000/?nc4&version=ru*

more, these units are unsuitable for the extensive Kazakh grid because of the amount of reserve energy they require when the reactor is shut down for re-fuelling.

The new VBER-300 generator will be a key export opportunity for the Russian-Kazakh JV. Its principal design concepts were based on naval reactors which have accumulated over 6,000 reactor years of accident-free operation.

The new reactor has no direct competitors, but this may change before long. The Japanese Atomic Energy Agency (JAEA), for example, has already completed the design concept for a 180 MW reactor. Also, the fast-breeder reactors designed in many countries will certainly be used well into the future (a 65 MW fast-breeder reactor designed with Russian assistance is due to be commissioned in China in 2008).

On the whole, Kazakhstan is likely to select both 300 MW Russian-Kazakh reactors and, in the longer term, 1,000 MW Westinghouse reactors.

7. Nuclear Fuel Cycle Business Chain

(1) Uranium Mining

Uranium mining, refining and export are the major activities of KazAtomProm. In 2005 the company mined 4,032t U of the total 41,000t U mined globally. Around 19% of estimated global uranium stocks (900,000t) are in Kazakhstan. Over half of Kazakhstan's uranium can be extracted using mineshaft leaching, the cheapest and least environmentally damaging form of extraction.

The Ore Mining Company, a wholly owned subsidiary of KazAtomProm founded in 2004, extracts uranium using the method of mineshaft leaching at seven sites: Uvanas, Mynkuduk, South Moinkum, Kanzhugan, North Karamurun, South Karamurun, and Irkol.

In 2005, Russia's RosAtomProm mined 3,431t U, or 8% of global production. Its output comprised natural and converted uranium. Uranium mining in Russia has a much less certain future than in Kazakhstan. Deposits are exhausted in Russia, and if it is to expand its nuclear energy capacity, the way forward is based on Kazakh uranium supplies.

(2) Uranium Enrichment

Yellowcake (a chemical concentrate of natural uranium and an intermediate product) produced by the Ore Mining Company is refined at the Ulba Metallurgical Plant and Stepnogorsk Mining and Chemical Combine.[15]

Kazakh uranium mined by the Russian-Kazakh Zarechnoye JV will be enriched in a dedicated part of the Angarsk Electro-chemical Combine.

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[15] *http://www.KazAtomProm.kz/cgi-bin/index.cgi?p23&version=ru.*

(3) Fabrication of Fuel Pellets and Fuel Elements

Ulba Metallurgical Plant, based in Ust-Kamenogorsk, is a leading producer of fuel pellets.

US businesses have expressed interest in this strategic enterprise. As mentioned above, the US Nuclear Energy Ministry and some American companies invested in a joint venture which makes fuel pellets by refining scrap containing uranium. The capacity of the JV is due to be expanded, and production of beryllium bronze alloy will be added.[16]

Russia's TVEL, a world leader in nuclear fuel production, manufactures fuel assemblies (fuel elements). The Machine Building Works (*Mashinostroitelny zavod*) and Novosibirsk Chemical Concentrate Plant are Russia's leading producers of fuel assemblies. Chepetsk Mechanical Plant and the Chemical Metallurgical Plant (*Khimiko-metallurgicheskiy zavod*) supply the construction materials, components and uranium products required by these companies.[17]

(4) Small and Medium Power Reactors

In October 2006, AtomStroyExport OJSC of Russia and KazAtomProm founded JV Nuclear Power Plants, a new joint stock company which will build small- and medium-capacity reactors. As yet, there is nothing to compete with this 300 MW reactor anywhere in the world. This project is currently in development. Designing a nuclear power plant which uses two VBER-300 reactors will take around three years and requires investment of USD 60-70 million, all of which will come from Kazakhstan.

High-capacity plants capable of producing 1,000 MW and more do not represent an optimal decision for the Kazakh energy system. When such nuclear reactors are re-fueled, equivalent reserve capacity must be made available, and this is not possible given the huge distances between Kazakhstan's power plants. It is more economical for Kazakhstan to commission three 300 MW plants rather than a single 1,000 MW one, thereby reducing its energy losses when capacity is idle. This also reduces power losses incurred in long-distance power distribution.

It is likely that the first nuclear plant with a VBER reactor will be built in Aktau. There are several reasons for this. Firstly, Mangyshlak did have a BN-350 fast-neutron reactor and also has good staffing levels. Secondly, a nuclear project stands a better chance of recouping its costs in this region. Mangistau Oblast takes its power from a gas-fired HPP plant with a capacity of up to 500 MW, which is rather expensive electricity for

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[16] *Ligature is an additional alloy applied in metallurgy to add to liquid metal of alloying component.*

[17] *Seventy-three energy reactors (17% of the world market) and 30 research reactors in 13 world countries operate with TVEL brand fuel. These include all reactors in Russian NPPs: RBMK-1000 (Leningrad, Kursk and Kalinin NPPs); VVER-1000 (Novovoronezhsk, Rostov, Balakovsk and Kalinin NPPs); VVER-440 (Kolsk and Novovoronezhsk NPPs); BN-600 (Beloyarsk NPP) and EGP- 6 (Bilibinsk NPP). As well as producing nuclear reactor fuel, TVEL supplies all Russian research reactors and nuclear icebreakers (Arktika, Rossiya, Taimyr, Sovetskiy Soyuz, Vaigach, Yamal, Sevmorput).*

Kazakhstan. To make gas affordable, the government has set domestic gas prices five times below the market value. According to a KazAtomProm estimate, the construction of a 500 MW nuclear plant will cost USD 600 million and will pay for itself within five years. *Our estimates run higher than that, probably closer to USD 1000 million.*

Resolving the domestic energy deficit is a matter of urgency. At the same time, VBER-300 is likely to prove attractive if promoted in world markets, primarily to large and under-populated countries. Market research conducted by RosAtom suggests that the world market can potentially absorb 30-50 VBER-300s, creating revenue of USD 15-20 billion. The Russian-Kazakh JV stands a good chance of becoming the leader in small-capacity reactor segment if the project is implemented successfully.

(5) NPP Construction

Russia. One of the primary goals of Russia's FTP is "to speed up the development of the nuclear energy industry and provide geopolitical and energy security for Russian Federation by commissioning new generating units in nuclear power plants with a total capacity of over 2 GW a year...".[18]

The following activity is planned on this basis:

- Two generating units with VVER-1000 reactors (Unit No. 2 at Rostov NPP and unit No. 4 at Kalinin NPP) will be commissioned in 2009 and 2011 respectively.

- In 2007–2008, three new generating units with VVER-1000 reactors will be constructed at Novovoronezhsk NPP #2 and Leningrad NPP #2. These will be ready for commissioning in 2012-2013. From 2009 onwards, two new generators for NPPs with VVER reactors will be constructed annually; the completion of each will take five years.

Thus, upon completion of the program, ten new power units with a total power capacity of over 9.8 GW will have been commissioned at nuclear power plants. A further ten generating units will be at various stages of completion.

The program entitled "Transition to Innovative Technologies in Nuclear Energy Development" incorporates the following activity:

- generator #4 will be built at Beloyarsk NPP. This will have a BN-800 reactor which works using closed nuclear fuel cycle technology; the BN-800 unit will be supplied with MOX-fuel and is due to be commissioned in 2012.

The program requires investments totaling 1.47 trillion rubles (USD 55 billion), including 674.8 billion rubles from the federal budget and 796.6 billion rubles from industry funds.

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[18] *FTP "The Development of Russia's Nuclear Energy Industrial Complex 2007-2010 and Potential Future Development to 2015 ", p. 2.*

Kazakhstan. The first NPP with two generating units will be built at the MAEK site in Aktau. The first generating unit (300 MW out of a total 600 MW) is to be commissioned in 2014. Earlier there were plans for a second NPP at Ulken near Balkhash.[19] However, the choice was made in favor of a coal-fired HPP.

(6) Nuclear Waste Disposal and Refinery

It is possible and indeed essential for countries to cooperate in the processing and disposal of nuclear waste.

Cooperation between nuclear complexes in Kazakhstan and Russia along the entire nuclear energy production chain is necessitated both by the acute needs of both national economies and by the synergies which exist between their capacities and technological accomplishment at each stage of the nuclear fuel production cycle. These conclusions are borne out by national industrial development programs which focus on the complementarity and interdependence of the Kazakh and Russian nuclear complexes along the entire nuclear fuel production cycle.

8. Nuclear Energy Industrial Complex Finaning: Development bank come into play

The nuclear sector is dominated by state-owned companies. The nuclear energy complexes of Russia and Kazakhstan are state-owned; Kazakhstan's uranium assets are concentrated in the hands of the state company, KazAtomProm, while Russia controls uranium, nuclear energy and scientific and research assets through RosAtom. Both countries regard the nuclear complex as being of extreme strategic importance and state funding is allocated accordingly. The nuclear industry is financed by the following:

• The national budget. Financing under Russia's Federal Target Program may reach USD 55 billion.

The federal budget is expected to provide 47% of this amount (USD 26 billion). Funds from the national budget will not be required after 2015 if the sector becomes self-financing, as expected.

• State companies maintain their investment programs by raising commercial loans. Owing to the nature of its business and the state support it receives, nuclear holdings are able to raise long-term credit on relatively favorable terms. For example, in 2005 KazAtomProm received loans from Citibank at 6.3%, from West LB at 7.7% and from Natexis Banques Populaires at 6.7%.

• Joint ventures with leading international companies can help to shape capital structure and technological progress.

• Funding from international and national development banks.

The financing of the nuclear energy industry by international and national development banks is of particular international interest. On the

[19] *Business i Vlast, 29.12.2006, p. 4*

one hand, development banks can become one of the larges sources of financing for the sector (e. g., the World Bank has historically been the largest creditor of the hydro energy industry and has been allocating an average USD 1.25 billion to this sector annually for the last 60 years). On the other hand, there are obvious reasons why financing the nuclear industry represents a challenge: fear of nuclear accidents, the Chernobyl and Three Mile Island incidents in recent memory, nuclear waste issues, etc. However, public attitudes towards nuclear energy have been more positive in recent years. This has been encouraged by the growing energy deficit and relatively limited ecological impact of nuclear power plants (provided their safety is assured and waste issues are resolved).

The scale and duration of nuclear energy projects (billions of dollars of financing required, with a 10 to 15-year investment horizon) make them a highly suitable investment opportunity for development banks. The innovative nature of the sector adds to their investment potential. As outlined above, the nuclear energy production cycle incorporates uranium production, enrichment, the production of fuel pellets and fuel elements, the construction of nuclear reactors and NPPs, the operation of these NPPs, and finally nuclear waste processing and disposal. The processing elements of the chain have obvious potential. Furthermore, a number of developing countries, especially those which export oil and gas, face a pressing need to diversify their national economies. Therefore, the development of the nuclear energy complex, including its high-tech elements, is especially attractive. This is particularly the case for Kazakhstan and Russia in view of the competitive advantages both countries enjoy in this sector.

The Eurasian Development Bank (EDB) established by Russia and Kazakhstan in 2006 is committed to facilitating the sustainable economic growth of participating states and to expanding the trade and economic relations pursuant to its mission. The Bank offers long-term credit facilities to development projects in sectors prioritized by participating countries. Developing the innovative achievements of the nuclear energy complex and the hi-tech industries within it thus complies entirely with the mission of the EDB. The Bank regards the nuclear energy industry as one of its key priorities.

One of the Bank's first projects was a USD 60 Million loan to the Zarechnoye JV founded by KazAtomProm and TekhSnabExport to develop the Zarechnoye uranium deposit in South Kazakhstan. *The opportunities for integration represented by projects which bring together the nuclear energy complexes of Russia and Kazakhstan add to their suitability as investment targets for the EBD*. The Bank is currently reviewing other projects undertaken by post-Soviet countries which also offer significant potential to expand mutual trade and investments.

The Bank has certain competitive advantages in relation to nuclear sector projects:

• The nuclear sector is a strategic one for the Bank's member countries and these countries therefore limit the amount of foreign equity that may be invested in it. The EBD offers borrowers long-term and relatively cheap loans (interest rates are commensurate with western financial institutions and below those of CIS banks).

• The Bank offers considerable political support to member states.

• There is minimal attendant political risk for borrowers working with the EBD.

The development strategies being applied within the nuclear complexes of Russia and Kazakhstan and the integration agreements between them can be facilitated by the Bank and the financing it is able to extend to all stages of nuclear technology cycle.

VEB (Russian Development Bank) and the Development Bank of Kazakhstan (DBK) have yet to participate in the development of this sector. However, the charter and other regulatory documents of these national development banks do not exclude their involvement in the nuclear energy industry. In fact, given the close interaction of the national development banks and relevant state entities, and the Banks' role in enhancing the efficacy of targeted programs, both these financial institutions are expected to focus on the development of the nuclear energy complex. This is further corroborated by recent events: RosAtom and GasPromBank have opened discussions on the establishment of a large nuclear machine-building holding based on the AtomStroyExport CJSC (which builds NPPs overseas). RosAtom will own 51% of this enterprise and GasPromBank 49%. The holding will integrate the entire production process from nuclear plant design to supply of equipment. It will be co-owned by RosAtom, GasPromBank and the State Development Bank. VEB will hold 10-15% of the equity.[20]

Generally, the current status and the future requirements of the Kazakh and Russian economies will rely on the economically viable development of nuclear energy complexes and on close cooperation between the two countries. The development of this capital- intensive sector requires generous funding from a number of sources. In order to secure long-term credit facilities from international and national development banks, the electricity industry must be efficient, and the nuclear energy complex must remain innovative and diversified while offering opportunities for greater integration.

[20] *Kommersant, 06.11.2007*

Water and Energy Resources in Central Asia: Development and Utilisation Issues. EDB Industry Report no.2

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EDB Strategy and Research Department

1. General Conclusions

1. Issues related to joint utilisation of water resources and the water energy potential of the Aral Sea basin are increasingly arising as the focus of heated debate at summits of the SCO (Shanghai Cooperation Organisation) and EurAsEC (Eurasian Economic Community). The reason for this is clear. Water is vital for Central Asian countries, and coordinating the shared utilisation of water is becoming more and more problematic.

2. Central Asian countries are closely interdependent in their water utilisation. Most of the water in the Aral Sea Basin is from upstream river waters, whereas in Kazakhstan, Turkmenistan and Uzbekistan water is mostly used for irrigation in downstream areas. Competing demands for water in the region have considerably exceeded supply for a long time. In the future, water shortages will only worsen in Central Asia because of the growing population, the development of industrial and agrarian production and the expansion of irrigation.

3. In such circumstances, regulation of the hydrological models of the Syr-Darya and Amu-Darya is becoming critically important. The countries located in downstream areas tend to take most of their water during summer for irrigation. Countries located in upstream areas have to use water for energy generation. Seasonal differences in demand for water have generated conflicting approaches to transboundary water utilisation between the two groups of countries. The problem is exacerbated by the shrinking of the Aral Sea, the consequences of which are felt globally, and winter floods caused by excessive reservoir drainage.

4. Tajikistan and Kyrgyzstan have vast hydro energy capacity, but are heavily depend on the supply of hydrocarbons from other countries in the region. During winter 2008, public electricity and heating was completely cut off in Tajikistan; production of aluminum at the Tajik aluminum plant, the country's main source of foreign currency, fell dramatically.

5. The estimated renewable hydro energy potential of Central Asia is 460 billion kWh per year, but at the present time less than 10 per cent of this potential is used. Energy is mainly produced in Tajikistan and Kyrgyzstan.

6. The low level of power independence and the potential of water resources explain the willingness of Tajikistan and Kyrgyzstan to develop hydro energy in their countries. However, these countries do not have the resources to finance the construction of HPPs and are forced to seek external financing. The region's countries have different attitudes to the construction of HPPs and this acts as a barrier to external investment in such projects. There are many examples across the world of successful cooperation in regulating water resources to the benefit of all participants.

7. Resolving the issues of shared utilisation of water and power resources in Central Asia has huge economic, ecological, political and international importance, since it is a major factor in preserving stability, economic prosperity and ecological security in this region. The most important issues in this regard are the management of water and energy resources and leverage of significant long term investment in hydro energy projects.

8. The Eurasian Development Bank recognizes the problems of the water and energy sectors and is studying the possibility of participating in hydro energy projects in Central Asia that address the conflicting needs of the river states and advance integration in the region.

2. Development of the Hydro Energy Potential of Central Asian Rivers

Water is vital to all human activity and, unlike other resources, is not restricted by boundaries. The water and energy nexus transcends national boundaries and binds countries in a single basin to their shared water source. Generally, each country has institutions that regulate different consumers' demands for resources. However, there are no institutions to govern transboundary water courses. International competition over water usage will increase along with the increasing demand for it. The regulation of transboundary river utilisation is now one of the most significant problems that the international community faces and must be addressed by the establishment of institutions and the adoption of international legislation.

Water Resources in Central Asian Countries and Shared Utilisation of These Resources

The Aral Sea Basin is a unique ecological system. It is formed by two great Asian rivers – the Syr-Darya and Amu-Darya – which rise in the Tien Shan and Pamir mountains and which link together six Central Asian countries, including Afghanistan. Geography and history have created unique conditions for the management and utilisation of water courses in this region.

The Central Asian countries are closely interdependent in their utilisation of water resources. Most of the water in of the Aral Sea Basin (up to 80%) flows from the upstream rivers in Kyrgyzstan and Tajikistan. (see Table 1)

Country	River Basin		Total for the Aral Sea Basin	
	Syr-Darya	Amu-Darya	km3	per cent
Kazakhstan	4.5	–	4.5	3.9
Kyrgyzstan	27.4	1.9	29.3	25.3
Tajikistan	1.1	62.9	64	55.4
Turkmenistan and Iran	–	2.8	2.8	2.4
Uzbekistan	4.1	4.7	8.8	7.6
Afghanistan	–	6.2	6.2	5.4
Total for the Aral Sea Basin	37.1	78.5	115.6	100

Table 10.1
Water Resources of the Aral Sea Basin (average water flow, km^3 per year)

Furthermore, most of these water resources are used for irrigation in the downstream areas of Kazakhstan, Turkmenistan and Uzbekistan, where over 83 per cent of the irrigated land of the region is concentrated (see Table 2)

Years	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan	Total
1990	782	410	714	1339	4222	7507
1995	786	416	719	1736	4298	7955
2000	786	415	719	1714	4259	8101

Table 10.2
Irrigated land in the Aral Sea Basin, thousand ha

The demand for the water in the region has exceeded available resources for a long time. In the future, the water deficit is likely to worsen in parallel with the growing population, further development of industry, and the expansion of irrigated land.

Global warming worsens this forecast. Between 1957 and 2000, the water reserves in the glaciers of Pamir and Alay decreased by more than 25 per cent, and they are still shrinking rapidly.

Experts predict that by 2025, thousands of small glaciers in the Tajik mountains will disappear, the glaciated area will shrink by 20 per cent and ice reserves will decrease by 25 per cent. As a result, the total major river flow over Tajik territories (Zeravshan, Kafirnigan, Vakhsh and Pyanj) will decrease by 7 per cent.

Give these circumstances, the regulation of the hydrological models of Syrdarya and Amudarya is becoming critically important for the economy and population of the whole region. The countries in downstream areas use most of their water for irrigation. Countries located upstream use water to produce energy in winter. Although Tajikistan and Kyrgyzstan have significant hydro energy potential, their economies are hugely dependent on hydrocarbon supplies from neighboring countries located downstream of the Amudarya and Syrdarya.

Seasonal differences in the demand for water have generated conflicting approaches to the utilisation of transboundary river resources in the two groups of countries. The problem is exacerbated by the infamous crisis of the shrinking Aral Sea, the global consequences of this disaster and by the winter floods caused by excessive reservoir drainage. Among other problems, this results in catastrophic flooding in downstream areas in winter and droughts in summer, acute power shortages in the upstream countries during winter and surplus energy generation in summer which is impossible to sell.

When the region was all part of one country with a planned economy, water distribution, energy exchanges and fuel and energy supply in the republics were structured quite efficiently. This generated the heavy interdependence and mutual complementarities of the region's countries regarding water resources used for irrigation and energy production.

Geopolitical changes and the transformation of the regional economy dismantled stable systems of water utilisation and energy exchange. The region's food and energy supplies also came under threat. These problems are critical for all Central Asian countries.

Once the water resources of the Aral Basin rivers are exhausted (see Table 3), certain countries will only be able to expand their areas of irrigated land by deploying capital-intensive water-saving technologies, or depending on other countries to use less water. Therefore, competition for water in the Central Asian Region is expected to increase, and interstate relations may become more strained. However, understanding these issues may be the stimulus to settling such conflict, assisted by concerted action to regulate the shared use of the limited water resources of the Amudarya and Syrdarya transboundary rivers.

Indicators	Units	1960	1970	1980	1990	2000
Population	million people	14.1	20.0	26.8	33.6	41.5
Irrigated land	thousand ha	4510	5150	6920	7500	8100
Irrigated area per capita	ha per person	0.32	0.27	0.26	0.22	0.19
Total water utilization	km^3 per year	60.61	94.56	120.69	116.27	105.0
of which for irrigation	km^3 per year	56.15	86.84	106.79	106.4	94.66
Water utilization share of the annual average of many years	%	52.4	81.8	104.4	100.6	90.8

Table 10.3
Key indicators of water and land utilization in the Aral Sea Basin

The growing demand for water combined with the countries' high interdependency with regard to hydrological supplies forces these states to use water fairly and rationally. As a rule, countries located upstream are more able to regulate water flow and consumption than countries located downstream. Given the region's arid climate, a number of potential conflicts may be identified with regard to the sharing of water resources between the two groups of countries:

• *Limited access to water resources*: increasing water utilisation in the upstream countries limits access to water for the downstream countries and changes to the hydrological model increases the risk of drought.

• *Negative impact on water quality and environment*: new hydro energy complexes are being built, and any resulting industrial or sanitary pollution in the upstream countries may cause ecological damage in downstream countries. It is mainly upstream countries which benefit economically from the development of water resources.

• *Regulation of water utilisation for HPPs*: downstream countries need water for agriculture, while upstream countries tend to withhold water for electricity production during winter. When several reservoirs are drained simultaneously, it results in catastrophic flooding and waterlogging of the territories located below the HPP and water shortages during the growing season.

This last problem is most critical for Central Asian countries and is a key source of conflict between the upstream countries (Kyrgyzstan and Tajikistan), which exploit the energy potential of the rivers, and the downstream countries (Kazakhstan, Turkmenistan and Uzbekistan), which need water from the rivers for agriculture. Agriculture is the biggest consumer of water, so the water utilisation model in the upstream countries not only affects farmers in the downstream countries, but also all other related sectors: food, light industry, etc.

The social and economic importance of agriculture in Central Asia is paramount. For most of the region's countries agriculture is their largest economic sector (see Table 4). Agriculture's capacity to sustain Central Asia's population is directly dependent upon the productivity and efficiency of irrigated land, since most people (from 43 per cent in Kazakhstan up to 75 per cent in Tajikistan) live in rural areas.

Year	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan
1990	34	45	25	31	33
1995	19	45	21	16	32
2000	8.7	36.7	27.4	26	26
2005	6.9	36.1	24.2	–	–

Table 10.4 Agriculture's contribution to GDP, percent

It is hardly surprising that issues related to the construction of large scale hydroelectric complexes were so controversial for the Presidents of Tajikistan and Uzbekistan at the Heads of State Summit of the Shanghai Organisation for Cooperation on 16 August, 2007. The President of Uzbekistan insisted that "the construction of new hydro-electric complexes must be subject to independent audit to prevent any harm to our countries". The President of Tajikistan, for his part, declared that Tajikistan "has never and will never construct hydro-electric complexes that prejudice our neighboring countries, and insinuations to the contrary have no basis in reality".[1] Whatever the arguments, it should be noted that there are no agreements between the CAR countries that define the procedures and conditions for the construction of energy complexes on transboundary rivers. Neither have all countries signed the relevant UN conventions. Proposals from international organisations and regional integration associations (EurAsEC) to render assistance in preparing such documents would do little to resolve the disputes between the upstream and downstream countries.

The main source of conflict between the countries is the poor management of water utilisation used for power generation, which is seen as the root cause of alternating winter floods and water shortages during the growing season. Since there are large-scale plans to develop the hydro energy in Central Asia, conflict between upstream and downstream countries over their water utilisation can only intensify.

The Development of Hydro Energy in Central Asia

Production and Consumption of Energy Resources in the Region. At present, the Production of Primary Fuel and Energy (PPFE) in the region relies mainly on hydrocarbon fuel (see Table 5). Natural gas represents almost a half of total energy resources and its reserves are mainly in Turkmenistan and Uzbekistan. The second largest energy resource in the PPFE structure of the CAR countries is oil, up to 80 per cent of which is produced in Kazakhstan. Most of the energy used in Kyrgyzstan and Tajikistan is hydro energy. Hydro energy constitutes 83 and 96 per cent of the internal PPFE in these countries. However, it is insignificant as part of the region's total fuel and energy balance (approx. 2 per cent).

Table 10.5
Structure of the Production of Primary Fuel and Energy, percent

	Gas	Oil	Coal	Hydro	Total
Kazakhstan	16	50	33	1	100
Kyrgyzstan	2	5	11	82	100
Tajikistan	2	1	1	96	100
Turkmenistan	83	17	0	0	100
Uzbekistan	84	13	2	1	100
Total	48	33	17	2	100

[1] *Although the focus of controversy was never mentioned explicitly, it was clear to participants that they were referring to Tajikistan's plans to build the Rogun HPP*

In general, the region has abundant energy supplies. Internal production in 2004 was 1.8 times consumption (see Table 6). However, this indicator differs widely between the region's countries. Turkmenistan, Kazakhstan and Uzbekistan have plentiful energy supplies, producing more than is consumed domestically. These countries are net producers of energy resources. Kyrgyzstan and Tajikistan produce less power and are net importers of energy.

	Production. million tones fuel	Internal consumption million tones fuel	Production to Consumption Ratio
Turkmenistan	58.1	15.6	3.74
Kazakhstan	118.6	54.8	2.16
Uzbekistan	56.9	54.0	1.05
Kyrgyzstan	1.5	2.8	0.55
Tajikistan	1.5	3.3	0.45
CAR, Total	236.6	130.5	1.81

Table 10.6
Annual Production and Consumption of Primary Fuel and Energy

Source: Fuel and Energy Balance Statements, IEA, 2004

Low energy provision coupled with the potential of their water resources have persuaded Tajikistan and Kyrgyzstan to develop their hydro energy sector. According to the UN Program for the Economies of Central Asia (SPECA), the estimated renewable hydro potential of Central Asia is 460 billion kWh per year and only 10 per cent of this is actually used (see Table 7). Most of the hydro potential is in Tajikistan (69 per cent), and puts Tajikistan in 8th place in the world after China, Russia, USA, Brazil, Zaire, India and Canada. Kyrgyzstan accounts for 22 per cent of the region's total hydro potential.

Countries	HPP Installed capacity, MWt	Electricity production and HPP (2005), billion kWh	Economic hydro potential, billion kWh/yr	Utilization of hydro potential, per cent	Percentage of the Hydro Potential of the CAR
Tajikistan	4037	17.1	317	5	69
Kyrgyzstan	2910	14.0	99	14	22
Kazakhstan	2248	7.9	27	29	6
Uzbekistan	1420	6.0	15	49	3
Turkmenistan	1	0	2	0	0
Total	10616	45.0	460	10	100

Table 10.7
Hydro Energy Potential of the Central Asian Rivers

Resolving the problems of shared water usage and energy supply in Central Asia is of vital economic importance, and will have an environmental, political and international impact since these issues are fundamental to regional stability, economic prosperity and ecological

security. The most urgent problems are water and energy regulation and the need for long term investment in the construction of hydro-electricity complexes.

Because of the conflicting demands on water resources between the upstream countries (Kyrgyzstan and Tajikistan) and the downstream countries (Kazakhstan, Turkmenistan and Uzbekistan), it seemed impossible that the Central Asian states would be able to formulate a well coordinated mechanism for the cooperative utilisation and development of the water and energy resources of the Syr-Darya and Amu-Darya Basin.

Interaction between the EurAsEC states in this sphere has been ongoing since 2003. Russia has played an active role in the development of hydro energy potential and regulation of resources from the Central Asian Rivers via bilateral Russian-Tajik agreements on the completion of the Sangtudin HPP-1 (JSC RAO UES of Russia) and Rogun HPP in Tajikistan. In April 2006, the government of the Republic of Kyrgyzstan proposed a revival of its energy partnership with the Russia's JSC RAO UES on the construction of the Kambarata HPP-2. In 2007 Kyrgyzstan decided to continue the Kambarata HPP-2 project using its own finance.

Since 2003, the JSC RAO UES of Russia has been transferring energy surpluses (successfully and less successfully depending on the political situation) from Tajikistan and Kyrgyzstan through the energy system of Uzbekistan and Kazakhstan to Russian Federation. The CAR countries supply each other with fuel and energy through water and energy exchange projects. Pending completion of hydro electric plants, there are plans to export electricity beyond the CAR to China, Pakistan and Afghanistan.

It is apparent that even limited interaction regarding the development and shared utilisation of water and energy resources within EurAsEC has helped to balance the water and energy models of the Syr-Darya and Amu-Darya River Basins, meeting to a degree the needs of all the region's countries and helping to enhance the potential for investment in Central Asian hydro energy complexes.

These tasks had been the work of the OCAC, which planned to create an international water and energy consortium. After the OCAC was incorporated into the EurAsEC and Uzbekistan entered the Community, new opportunities emerged for the resolution of the region's complex water and energy issues.

The establishment of the Eurasian Development Bank is further impetus for the implementation of investment projects.

At the Sochi Summit (August, 2006), the Presidents of the Community laid the foundations of a *strategy for the efficient utilisation of water and energy resources in Central Asia*. This will define the targets and methods of regulating water and energy utilisation in the Syr-Darya and Amu-Darya Basin and developing its hydro energy potential.

Consequently, the assistance of the Eurasian Economic Community and the Eurasian Development Bank must be sought in devising investment strategies for joint hydro energy projects and water and energy regulation.

The strategy for the efficient utilisation of water and energy resources in Central Asia establishes the following fundamental principles:

1. The participation of all stakeholder countries (Belarus, Kazakhstan, Kyrgyzstan, Russia, Tajikistan and Uzbekistan) and the involvement of Turkmenistan, or at least an awareness of its interests;

2. The need to pursue simultaneously investment activity and water and energy regulation;

3. The creation of permanent interstate regulatory and executive institutions to fulfill investment and control functions in the coordination of water and energy requirements.

Given the interaction of demand from the river system for water and energy, regulation of energy should be closely linked to the regulation of water resources, especially in the Syr-Darya river basin. Since Kazakhstan and Uzbekistan will need water for irrigation from the area of the Naryn–Syr-Darya series of HPPs, intergovernmental institutions (preferably EurAsEC) must balance the development of the river for irrigation and energy purposes. An approach that takes into account interests of all the region's countries is obligatory if investment in the Central Asian River hydroelectric potential is to be made more attractive. Water and energy regulation is required before investment can be secured. This will balance the interests of the downstream and upstream states and protect the interests of investors.

The draft strategy for the efficient utilisation of water and energy resources in Central Asia has for the most part been approved by the High Level Group set up in 2007 to examine the issues coordinating water and energy regulation of the Syr-Darya and Amu-Darya basins. It is expected that the strategy will be accompanied by a draft EurAsEC Cooperation Agreement on the efficient utilisation and protection of the region's water and energy resources, in which the signatories will establish the remit for the interstate regulatory and executive institutions implementing the strategy.

However, disagreements remain over significant elements of the draft strategy which can be resolved by politicians.

Hydro Energy Development Plans

The economically sustainable development of the hydro energy potential of Kyrgyzstan and Tajikistan currently resides upon the completion of the large-scale HPPs, initiated back in the Soviet period, and the construction of medium and small HPPs. The biggest HPPs to be constructed in Central Asia are Sangtudin HPP-1 and Rogun HPP in Tajikistan, Kambarata HPP-1 and HPP-2 in Kyrgyzstan, and a series of HPPs on Sary-Djaz (see Table 8).

Name	Location	Status	Capacity, MWt	Average annual performance, billion kWh	Estimated cost, billion USD
Rogun HPP	r. Vakhsh (Tajikistan)	Project	3600	13.1	2.2
Nurek HPP	r. Vakhsh (Tajikistan)	Operational	3000	11.2	
Dashtijum HPP	r. Pyanj (Tajikistan)	Project	4000	15.6	3.5
Kambarata -1 and -2 HPPs	r. Naryn (Kyrgyzstan)	Project	1900+360	7	2.0
Toktogul HPP	r. Naryn (Kyrgyzstan)	Operational	1200	4.4	
Series of 5 HPPs on Sary-Djaz	r. Sary-Djaz (Kyrgyzstan)	Project	1500	5.0	2.5

Table 10.8
The largest HPPs in Tajikistan and Kyrgyzstan

New large-scale HPPs will be constructed upstream of the transboundary rivers (the Nurek series on the river Vakhsh and the Toktogul series on the river Naryn), which provide water to the population and industries in the whole Central Asian region, and to the downstream irrigated region. All available water resources are being used and any change in the existing water consumption patterns may exacerbate the present conflict of interests between upstream and downstream countries. Plans to develop upstream hydro energy should take into account the present water utilisation in downstream areas and must not be detrimental to existing water utilisation systems, because irrigation is socio-economically essential to the region.

Experts are studying possible additions to the Rogun HPP, i.e., by raising the height of the dam, or by adjusting the plant's throughput or operating model. Clearly, politicians and specialists in downstream countries are worried about the possible consequences of changing the hydrological models of the river. However, according to calculations, all demand for resources should be addressed fairly if the energy and irrigation models of the Nurek and Tuyamuyun reservoirs are well regulated. This should also reduce the risk of artificial drought and increase water supply by 3-4 per cent. However, the situation may worsen if both Rogun and Nurek HPPs function simultaneously in power-generation mode. The high summer drainage rate may shift to winter (when energy consumption is highest) and cause artificial water shortages in summer in midstream and downstream of the Amu-Darya. In this scenario, agricultural losses may amount to USD 120–960 million out of the total agricultural production of USD 3.6 billion. The drying of the Amu-Darya River in summer could lead to ecological and health crises.

It is important, therefore, to coordinate decision-making regarding large-scale HPPs in the transboundary river basins, to reach compromise, and to maintain a strong political will and trust in other parties.

Central Asian Cooperation in the Utilisation of Water and Energy Resources

The international regulation of transboundary water-course utilisation consists of general international agreements, basin agreements covering a certain region and bilateral agreements between certain countries of the region. The Central Asian States are in the process of creating a similar system.

International agreements have not been used as a legislative basis in regulating the utilisation of water from Central Asia's transboundary rivers. Of all the Central Asian countries, only Uzbekistan declared (in August 2007) a desire to join the 1997 *UN Convention on Non-Navigational Usage of International Rivers*.

In 2001, Kazakhstan signed up to the *Convention on the Protection and Utilisation of Transboundary Rivers and International Lakes (Helsinki, 1992)*, the only existing international legal instrument relating to the shared use of water resources which also covers the Central Asian Region. In August 2007, Uzbekistan also said it would sign up to this convention.

Since 2001, Kazakhstan and Kyrgyzstan have been signatories to the *Convention on Evaluating the Environmental Impact in the Transboundary Context* (Espo, 1991) that came into force in 1997.

The importance and politicization of environmental problems in Central Asia (the Aral crisis) has led to a ruling that ecological impact assessments must be carried out for all international water utilisation projects, even if they are being executed by states which did not sign up to the Conventions. Under the 1997 UN Convention, and to satisfy notification procedures laid down by the World Bank, the results of the environmental impact assessment for each project must be disseminated to those states who will be affected by the project.

The *Convention on Access to Information, Public Participation in Decision Making and Access to Justice on Environmental Issues* (Aarhus, 1998), which came into force in 2001, was signed by Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan.

Central Asian countries have also signed up to a number of multilateral agreements relating to the protection and utilisation of water resources.

Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan signed the *Ramsar Convention on Wetlands of International Importance for Wildlife*. Nine protected areas in Central Asia are included in the Ramsar list of Wetlands of International Importance. The responsibilities assigned by the Convention, including those relating to transboundary water and swamp regions and transboundary water systems, may substantially

influence the results of the ecological survey for some of the planned water utilisation projects.

The *UN Convention to Combat Desertification in Countries Affected by Severe Drought and/or Desertification, especially Africa* was signed by 172 countries, including all the Central Asian countries. This Convention aims to reverse the process of desertification. It emphasizes measures for improved fertility, restoration, protection and rational utilisation of soil and water resources. The impact of international water utilisation projects on desertification in countries sharing the same water resources must also be covered by the ecological survey.

The General Principles of Interaction in Rational Use and Protection of Transboundary Water-bodies of the CIS Member States was signed in Moscow in 1998 and came into force in 2002. This agreement generally includes the same provisions as the Helsinki Water Convention of the UN ECE, but it applies a stricter approach to the assessment of damage to water bodies and failure to manage water resources which may adversely affect the environment and water bodies, and in defining general principles of water utilisation and division of water resources. Tajikistan has been the only Central Asian country to sign up to the CIS transboundary water agreement (other CIS signatories include Belarus and Russian Federation), so its impact on international legislation on shared utilisation of water resources in the region is not significant. The Agreement was not signed by other CIS countries and the problems of utilizing and protecting transboundary water resources has shifted to integration unions, i.e., the problems are addressed via bilateral and multilateral agreements between CIS countries.

Following the collapse of the Soviet Union, the five newly-independent countries faced the urgent task of replacing the region's centralized water and energy regulation system with joint regulation in the context of *regional cooperation*.

Central Asian countries signed multilateral regional agreements and bilateral agreements on the utilisation of international water resources.

In 1992, the heads of the Water Economy ministries of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan signed the *Cooperation Agreement on the Joint Regulation, Utilisation and Protection of Water Resources from Inter-state Sources*, preventing potential conflict between the countries over division of water from the Amu-Darya and Syr-Darya during the growing season. The agreement also helped to avoid a long-term conflict caused by the division of water resources from the River Indus, which had been running in South Asia since British India was divided into India and Pakistan in 1947.

In March 1993, Central Asian presidents signed the *Agreement on Joint Action to Find Solutions to the Problems of the Aral Sea and the Aral Sea Region, and on Ecological Rehabilitation and Socio-Economic Development of the Aral Region*, (which confirmed the validity of the

1992 agreement) and created the International Fund for Saving the Aral (INSA). The 1992 agreement temporarily consolidated the principles and practices of water distribution applied during the Soviet period to the Amu-Darya and Syr-Darya. The signatories also made a commitment to deliver a guaranteed volume of water to the river delta and Aral Sea in order to rescue the ecological situation there. In this case the Aral Sea was viewed as a discreet issue under the agreement.

The *Agreement on the Utilisation of Water and Energy Resources in the Syr-Darya River Basin* (March 1998, signed by Tajikistan in June 1999) temporarily eased the bitter interstate disputes over water utilisation in the Syr-Darya river basin. In Soviet times, the regulation of this river using the Naryn-Syr-Darya series of reservoirs, and particularly the Toktogul reservoir, was adjusted for irrigational use in response to demand for irrigation in Kazakhstan and Uzbekistan. Water discharge was set at maximum during the growing season while more was retained in the reservoirs during winter. Following independence, the Central Asian countries stopped supplying fuel and electri city to Kyrgyzstan as compensation for electricity generation shortages at the Naryn-Syr-Darya Series of HPPs during winter. From 1993 onwards, therefore, water discharge increased from the Toktogul reservoir during winter in order to produce electricity at the Toktogul HPP for Kyrgyzstan's domestic use. Water outflow decreased during spring and summer in order to refill the Toktogul reservoir (see Table 9).

Indicators	Annual average	1985–1991		1995–2007	
		Winter	Summer	Winter	Summer
Inflow to the reservoir, km^3	12.06	2.77	9.29	3.21	10.23
Outflow from the reservoir, km^3	11.46	3.53	7.93	8.50	5.44
Water balance, km^3	+0.6	-0.76	+1.36	-5.29	+4.79

Table 10.9
Inflow and outflow of water at the Toktogul reservoir

Changes to the water flow mode of the Toktogul water reservoir had adverse and at times catastrophic consequences in downstream Syr-Darya regions. Floods occurred in the downstream territories of the river Syr-Darya during winter. In addition, irrigation areas were scaled back and farming stability was undermined by the reduction in water delivery in summer, with no guarantee of its timely delivery.

The agreement had a very positive effect in coordinating water and energy exchanges between countries located in the upper part of the river basin (Kyrgyzstan and Tajikistan) and countries located in the middle and lower parts of the Syr-Darya river basin (Kazakhstan and Uzbekistan). In fact, this was a legally based attempt to revive the Soviet mechanism of

compensation to the upstream countries for electricity output losses at HPPs working in irrigation mode of increased outflow from reservoirs.

The provisions of this agreement were implemented with great difficulty and frequent transgressions. The exact volumes of water outflow from the Toktogul reservoir and the related energy supply conditions were to be established by annual protocols. However, in reality, though the protocols were signed, there were threats of water shortages when the downstream states tried to secure guaranteed access to water from the Toktogul reservoir.

In the Amu-Darya basin, the most difficult period was the two-year water shortage in 2000-2001 when the downstream water flow reached only 52 per cent of the agreed volume (see Table 10)

Table 10.10
Territorial Water Deficits in the Amu-Darya Basin in 2000

Part of the basin	Volume of deficit, km3	Deficit as a percentage of agreed volume
Upstream	0.7	11
Midstream	2.7	17
Downstream	7.7	52
Basin, total	11.1	30

Although regional cooperation in the shared utilisation of the water and energy resources of transboundary Rivers in the Aral Sea basin needs to be developed further, the legislative basis for water regulation established during the transition period has helped to avert serious conflicts and interstate disputes.

Work on *new regional agreements* relating to the utilisation and protection of the region's water and energy resources is continuing, supported by international organisations in Central Asia The following agreements have been drafted: (1) the Agreement on the Creation and Administration of National, Basin and Regional Databases relating to the Utilisation and Protection of the Water Resources in the Aral Sea Basin; (2) the Agreement on the Utilisation of Water and Energy resources in the Syr-Darya River Basin; (3) the Agreement on the Protection of Transboundary Waters, and Rules Governing the Monitoring of Their Quality and the Protection of Ecological Stability in the Region, and (4) the Agreement on Consolidating Organisational Structures of Management, Protection and Development of the Transboundary Water Resources of the Aral Sea Basin. However, they were not signed by the region's governments in time. Follow-up on this agreement was recently resumed under the ABR Project, but has so far yielded no results.

The High Level Group created in 2006 by EurAsEC to work on issues relating to the development of a coordinated water and energy regulation system in the Syr-Darya and Amu-Darya river basins, is planning an agreement on cooperation between the EurAsEC member states concerning the efficient utilisation and protection of water and energy resources in

the Central Asian Region. Currently, the group is drafting the concept for the efficient utilisation of water and energy resources of Central Asian Region, which will define the principles of future agreements.

The OCAC, supported by IFCA, adopted a number of documents relating to water and energy regulation in the CAR. These are due to be adapted for the EurAsEC, as agreed at presidential level by the Interstate Council of EurAsEC.

In addition to the common agreements on the region's transboundary water resources, the Central Asian countries also adopt bilateral agreements specific to certain river basins or parts of basins. One example of this type of legal document is *the Agreement between Turkmenistan and Uzbekistan "On Cooperation in Water Conservation" (Turkmenabat, 1996) and the Agreement between Kazakhstan and Kyrgyzstan on the Chu and Talas rivers (2000)*.

These regional and bilateral agreements determine the framework and procedures for utilisation of the water and energy resources of the international rivers of the CAR. There are additional *intergovernmental agreements on joint investment projects*.

In particular:

• The Agreement between the Government of Russian Federation and the Government of the Republic of Tajikistan on the Completion of the Rogun HPP on the river Vakhsh in the Republic of Tajikistan (Moscow, April 13, 1994). *In 2006, the Republic of Tajikistan unilaterally renounced the agreement. Russia, even* thought it had not ratified the agreement itself, did not agree with Tajikistan's actions.

• The Agreement on Long-Term Cooperation between JSC Russian Aluminum and the Government of the Republic of Tajikistan of October 16, 2004. *The parties agreed that between January 1, 2005 and December 31, 2009 they will jointly execute the first stage of expansion of the hydro energy complex of the Rogun HPP, commissioning two HPP units with a capacity of approx. 4 billion kWh per year. The Government of the Republic of Tajikistan is studying the possibility of implementing this project with the help of an international consortium. In August, 2007 it unilaterally cancelled the cooperation agreement*.

• The Agreement between the Government of the Republic of Tajikistan and the Government of Russian Federation on procedures and conditions for the participation of Russian Federation in the construction of Sangtudin HPP-1, signed on October 16, 2004.

According to the Memorandum of Understanding on the Construction of Sangtudin HPP-2, signed by the governments of two countries on June 11, 2005, the Government of the Islamic Republic of Iran issued a soft loan of USD 180 million for the construction of Sangtudin HPP-2.

On April 27, 2005, the Government of Republic Tajikistan and the Government of the Islamic Republic Afghanistan signed an Agreement on

Cooperation in the energy sector, which related to the joint development of power resources of the river Pjandzh and the construction of interstate power transmission lines.

On March, 30, 2005, the Ministry of Energy of the Republic of Tajikistan and the Ministry of Water and Energy of the Islamic Republic of Pakistan signed a Memorandum of Mutual Understanding on Cooperation in the field of water and energy engineering. Memoranda and Cooperation Protocols were also signed with companies of the People's Republic of China, Turkey, Ukraine, India and other countries.

3. The Rogun HPP and the Kambarata HPP-1 and HPP-2: the need for international cooperation

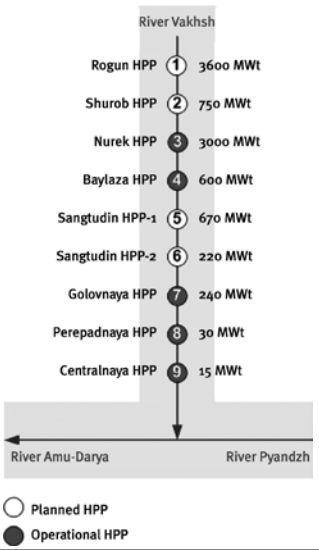
The construction of the Rogun HPP on the river Vakhsh in Tajikistan and the Kambarata HPP-1 and 2 on the river Naryn in Kyrgyzstan now represent the most problematic projects undertaken as part of the joint development of the energy potential of CAR rivers. However, they also promise to be the most economically efficient projects. The plants are described in greater detail below.

The River Vakhsh, which rises in Tajikistan, provides essential water resources to the downstream countries of Uzbekistan and Turkmenistan. The river supplies about 25 per cent of the Amu-Darya river basin. The construction of the Rogun HPP on the Vakhsh is now the largest hydro energy project in Central Asia. In certain conditions, the complex can influence the flow of the river Vakhsh and, consequently, the volume and utilisation mode of water resources flowing to neighboring countries.

It is universally acknowledged that absolute sovereignty of upstream countries over available water resources is inadmissible under international law.

Insertion 10.1 Development of the Hydro energy potential of the River Vakhsh

The River Vakhsh accounts for about half of all the energy potential of the Republic of Tajikistan. At present, there are five hydroelectric power stations on this river, which produce about 15 billion watts / hour of electricity per year (2005). In the long term, 4 HPPs can additionally be constructed on the river Vakhsh with general capacity of 5240 MW. The largest of them is the Rogun HPP (3600 MW). On the one hand, the construction of large scale HPPs increases the chances of long lasting regulation of the water discharge that meets the interests of all the states of the river basin. On the other hand, there is a risk of deterioration of relations with neighboring countries if the series of water basins is operated in the energy mode for the energy supply in Tajikistan.



The existing agreement on water-division adopted by Central Asian countries in 1992, does not assume that the countries with major rivers will automatically approve the construction of hydro complexes on transboundary rivers. Therefore, it is vitally important that the region's countries cooperation closely to prevent the possible negative effects that the construction of hydropower plants may have on downstream countries. Cooperation within the framework of conventional international law, including cooperation on transboundary water resources, is an obligation shared by all the countries.

Project Scale and Attracting Investment

Financial resources are very limited and Kyrgyzstan and Tajikistan need external financing in order to develop their energy potential. International experience shows that, when implementing large scale projects (for example, the construction of the Kamabartin and Rogun HPPs), successful procurement of external investment depends to a large degree on the nature of relations between the host country and its neighbors. The reasons for this are as follows:

(1) Successful cooperation between the countries on the use of water resources is a positive sign for international investors;

(2) One major precondition for involving international financial institutions (such as the World Bank, the Asian Development Bank, etc.) in a project is that the initiating country must have circulated notification of its intention to construct the HPPs and have received no objections from the downstream countries;

(3) The participation of neighboring countries in the development and implementation of projects which promote shared utilisation of transboundary water resources is an accepted practice worldwide.

The region's interest in implementing projects by securing foreign investment is a key factor in forging mutually beneficial agreements on water utilisation. Interstate cooperation in the development of the energy potential of the Senegal and La Plata river basins is an excellent example of the significant role which joint cooperation institutions can play in striking a compromise between partners. In particular, they can organize discussion forums, collect and distribute data relating to the river basins, and can follow up on the implementation of agreements, since contracts between countries do not always guarantee cooperation.

The independence enjoyed by cooperation institutions in technical, administrative and financial decision-making can substantially enhance the benefits countries derive from cooperation and reduce the risk of emergent crises. Following this model of cooperation in Central Asia is one the ways of resolving disputes between the countries upstream and downstream of the Amu-Darya and Syr-Darya rivers.

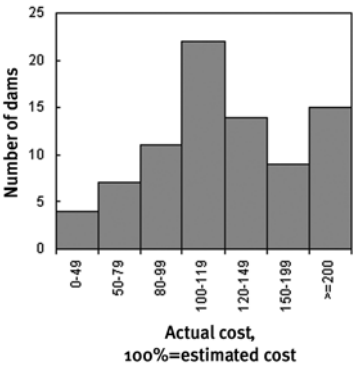
An accurate estimation of project cost is crucial for feasibility studies, sourcing external funds and preparing tender documents. International

experience demonstrates that construction costs for hydro units at HPPs are frequently underestimated initially (see Figure 2), and the real cost to project partners may be higher than budgeted for. Calculations for the Rogun project were carried out under different political, economic and social conditions, which considerably increases the risk that construction costs will turn out to be much higher. Where external investors and contractors are involved, the earlier technical studies have to be re-appraised by independent experts.

Insertion 10.2 Cost Estimates for the Construction of Large Dams

The construction of dams and related infrastructure involves huge investment. Errors in budgeting, especially where there is a lengthy construction period, may have a considerable impact on the financial position of the project participants. According to the World Commission on Dams, large scale dam-building projects tend to exceed budgets. Of the projects analyzed, actual construction costs exceeded amounts budgeted in 75 per cent of cases. On average, construction expenses were 56% per cent higher than initially estimated.

Actual construction costs of large-scale dams
(per cent of estimated cost)



Source: WCD Cross-Check Survey

Large scale HPPs are seen as playing an important role in the economic development of nations (new jobs, regional and industrial development, growth of export potential, etc.). More recently, the world has also begun to acknowledge the increasing influence of large hydro complexes on society and the environment. In considering the options for dam projects, equal (if not greater) importance should be placed on the social and ecological effects of the project as on technical and economic considerations. In the past, the ecological role of water resources, even the fact that water is needed to sustain natural habitats and eco-systems, was barely acknowledged, and therefore there is *an urgent need to carry out ecological audits* of hydro energy projects, especially ones as large as the Rogun and Kambarata HPPs.

The total cost of the construction of the Rogun HPP is estimated to be as high as USD 2.9 billion USD. The Government of Tajikistan has calculated that USD 800 million of work has already been executed. The completion of the project requires USD 2.1 billion of financing. The economic situation in Tajikistan (the cost of the project is equal to the annual GDP of Tajikistan and 4.6 times cumulative budget revenue) limits the potential for independent implementation of this hydro energy project, despite the improvement in public finances in recent years.

The Rogun HPP Project is based mainly on estimates calculated back in 1978, in particular the technical and engineering estimates of the geological, hydrological and seismological elements of its construction. Today the project *needs additional and updated documentation*, namely engineering specifications, financial analyses, additional safety audits, and environmental impact assessments for all countries of the river basin.

The Kambarata HPP-1 and HPP-2 in Kyrgyzstan. Conflicts have arisen between states regarding the water utilisation models in the Syr-Darya River basin. In the past, the flow of this river was regulated by the Naryn and Syr-Darya series of dams, mainly Toktogul, with priority given to agriculture in Kazakhstan and Uzbekistan. Since 1993, the annual rates of Toktogul reservoir outflow had to be modified in accordance with Kyrgyzstan's domestic demand for electricity generation, with more water being discharged during winter and retained during summer.

Interstate agreements on compensating Kyrgyzstan for power lost during the winter, summer water supply from the reservoir for irrigation in Kazakhstan and Uzbekistan and the transmission to these countries of surplus electric power, have not been observed. In 2003, for example, as a result of mismatching water outflow rates from reservoirs on the Toktogul HPP dams, about 1.0 billion m3 of water were dumped, which corresponds to 877 million kWh of lost electricity. Unplanned dumping can be catastrophic for the midstream and downstream regions.

According to preliminary estimates, the construction cost of the HPP-1 (1900 MWt) will be about USD 2100-2200 million. The Kambarata HPP-2 (360 MWt) will cost about USD 400 million. The construction period for the HPPs is 8-10 years.

The Kambarata HPP-1 and HPP-2 will produce about 2.2 billion kWh in winter. Surplus energy generated (about 3.5-4.0 billion kWh) can be sold to Russia, China, and Central Asia. It will operate by reducing winter outflow to the downstream rivers. In its long-term operating mode it will conserve water for irrigation in winter and discharge the water saved during the summer. The Toktogul reservoir will hold 6.0-6.5 billion m3 over the winter conservation period. A separate audit needs to be carried out on the distribution of electric power to domestic and export markets.

If they is to run as envisaged, the operations of the Toktogul HPP and Kambarata HPP must be well managed. Water in the Kambarata HPP-1 reservoir should be discharged to produce electricity for Kyrgyzstan in winter, but should be retained in the Toktogul reservoir to meet summer irrigation demand.

These conditions can be met only if power stations' operations are coordinated. Hence, *potential investors must examine the Kambarata HPP- 1 and 2 projects as part of the entire Toktogul series of HPPs, whose operations are coordinated to satisfy demand from the downstream countries.*

The construction of the Kambarata HPPs will benefit Kazakhstan and Uzbekistan only if the operating modes of the whole series of HPPs are coordinated.

In all these projects, Russia has a number of possible roles: (1) major investor (2) consumer of electricity produced at the Kambarata HPP during the summer period (3) supplier of power during winter shortages, and (4) facilitator of interaction between Central Asian countries in water and energy matters.

In addition to investment agreements, these projects require the signing of multilateral contracts, establishing the operating models of the river Syr-Darya during the construction of the Kambarata HPP and after it is commissioned.

These conditions are perhaps best met by setting up a consortium of approved companies from the participating countries (Kyrgyzstan, Kazakhstan, Russia, Uzbekistan) and appointing a company which would project-manage the building of Kambarata HPP and operate the Naryn and Syr-Darya series of HPPs.

Figure 10.1
Location map of Kambarata HPP-1 and HPP-2

The dangers of rejecting international cooperation

There are around 60 million inhabitants in the basins of the Amu-Darya and Syr-Darya. Agriculture and cattle farming have always been the livelihood for most of this densely populated region, and water has been the main limiting factor. Shared utilisation of the resources of transboundary rivers can become the foundation of fruitful cooperation on the one hand, but it can also sour international relations. Most conflicts in the world arise in connection with changes in the use of river water and

the construction of new infrastructure (HPPs above all) which ultimately bring about such changes. This is the situation now faced by the whole of the Central Asian region.

Most water problems occur in the downstream Amu-Darya and Syr-Darya regions where there is an acute water shortage in normal and dry years and the water supply is generally insufficient for the eco-system of the wetlands and the Aral Sea. In spite of efforts to distribute water resources among consumers, it is impossible to avoid completely the very uneven water consumption even in one country, especially in the midstream and downstream territories of the Amu-Darya.

Different seasonal requirements and the uneven distribution of water and power resources create conflict and may substantially affect the economy of the CAR countries and other regions. The close interdependence of Central Asian countries does not only affect water and energy, but also concerns other branches of the economy. Therefore, unilateral action on the part of the upstream countries, refusal to appoint independent consultants to review the construction projects of hydro power stations and obstructing regional cooperation may adversely impact development in a number of ways. This in turn may undermine the political and ecological stability of the region as well as the security of social and economic development of Central Asia. The major risks are:

- Damage to ecological stability;
- Restricted external trade;
- Isolation from transport links;
- Refusal of external investors to finance the project;
- Risk of international litigation.

Damage to ecological stability. Poor maintenance of hydraulic constructions can lead to ecological disaster. This is especially true of the unique, very vulnerable and fluctuating nature of water and energy supply, which affect lives, safety and economic stability over huge areas. Water discharge can inundate flood defenses, cause mud slides and flood the hydraulic installations. Therefore, adequate financing for these constructions is essential in maintaining their technical integrity.

The uncoordinated regulation of transboundary waters affects the stability of agriculture and may damage water quality and health and thus lead to social breakdown. The regulation of water discharge is a major problem in the regulation of transboundary watercourses, because uneven outflow into the rivers and significant deviations from the established hydrological models of the rivers may exacerbate the effects of drought and flooding in the downstream countries and cause irreversible desertification (as happened during the drought of 2000-2001 in the downstream areas of the Amu-Darya). These circumstances may force the countries suffering such ecological, social and economic damage to take "reciprocal action".

Reaction to the poorly managed construction of hydro units on international rivers or changes to the hydrological models of rivers is often influenced by trading preferences and restrictions, transport links, transit tariffs, and visa regulations. Reaching a coherent decision demands concessions from each side, and depends on the state of political relations between the countries located in the international water basin. If relations between the countries of a single basin are tense and beset by other unresolved issues, it is unlikely they will adopt a positive attitude to the proposed project.

There is also a need for close examination of the issues related to the ecological stabilization of the Aral region and preservation of the Aral Sea as a natural phenomenon. In order to maintain the ecological equilibrium of this zone, the Water Committee decided to limit of water intake from the rivers for each specified year, and it is expected that some of the water resources of the Amu-Darya and Syr-Darya rivers will be transferred to the Aral sea.

Restricted external trade. Over the ten-year period 1994-2003, the external trade revenue of Tajikistan increased 11.1 times from USD 131.1 to 1459.3 million. Exports were 11.6 times higher at the end of the period than the start. Import increased 10.7 times. Food items are the major import while raw materials are the country's main export. In 1999-2000, the foreign trade balance was positive. Over the last few years, however, due to the rapid growth in imports, the export to import ratio has changed dramatically.

Trade between Tajikistan and other countries of Central Asia is characterized by a high dependency on the monopoly supply of key commodities. For example, the Republic of Tajikistan imports all its gas and mineral fertilizers from Uzbekistan. Kazakhstan provides more than 70 per cent of all Tajikistan's grain imports and 95 per cent of its flour imports. Tajikistan also has to import electricity from Turkmenistan and Uzbekistan to supply the Tajik aluminum plant during winter. Electricity supply between the energy-sufficient south of the country and the energy-deficient north is also carried out via Uzbekistan's network, which prompted Tajikistan to construct the LET-500 kV "South-North" power line with the help of a loan from China (USD 300 million). Uzbekistan accounted for 38 per cent of Tajikistan's total imports in 2006 and 21 per cent of its exports (See Table 11). During 2005–2006. Tajikistan exported 4.1–4.2 billion kWh of summer surplus electricity to Uzbekistan (99 % of all its electricity exports), and the winter supply of electricity in the same year from Uzbekistan to Tajikistan amounted to 4.3–4.4 billion kWh. In order to diversify its sources of energy and to improve its energy security, Tajikistan planned to construct a gas pipeline from Turkmenistan. However Uzbekistan impeded these plans by refusing to allow the pipeline to cross its territory. Now, Tajikistan is studying the possibility of importing electricity from Turkmenistan via Uzbekistan's infrastructure.

It is clear that the unilateral actions of Tajikistan with respect to the construction of the Rogun HPP and poor management of the Amu-Darya's resources may persuade Uzbekistan to restrict or even halt the delivery of gas and mineral fertilizers to Tajikistan and direct its exports to other markets. Uzbekistan's gas is in demand from Russia in particular, and fertilizers can, most likely, be exported to other Asian countries and abroad. In fact, Uzbekistan has already applied such measures against Tajikistan more than once.

Table 10.11
Tajikistan's Export and Import Relations with the Countries of the Eurasian Economic Community, 2005–2006, million USD

	Export		Import		Balance		Percent against 2005	
	2005	2006	2005	2006	2005	2006	Export	Import
Belarus	1.1	2.0	13.7	19.0	-12.6	-17.0	176	139
Kazakhstan	19.7	27.8	168.3	186.7	-148.6	-158.9	142	111
Kyrgyzstan	3.2	11.2	20.6	28.1	-17.4	-16.9	346	136
Russia	82.8	65.4	256.6	423.7	-173.8	-358.3	79	165
Uzbekistan	66.5	67.4	152.9	176.1	-86.4	-108.7	101	115
Total	173.3	173.8	612.1	833.6	-438.8	-659.8	100.3	136

Trade between Kyrgyzstan and other Central Asian countries Asia is also characterized by dependency on monopoly suppliers of key commodities. For example, the Republic of Kyrgyzstan imports all its gas from Uzbekistan. Kazakhstan supplies coal, grain and flour. Kyrgyzstan's negative foreign trade balance with the EurAsEC member states amounted to USD 330.6 in 2005, and this increased to USD 569.4 in 2006 (see Table 12).

Table 10.12
Kyrgyzstan's Export and Import Relations with the Countries of the Eurasian Economic Community, 2005–2006, million USD

	Export		Import		Balance		Percent against 2005	
	2005	2006	2005	2006	2005	2006	Export	Import
Belarus	1.4	0.9	7.1	18.7	-5.7	-17.8	62	264
Kazakhstan	116.1	162.6	174.4	199.8	-58.3	-37.2	140	115
Russia	134.4	153.8	378.9	652.2	-244.5	-498.4	114	172
Tajikistan	22.9	23.9	2.0	2.8	20.9	21.1	104	140
Uzbekistan	17.1	27.9	60.1	65.0	-43.0	-37.1	163	108
Total	291.9	369.1	622.5	938.5	-330.6	-569.4	126	151

Kyrgyzstan exported 2.508 billion kWh of electricity to Russia and Kazakhstan in 2006 (against 3.381 billion kWh in 2004) (see Table 13).

Years	Total	To Countries		Including the countries				
		CIS	EurAsEC	Belarus	Kazakhstan	Kyrgyzstan	Russia	Tajikistan
				Export				
2004	3382	3381	3381	-	1258	-	1800	323
2005	2685	2684	2684	-	1531	-	936	217
2006	2509	2508	2508	-	2086	-	-	422
								Import
2004	54	54	54	-	-	-	-	54
2005	0.2	0.2	-	-	-	-	-	-
2006	0.2	0.2	0.2	-	-	-	-	-

Table 10.13
Kyrgyzstan's Electricity Export and Import Operations with the Countries of the Eurasian Economic Community 2004–2006 (million kWh)

The unilateral actions of Kyrgyzstan with respect to the construction Kambarata HPPs and the poor management of the resources of the river Syr-Darya may prompt Uzbekistan to restrict and even halt gas deliveries to Kyrgyzstan and to direct its exports towards other markets.

Isolation from transport links. After the states of Central Asia became independent, the regulation of all branches of the transport infrastructure of the region was decentralized. The dismantling of the system disrupted commodity trade, counteracted economic interests and customs barriers between the countries and substantially increased the price of transportation services and consumer goods.

If the countries located downstream of an international water regulation project do not support it, they may prevent its construction by virtue of their geographical location. Virtually all the transport routes which connect the upstream countries to the world beyond go through the downstream countries (or, at least most of them). Therefore, when relationships become strained, these countries can mount a transport blockade.

For example, all Nepal trunk routes pass through the territory of India. In the mid-1990s, when Nepal attempted to get support from the international community for the construction of several HPPs on the upstream river Ganges, bypassing cooperation with India, India introduced restrictive measures on transport links with Nepal. The transportation sanctions introduced by India negatively damaged social conditions in Nepal and forced it to abandon construction of the HPPs.

Measures which can be used to put pressure on the upstream country include increased transit tariffs on the building materials, machines and equipment used in building the HPPs and a refusal to allow large cargoes (turbines, generators, transformers, etc.) to pass through the territory

with the pretext, for example, that railway infrastructure need modernizing before such cargoes can be allowed to travel on the system.

Railway transportation is of key strategic importance to Tajikistan. According to available data, 65 per cent of all freight was shipped by rail in 2003. The role of the railway is even greater with regard to foreign trade: 87 per cent of over-land imports, and 92 per cent of such exports, were transported by rail. Tajikistan's railway links to the outer world all pass through the Uzbek-Tajik border, therefore all freight and passenger transit out of Tajikistan must go via Uzbek territory.

The following passenger train routes out of Tajikistan pass through the territory of the Republic of Uzbekistan: Dushanbe-Moscow (twice weekly); Kulyab-Moscow (once a week); Khojend-Saratov (twice weekly); Dushanbe-Kanibadam (twice weekly); Kurgan Tyube-Kanibadam (once a week). In addition, repairs to Tajikistan's rolling stock are also mainly carried out in Uzbekistan. Uzbek enterprises repair Tajik railway company rail cars and locomotives.

Meanwhile, goods and trains from the central part of Uzbekistan, the Ferghana and Surkhan-Darya valleys, go through Tajikistan. To reduce its dependency on Tajikistan, Uzbekistan has initiated some expensive projects over the last few years in order to build a wholly internal freight system.

The majority of Kyrgyzstan's freight is transported by rail, and railways are particularly important for this country's foreign trade. The major part of its over-land import and export transportation is by rail. The railways linking Kyrgyzstan with the world beyond all pass through the Kazakh-Kyrgyz border, therefore all freight and passenger transit out of Kyrgyzstan must go through Kazak territory.

Downstream countries may also refuse to allocate land for the construction of high-voltage transmission lines to carry electricity from the HPPs to an external market, or may introduce high tariffs for the transit of electricity via existing networks. In such circumstances, the project may become unviable, if the internal consumption in the energy-producing country is insignificant and access to foreign markets is cut off. If power transit tariffs are set unfeasibly high, this would make electricity uncompetitive in foreign markets.

Judging from experience in other countries, *Kyrgyzstan and Tajikistan may find that building the Kambarata and Rogun HPPs, or any other large hydro complexes* that change transboundary water flow, is perceived by other countries as a threat to their national interests. Consultation and negotiation with downstream countries can only be dispensed with in the following circumstances:

• If the project is financed entirely from a country's own internal budget, with no loan capital from international institutions or donor countries;

• If transport links from suppliers of goods and services to the construction site lie entirely within the country's own territory;

• If all or most of the energy produced is consumed in the domestic market or is exported to other countries from its own territory without transiting the downstream countries;

• If domestic electricity tariffs make the project viable;

• If the country can communicate independently in the event that other countries introduce sanctions;

• If the country is not highly dependent on export and import trade with its neighbors.

When all these conditions are met, or when electricity is produced, transported and consumed within one country, neighboring countries on the same river are unable to hinder the construction and operation of a hydro-complex. If not all these conditions are met, then the project becomes vulnerable both at the construction stage and once it is operational, and the risk of delayed return on investment becomes higher.

Refusal of external investors to finance the project. The Republics of Kyrgyzstan and Tajikistan do not have adequate domestic resources to finance the construction of the HPP and they will have to bring in external financing. If some of the region's countries refuse to participate in the coordination of construction, this may be an obstacle to external investment.

When international financial institutions, such as the World Bank and other regional development banks, make decisions on whether or not to finance projects on international rivers, they act in accordance with established rules and procedures. First of all, the financial institution consults the countries that the proposed project would affect. If only one of the countries using the river has a justified objection to the project, on the grounds that it may be detrimental to this country, the project will be rejected. If the project is agreed, this may be because proposals include measures to mitigate the negative impact or to pay compensation.

An international financial institution may refuse financing to a project if negotiations, sometimes with an intermediary party, are not successful and agreement is not reached. They may also reject proposals if independent international consultants confirm that the project could have a significant negative impact on countries downstream of the international watercourse.

Risks of International litigation. The risks listed above are mostly regional. However, if relations between Kyrgyzstan, Tajikistan and the downstream countries (Kazakhstan, Uzbekistan and Turkmenistan) worsen, there may need to be recourse to international organisations (or parties may even bring a case to the International Court of the UN). In this case, the findings of the international organisation would depend on existing agreements and contracts relating to transboundary water

utilisation. The main provisions of such documents include the principles of fair and reasonable utilisation and avoiding harm. They also reflect the universally accepted norms of common law which place the onus on countries of a single basin to reach agreement on issues relating to the utilisation of transboundary water resources and forbid the use of water as a bargaining tool between nations. The UN's International Court decision with respect to the only transboundary water case it has tried (Gabchikovo-Nadmarosh) was that, where the provisions of international agreements were breached, sovereign states must pay compensation to the injured party for the damage caused by its unilateral actions.

The risks described above can exacerbate political tensions and even result in serious international disputes. Unilateral actions do not bring significant benefits to any of the parties involved, especially when the region's countries are at roughly the same stage of economic development. The pursuit of cooperation between countries, and an ability to compromise, are the best way to find a solution.

During the last half century, there have been more than 500 disputes and about 40 mutual cases verging on international dispute over transboundary water resources. Meanwhile, most countries have generally tended to settle disputes over transboundary water resource utilisation using the conventions of international legislation. Over the same period, more than 200 contracts relating the utilisation of water resources have been signed. The River Nile basin would serve as one example to Central Asian nations. Countries there have recently swung from bitter confrontation with one other to close cooperation.

Tajikistan has the potential to become the world's third-largest manufacturer of hydro-electric power. However, this potential will not be realized without cooperation between countries. This could provoke disputes, resulting in the refusal of international financial institutions to grant loans, which in turn would discourage individual foreign investors from participating in the project.

Conclusions and Recommendations for the Implementation of HPP projects in Central Asia

Water is vitally important to the social and economic development of the Central Asian countries. In downstream regions, water shortage has an adverse impact on their ecology as well as their economy. In the long term, water shortage will become more acute as demand rises and rivers become shallower because of climatic changes. Sustainable development of the region is possible only if the countries broaden their cooperation to resolve the problem of shared utilisation of water resources.

The complex issues raised by hydro-power projects can only be addressed through the cooperation of countries affected. The construction of the Kambarata and Rogun HPPs, the largest of all the hydro complexes planned in Central Asia, is one of the key projects in the development of the participating countries' energy potential. Completion

of these HPPs is very important for the future economies of the countries. However, under certain circumstances, the implementation of these projects could have a negative effect on the economies of neighboring downstream countries (Kazakhstan, Uzbekistan and Turkmenistan), especially with regard to the productivity of irrigated agricultural land. The political situation in the whole Central Asian Region is therefore at stake. Given the lack of effective strategies for resolving the issues of joint water utilisation, and the limited finances of the region's countries, the development of the energy potential of the Syr-Darya and Amu Darya rivers basins seems a distant prospect without the participation of the international community.

The weight of the international community is becoming an important factor in cooperation. When regional cooperation institutions are weak and domestic funds are not sufficient, the support of the international community becomes vitally important for Central Asian countries. Clearly the upstream countries need to bring in external funds if they are to build an HPP on their territory. The involvement of international financial institutions will reduce the cost of leveraging this money, and is an incentive for individual investors with respect to the whole project. The downstream countries, meanwhile, can appeal to international organisations to protect their interests if they fear they could suffer damage as a result of the implementation of upstream hydro energy projects.

International law demands concerted action in the development of the hydro energy potential of transboundary rivers. Therefore, according to international law, an upstream country is prevented from exercising absolute sovereignty over available water resources.

According to provisions laid down by international organisations, countries have to reach an agreement before taking decisions to implement hydro energy projects on transboundary rivers. International agreements on financing hydro energy projects adopted by international financial institutions require participating countries to follow standard procedures as a compulsory precondition for the construction of an HPP in Central Asia.

The international practice of implementing joint projects on transboundary rivers has established a standard set of procedures: preparation of the correct project-scope documentation (feasibility report and ecological impact assessment), notification of the countries located on the river about the project and consultation and negotiation with them, which implies mandatory cooperation between countries with regard to hydraulic construction.

The project-scope documentation being presented to neighboring countries must include complete specifications so that the region's countries can evaluate the possible consequences of the planned construction of the HPP. In addition, neighboring countries must also be provided with the results of ecological impact assessments. To enhance the objectivity and

reliability of the data presented, the study and ecological evaluation of the project should be conducted in partnership with independent experts and representatives from other countries in the basin. These requirements are currently in effect for the projects under discussion.

Cooperation between countries in the construction of hydro projects is dependent upon *timely notification of other countries in the river basin of intention to execute a project*. This obligation is laid down in the Helsinki Rules for the Utilisation of Water from International Rivers and the UN Convention on the Law on Non-Navigational Utilisation of International Rivers. The World Bank requires notification as one of the obligatory elements of financing hydro energy projects.

If the region's countries have objections to the construction of the HPP under these international obligations on cooperation (if any), and which are acceptable according to international water legislation, the countries which are planning to implement the hydro energy project must open *consultations with the countries located on the river*, study the issues raised by those neighboring countries and propose a solution that would take the concerns of these countries into account. The countries in a transboundary river basin should negotiate with the aim of resolving the problems of the HPP's construction.

By following an action plan, the region's countries have a basis for cooperation with regard to the development of a hydro energy project. Generally, the responsibility to cooperate is incumbent on all the states, and must be observed in all areas of international relations, including those related to transboundary water resources. Otherwise, the implementation of hydropower projects in the region will be at risk, and if downstream countries decide to apply economic pressure via trade sanctions, increased transit fees for freight crossing their territory, etc., this will strain relations between the countries.

These guidelines should also be followed prior to a decision being made on the construction *of the Sangtudin HPP-1 and HPP-2* on the river Vakhsh. As these projects do not greatly affect the flow of the Amu-Darya, the downstream countries did not formally object to it. However, it seems likely that the downstream countries reached their own conclusions Tajikistan's intentions to implement the Rogun HPP project in the same way, and this led to a sharp exchange of rhetoric at the August summit of the SCO in Bishkek (2007).

The Kambarata and Rogun HPPs are the first joint hydro energy projects undertaken in Central Asia. It is vital that the correct procedures relating to HPP project coordination in Central Asian countries are followed since this will be the precedent in the whole process of integration. Furthermore, experience of this kind can inform the decision-making process for other hydro energy installations in the region, and will promote trust and cooperation in the Aral Sea basin. This approach will facilitate the process of attracting international financial

institutions, donor countries and private investors to projects which are accelerating the development of the rich hydro energy potential of Central Asia, establishing a common energy market and ensuring a stable supply of electricity to foreign markets, thus increasing the profitability of the projects themselves.

4. Appendix. International Cooperstion in the Sphere of Transboundary Water Resource Regulation

(1) Utilisation of Transboundary Rivers: International Experience

When countries become interdependent with regard to water supply, cooperation between them is essential. Up to the present day, more than 3,600 multilateral and bilateral agreements have been struck relating to rivers and watercourses. Since the middle of the 19th century, no less than 400 agreements have been drawn up regulating the utilisation of water as a natural resource. The Convention on Navigation on the River Rhine (1868), the Border Waters Convention between Mexico and the USA (1889) and the Border Waters Convention between the USA and Canada (1909) are considered to have been the first attempts to legislate on the exploitation of transboundary rivers.

The regulation of transboundary rivers can be governed by the universally accepted principles of international law, and by special agreements between the countries supplied by the river itself. Fundamental principles such as sovereignty, equality, territorial integrity, international cooperation, etc., define the relationships between nations in many areas, including in the sphere of joint utilisation of transboundary river resources. These shared principles should facilitate the transition from national policy and unilateral action to a shared strategy and multilateral cooperation.

Competing demands on water resources led to the creation of agreements on international rivers which define relations between the users of these rivers. These include industry, agriculture, people, dams, reservoirs and hydropower plants. The increasing pollution of rivers by industrial waste led to the inclusion in agreements of measures to prevent pollution of international aquatic resources. There is an increasingly urgent demand for the public to participate in the management of international rivers, especially with respect to the reduction of poverty and gender inequality.

(2) The History of International Water Legislation

The first attempt to establish common rules for the utilisation of international watercourses came in 1923 with the League of the Nations (the predecessor of the United Nations) Convention on Hydro energy from Watercourses Significant to Several States. The convention came into force on June 30, 1925, but was not observed widely. The last ratification of the Convention was in 1940, when only 11 countries signed up to it.

Today, the utilisation of transboundary rivers is regulated by the following international treaties:

• The Helsinki Rules on the Utilisation of Water from International Rivers

• The Convention on the Law of Non-Navigational Utilisation of International Rivers

• The Convention on the Protection and Utilisation of Transboundary Rivers and International Lakes

• The Convention on Environmental Impact Assessment in a Transboundary Context

The Helsinki Rules for the utilisation of the waters of international rivers (1966) was a relatively successful systematization of international legal instruments governing the development of the water resources of international rivers. This document was prepared by the Association of International Law (AIL) and took 22 years to draft.

The Helsinki Rules are only recommendations and are deemed to reflect international common law emerging from the interaction between nations. In many respects they became the basis for a large number of bi- and multilateral agreements, and they regulate utilisation modes and the protection of water in "an international water basin". The basis of legislation on the water resources of a single river basin is *the principle of "reasonable and fair use*" according to which each of the states bordering the river has the right to receive a reasonable and fair share of benefit on their territory from the use of the waters of this basin. *This principle refutes unrestricted territorial sovereignty with respect to the waters of transboundary rivers*.

It is assumed that "a fair share" means each country of the basin deriving the maximum possible benefit from this water, using it to meet the needs of its economy and society (even if the countries are not able to use the water in the most efficient way) in a manner which causes minimal prejudice to others.

The parameters of "reasonable and fair" use should be defined by the evaluation of all factors influencing the water supply, including hydrographic, hydrologic and climatic conditions, utilisation of the waters in the past and in the present, the economic and social needs of each state in the basin, etc. In this way, no individual form of water utilisation will be deemed to have an automatic priority over any other form of use.

The Helsinki Rules contain provisions relating to the prevention and control of pollution, river navigation, timber rafting, and for the prevention and resolution of international disputes arising in connection with the rights or other interests of the basin countries.

Water relations have continued to evolve, and thus the practical relevance of the Helsinki Rules has diminished. However, they remain

an important resource of international law for experts in the field of international water resources.

The first universal document which set out to determine how international regulations on the utilisation and protection of international water resources, including the Helsinki rules, should be applied, was *the Convention on the Law of the Non-Navigational Uses of International Watercourses*.

This Convention was approved by the General Assembly of the United Nations on May 21, 1997, and is still open to signatories. At the 51st Session of the General Assembly, 103 states voted to adopt the Convention, three countries voted against (China, Turkey and Burundi) and 27 states abstained. However, as at May 20, 2000, it had not been ratified by 35 states and therefore the Convention has not come into force. At present, the Convention is still open to signatories. By the end of 2006 it had been signed by 16 states, and ratified by only nine countries, therefore *it is highly unlikely that the Convention will come into force in the near future*.

Nevertheless, it is the most comprehensive document in its definition of international water law, and its regulations, especially the principles of fair and reasonable use and causing minimal prejudice to others, which are applied even by non-member states. However, even if the Convention were validated, its provisions would only be obligatory in those countries that adhere to it. The convention does not establish any system for the enforcement of its content, except for possible redress in the UN International Court. However, since its creation in 1946, the court has examined only one case concerning the utilisation of international watercourses. This involved a dispute between Hungary and Slovakia regarding the Gabchikovo-Nadmarosh project on the River Danube.

The provisions of the Convention act as a general framework for agreements relating to certain rivers which are used by two or more countries.

Despite the fact that there are no universal agreements at the global level for utilisation of the resources of international rivers, there are regional agreements in Europe, Latin America, the southern part of Africa and other regions. The most comprehensive of these is *the Convention of the Economic Commission for Europe of the United Nations (UN ECE) on the Protection and Utilisation of Transboundary Rivers and International Lakes*. This Convention was signed by 25 UN ECE member countries in Helsinki in 1992 (so it is frequently referred to as the Helsinki Water Convention). It came into force on October 6, 1996, having received a sixteenth ratification, adoption or statement of intention to join.

The aim of the Helsinki Rules is to establish the legal basis for cooperation in the protection and rational utilisation of transboundary waters in the region. The UN ECE has been joined by the countries of Europe, North Africa, Central Asia and Israel. Today 34 states and

the European Union adhere to the Convention. Of the Central Asian countries, only Kazakhstan and Uzbekistan have joined the Convention up to now (August, 2007).

The purpose of the Helsinki Water Rules is to protect of transboundary watercourses (including surface and underground waters) and it has two categories of obligation. The first category covers general obligations and applies to all the states that adhere to the Convention. In this part, the guiding principles are related to safety, the penalisation of polluters and the sustainable utilisation of water resources. The second category of rules covers the countries which border the river (the Convention signatories which have common transboundary waters). The major responsibility of the countries who share the river is the conclusion of bilateral, multilateral or other agreements related to the rivers they share, the establishment of supranational authorities to collect and evaluate data on pollution, and the development of joint programs to monitor the quality of transboundary waters, establish limits for waste dumping and the criteria for water quality, and initiate a coordinated action plan to reduce pollution.

Part III of the Convention, called "planned measures", contains a number of recommended procedures relating to activities in one state that can have significant adverse consequences for other states which use the international waters.

The legal content of the Convention is constantly evolving, for example, through the adoption of obligatory international regulations, reports and other advisory normative documents that supplement the Convention.

Transboundary environmental impact assessments in the UNECE area are regulated *by the UNECE Convention on the Assessment of Environmental Impact in a Transboundary Context*, signed on January 25, 1991 and validated on September 10, 1997. According to the Convention, which is commonly called the Transboundary Environmental Impact Assessment Convention, the environmental impact assessment procedure should be undertaken on at least 17 areas of activity.

In the course of developing its Environmental Impact Assessment Convention, the UN also drafted *the Protocol on Strategic Ecological Assessment* (signed on May 21, 2003 by representatives from 36 member states of the UNECE and the European Union). According to the protocol, "the Strategic Ecological Assessment" (SEA) is an assessment of probable ecological consequences, including those related to health. It also defines of the scope of an ecological report and its method of preparation, which must involve the public. The report states that an ecological impact assessment of any plan or program must be completed before a decision can be made about proceeding with these plans or programs.

The protocol states that it is particularly important to carry out a SEA on water conservation programs which establish the basis for licensing such projects in the future.

Today, ecological impact assessments are also carried out in the Central Asian countries. However, before making a final decision on the construction of large hydro energy complexes in international waters, countries must also consider the provisions of the Convention on the Assessment of Environmental Impact in a Transboundary Context and the SEA Protocol.

Among other international legal instruments which apply to transboundary river projects in the states of Central Asia, the following UNECE conventions are perhaps the most worthy of note, i.e., the Convention on the Transboundary Effects of Industrial Accidents and the Convention on Access to Information and Public Participation in the Decision-Making Process and Access to Justice in Environmental Matters. The Water Directive of the European Union is also of international importance.

The UNECE Convention on the Transboundary Effects of Industrial Accidents was signed in Helsinki on March 17, 1992 and came into force on April 19, 2000. The convention does not apply to dam collapse, but does contains a number of obligations with respect to notification, cooperation and mutual aid following industrial accidents. These obligations can be included (with modification) in agreements on the construction and exploitation of large dams located on international watercourses.

The UNECE Convention on Access to Information, Public Participation in the Decision-Making Process and Access to Justice in Environmental Matters was signed on June 25, 1998 in Aarhus (Denmark) and came into force on October 20, 2001. The Aarhus Convention established the rights of the public to participate in the drafting and implementation of ecological policy. According to the Convention, ecological information should be accessible to the public, whose opinion should be sought as part of the decision–making process. The provisions of this convention can also be applied to hydro energy projects on international watercourses.

The framework *Water Directive of the European Union* (Directive 2000/60/EC of October 23, 2000) is an important supplement to international legal instruments, although it does not have legal significance for non-member countries of the European Union.

The purpose of the Directive is to establish a uniform legal and organisational framework for the protection of surface, underground and coastal sea waters in European Union countries. It consolidates territorial, sectoral and issue-related actions and legal instruments. The directive is based on the principle that an integrated approach to water resource management should be applied in each river basin and establishes the basis for coordinating the activities of countries located on the European rivers.

The Framework Water Directive may also encourage the drafting of more comprehensive water resource regulations and facilitate greater

international cooperation in water-related matters beyond the European Union.

(3) The Construction of Large Scale Hydro Complexes and the Role of International Financial Institutions

Less developed countries are often unable to exploit their hydro energy potential because they do not have the funds to build HPPs. Loans and credits for such projects are limited in the international market by the somewhat strict legal and ecological requirements which financial institutions apply to international water projects.

In general, investment in water conservation infrastructure has fallen significantly since the mid-1990s. International financial establishments all but abandoned their support for new, large-scale hydro energy projects in developing countries in the face of pressure from organisations and the public who believed that huge dams and reservoirs cause irreparable damage to the environment and can have serious negative social consequences. *The construction of large-scale dams* (dams with a height of over 15m are classified as large-scale dams by the International Commission) *continues*, however, *in countries which have used external funding in order to finance them*. Several years ago, China built 245 large dams, India – 475, Iran – 88, Turkey – 230 and Japan – 1.102.

The report *of the World Commission on Dams* (created in 1997 with the support of the World Bank and the International Union for the Protection of Nature) called "Dams and Development" (2000) emphasizes the huge importance of dam hydro-installations in generating electricity, developing irrigation agriculture, preventing flooding and droughts and improving water supply. Although the construction of a hydro-installation is frequently considered to be highly economically advantageous, there is still the caveat that if all vital precautions are not followed, many water conservation projects, including dams and reservoirs, can be harmful to the environment and can have negative social consequences. The report was instrumental in reviving interest in hydro energy and in changing the attitude of international financial institutions with regard to investing in large hydro complexes with dams located on internal and international rivers.

The World Bank contributed to the funding of several large hydro energy projects on international rivers. The most well known of these is the construction in the 1960s of a series of dams and canals to divide the river Indus between India and Pakistan. However, owing to the lack of agreement on such projects between countries bordering the rivers, the World Bank refused to finance projects such as the Asun dam on the River Nile in Egypt and the Yusef Pashi dam on the River Euphrates in Syria, the implementation of which would have affected the utilisation model of the rivers in question.

Long-running disputes between countries regarding the utilisation of the resources of a number of international rivers, and the lack of precise

and unequivocal international laws, led the World Bank to conclude that it should adhere to very strict criteria when financing projects on international rivers. In 1956, the Bank adopted the Guidelines for Bank Personnel on Issues Relating to Projects on International Rivers. These have been reviewed several times since then, reflecting trends in the evolution of international water legislation. The latest revision of the Guidelines was in 2001 in the light of provisions incorporated in the UN Convention on the Law of Non-Navigational Uses of International Watercourses adopted in 1997.

In the process of considering funding applications for projects located on international watercourses, the Bank firstly verifies whether countries bordering the river have drafted all necessary agreements relating to the whole watercourse or any of its parts. If there are no such agreements in place, the Bank is often prepared to assist the relevant parties in preparing them. If disputes between the state which is proposing the project (the beneficiary state) and other countries bordering the river cannot be settled, before allocating any funds to a project, the Bank requires that the beneficiary state acts as the initiator of negotiations with the other countries on the river in order to reach necessary agreements or arrangements.

If existing agreements between the countries located on the river as to the terms on which the river is to be shared are deemed to have inadequate provision for the possible consequences of the project, the Bank requires that changes or additional agreements are drafted accordingly.

The Bank requires the beneficiary state to notify the other states bordering the river of its intention to execute the project located on the international river and to circulate available data. If the potential borrower informs the Bank of its refusal to notify other countries along the river, then the Bank undertakes this notification process. If the beneficiary state objects to this, the Bank refuses to consider the project.

The Bank also defines the scope of activity and the function of existing cooperation institutions regarding cooperation in the international water basin and the nature of the Bank's possible participation in the proposed project as a way of determining whether it is necessary to notify these other institutions.

If countries bordering the river object to the proposal, the Bank may appoint independent consultants to study the reasons for this. If the Bank decides to continue evaluating the project, the Bank informs the states on the river of its decision.

An exception to the aforementioned procedure is only made when changes to a project are relatively minor and do not involve actions that may expand the original project, change its nature or increase its scale so that it becomes, in practice, a new or different project. In addition, no element of the plans should have an adverse impact on the quality or volume of water flowing into other countries along the river, and

the project itself must not be subject to any negative effects of water utilisation in other countries bordering the river.

World Bank procedures relating to projects located on international watercourses also establish the approval process and other internal procedures of the Bank according to how countries along the river respond to the notification of the project they receive.

World Bank policy on projects located on international watercourses is based on the two principles enshrined in international law, i.e., the right to fair and reasonable use and the principle of causing minimal prejudice. The first principle is based on the premise that every country situated on the river has the same rights as any other to reasonable and fair use of international watercourses. The second principle is that all countries have the right to use the rivers within their territory only as long as that does not cause significant harm to other countries using the river. The principle of causing minimal prejudice has priority and is fundamental to the Bank's policy.

The principle of causing minimal prejudice, selected as the World Bank's fundamental criterion, does to a degree favor countries located downstream of international rivers. However, in the Bank's opinion, this principle is more easily and appropriately applied without diminishing the importance of the principle of fair and reasonable use.

The fundamental prerequisite to gaining World Bank financing for any project is the completion of an ecological impact assessment (EIA) which proves that project's ecological integrity and sustainability and takes into account all potential social consequences.

Securing World Bank financing for projects located on international watercourses, or for even a small part of such projects, opens the door to further investment from other sources, since the project will then be considered to have met international legal requirements. Investors do not need to assess the project for themselves because they trust the conclusions of the World Bank.

Over the last 15 years, the World Bank has not participated in the financing of any new hydro installations on international rivers and only recently granted a modest loan to the Nam Teun II HPP on the Nam Teun international tributary of the river Mekong in Laos.

The World Bank is known to have tried to intervene in the resolution of disputes and in encouraging cooperation on the shared utilisation of international watercourses in various parts of the world. In particular, the Bank has supported moves by the Central Asian states to mitigate the effects of the Aral Sea crisis. Backed by the International Fund to Save the Aral, and making use of its presence across Central Asia, the Bank helped to prepare and finance part of a major project to ensure the safe supply of drinking water in Central Asia. The participation of the World Bank in these projects has enabled them to secure finance from other international financial institutions and donor countries.

Furthermore, in 2002-2004, acting on a request from the Organisation of Central Asian Cooperation (OCAC), the World Bank conducted relevant studies and published a Draft Proposal for the Creation of the International Hydro Energy Consortium, whose functions would include the development of the hydro energy potential of the transboundary rivers of Central Asia. Although this proposal was widely approved by the Presidents of the OCAC member states (Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan) in October 2004, no further measures to set up the consortium were undertaken.

The *Asian Development Bank's* program entitled "Water for All: the Asian Development Bank's policy on Water Resources " identifies the promotion of regional cooperation as its primary goal. Emphasis is placed on supporting activities to regulate transboundary water resources, creating the mechanism for cooperation, the evaluation of resources and the exchange of information. With regard to projects on international rivers, the ADB generally follows the operational policy and procedures of the World Bank.

In 2003, the ADB allocated USD 0.7 million to the Central Asian states to improve the regulation of transboundary watercourses. With this financial assistance, work to prepare several regional agreements on water resources is under way. The Draft Agreement on the Utilisation of the Water and Energy Resources of the Syr-Darya River Basin is also in preparation thanks to this money, and it has helped to support the recently created commission of the Republics of Kazakhstan and Kyrgyzstan on the utilisation of water conservation installations as part of their joint exploitation of the Chu and Talas Rivers.

Since the mind-1990s, neither the ADB nor the World Bank have granted loans for the construction of new hydro energy units on international rivers. After a long interval, in April 2005, the ADB issued a credit to Laos to finance the construction of the Nam Teun II HPP.

The European Union finances a small number of projects beyond its borders. Credit is extended via the European Investment Bank, which usually acts as co-investor in a project together with other financial institutions. For example, the European Investment Bank is part of the consortium of investors in the Nam Teun II HPP.

In selecting projects to finance, the European Investment Bank requires that the project should be subject to thorough ecological audit.

The Islamic Development Bank (IsDB), in which all the countries of Central Asia have interests, is considered as one potential source of financing for international river projects. The purpose of the IsDB is to assist in the economic and social development of the IsDB member states and Muslim communities according to Shariya principles. The IsDB's international legal and ecological requirements with regard to projects on international rivers may be different from the those of the World bank and the ADB.

Developed countries, including the USA and the European countries, adhere to the stipulations of the World Bank regarding participation in financing projects on rivers. The commercial banks of these countries may apply a more flexible approach. In the case of the Nam Teun II project, nine European commercial banks and seven commercial banks in Thailand created a consortium to invest more than USD 1 billion even before the World Bank, the ADB and the European Investment Bank had issued loans to Laos for this project. The determining factor was a long term agreement between Laos and Thailand that the latter would purchase almost all the electricity generated by the Nam Teun II HPP.

When countries and commercial banks make investment decisions regarding hydro-units on international watercourses without following the formats and procedures of the World Bank strictly, they nevertheless remain prudent, to ensure that their participation in the project does not complicate relations with other countries situated on the river.

(4) Examples of cooperation between countries in developing the hydro energy potential of transboundary rivers

There are many examples worldwide of successful cooperation in the regulation of shared water resources which has benefited all participants. European Union countries improved the quality of water resources through cooperation; joint programs in Southern Africa were hugely beneficial for Lesotho and improved water quality in southern Africa; Brazil and Paraguay have developed their electricity industry jointly. Meanwhile, Central Asian countries have borne huge losses in agriculture and power generation because of their failure to cooperate. Experts confirm that even very large scale investment in the development of the hydro energy potential of the Syr-Darya and Amu-Darya would pay for itself in the relatively short term providing the operating models of reservoirs are coordinated, thus deriving the maximum benefit from stable agriculture and electricity generation. The damage wrought by floods and droughts will decrease, the quality of drinking water will improve and the ecology of the Aral Sea Basin will be stabilized.

However, experts and politicians also fear the prospect of war over water resources. During the last 50 years, according to the UNDP, there have been 39 such conflicts (30 of these in the Middle East), many of them only minor confrontations. Over the same period, at least 200 contracts have been signed regarding water resources.

There are examples of cooperation over water resources which are of particular interest to Central Asia given the similar context of their execution.

The Division of the River Ganges between India and Bangladesh. The source of the river Ganges is in Nepal in the Himalayas. The length of the river is about 2500 km, the total area of the drainage basin, 1090 thousand km2. The flow of the Ganges is estimated at 380 km^3, which

falls to about 15 per cent of this figure is during the dry season (January-May). The area of irrigated land in the Ganges river basin exceeds 14 million hectares, the majority of which is in India. More than 400 million people live in the Ganges river basin.

In the face of violent objections from Pakistan (and Bangladesh, since 1971), in 1961, India began the construction of the Farraka Barrage, 18 km from border of Eastern Pakistan, and a series of installations to divert the flow of the Ganges via a 38 km channel to the river Hooghly (a branch of the river Ganges) on which Calcutta, India's largest port is situated. The project was conceived as a means to improve Calcutta's water supply, to maintain navigable depths in the river Hooghly during the dry season, and to irrigate land in the state of West Bengal. Since 1976, water has flowed through this channel at a rate of 1130 m^3/second. The volume of water flow was about 10 per cent of the annual flow of the Ganges. During the dry season Bangladesh suffered acute shortages of drinking water and water for irrigation because of the dramatic reduction in water flow during this period.

Bangladesh raised the issues of water division at many international conferences, but the crisis was only addressed in 1996 after new political parties came to power in both countries and the 30-year Contract on Division of the River Ganges was signed. In this case, the political will and aspiration of the governments of both countries to improve mutual relations between their countries resulted in the conclusion of agreements and an easing of tensions.

The Utilisation of Water Resources in the River Euphrates Basin. Turkey built the Ataturk complex to generate power and for irrigation. It was the largest international upstream project on the river Euphrates, build in spite of vociferous protests by the downstream countries – Syria and Iraq.

The river Euphrates (with an average annual flow of 36 km^3) and the river Tigris (49 km^3), merge into the river Shatt-al-Arab, and their tributaries are the vital arteries of Western Asia. The upstream waters flow into the arid southern zone via these rivers, bringing life to the deserts of the Middle East. More than 100 million people live in the basins of these rivers, which cover an area of 780 thousand km^2.

The economically under-developed regions of Turkey are located upstream and midstream of the Euphrates and Tigris rivers. These areas are mainly populated by Kurds, who wish to create an independent Kurdistan. In the late 1970s, the Turkish government began implementing the South East Anatoly regional development project. The purpose of the project is to develop the economy of the area in order to reduce the separatist tendencies.

The project covers 10 per cent of the country and with public investment of USD 32 billion is the Turkey's largest national investment

program. By 2004, about half of this money had already been invested. The project includes the construction of 22 dams and 19 HPPs, and an expansion of irrigated land by 1.7 million ha. The core element of the project is the Ataturk hydro-electric plant on the river Euphrates, which has been operating since 1993, and which is of huge importance not only for Turkey but also for the downstream countries of Syria and Iraq.

Prior to the Ataturk project, Turkey had constructed the Keban hydro plant (1974) and the Karakaya hydro plant (1988), which had had a very limited effect on the flow of the river Euphrates, and had not caused noticeable problems for other countries on the river. The Ataturk unit, worth USD 4 billion, consists of a 184m-high stone-clad dam creating a reservoir of almost 20 km^3, a HPP with installed capacity of 2400 MW and installations for irrigation outflow. The capacity of the reservoir exceeds half of the annual drain of the river Euphrates and allows the complex to regulate the long-term flow and the hydrological models of the downstream part of the river.

The Euphrates was dammed in January 1990 to fill the reservoir and for 27 days no water was allowed into the lower reaches of the hydro complex. The volume of water flowing into Syria and Iraq was drastically reduced. During this period, relations between Turkey and Syria became extremely tense. Syria and Iraq protested, and negotiations resulted in Turkey declaring that the flow of the river at the Turkish-Syrian border would be maintained at the level of 500 m^3 per second, or 15.75 km^3 per year, which is only half the flow of the river.

Syria and Iraq have accused Turkey of illegal unilateral use of the Euphrates and Tigris rivers, without giving them prior notification of new projects, and they have proposed that water distribution quotas are established so that each country may use about one third of the flow. Turkey has made reference to the fact that about 98 per cent of the flow of the river Euphrates is generated in its lands, and believes that it can therefore take all the water for its own needs. To support its position, Turkey also claims that its share in the utilisation of river waters is a little over 50 per cent.

As the project evolved, the attitude of international financial institutions towards the financing of its construction changed. The Keban hydro complex, completed in 1974, was built exclusively for electricity generation with a 1330 MW HPP located upstream of the river. It was financed by the European Investment Bank and the governments of the USA and some European countries, without any complications. However, the Karakaya hydro unit, located lower down the river, with a 1800 MW HPP and irrigation drainage installations, took much longer to attract external investment and was built only in 1988.

Meanwhile, efforts continued to secure financing for the Ataturk unit, located further down the HPP series. The World Bank refused to participate in financing the project because of disagreements between

the countries in the region and the danger that it could have a negative impact in downstream territories. Nevertheless, the Export and Import Bank of New York and a West German bank lent USD 111 million dollars to the construction of the hydro unit, and a group of European banks allocated credits of about USD 400 million in the form of "tied" contracts for the purchase of equipment. The majority of funds for the complex, built in 1990, were advanced by the Government of Turkey and commercial organisations in the country.

The next unit to be built was Bicherek, which was completed in 2001. It was financed by international consortium via the WOT scheme. The construction cost of the hydro unit, which includes a 672 MW HPP, is estimated at USD 1.2 billion.

Development of hydro energy potential in the upstream waters of the river Mekong, China. The river Mekong is the longest and most abundant river of Southeast Asia. It is about 2600 km in length and its estimated average annual flow is 475 km^3, 16 per cent of which flows from China itself.

The downstream waters of the Mekong are used for the cultivation of rice. The estimated hydro energy potential of the River Mekong Basin is 53 million kW, of which around 30 million kW could be generated in four countries of the downstream Mekong basin (Vietnam, Laos, Cambodia and Thailand). In these countries, the total installed capacity of HPPs on tributaries of the Downstream Mekong is about 1.6 million kW, or 5.3 per cent of the hydro energy potential. The construction of several large HPPs in the main valley of the Downstream Mekong was, but for various reasons these projects have not been realized.

The estimated hydro energy potential of the upstream Mekong is 23 million kW, which China began to exploit in the 1980s. At present, on the main river, the HPPs in operation are the Manwan (1500 MW) and the Dachaoshan HPP (1350 MWt). The second largest HPP of the series, Xiaowan (4200 MWt), and the Jinghong HPP (1500 MWt) are under construction. The construction of four further HPP units with a total capacity of 7000 MW is planned.

The first two hydro units to be completed were financed domestically with no external resources. However, the construction of the Xiaowan and Jinghong HPPs was partially financed by Thailand through credit which will be partially repaid in electricity from these stations.

China began building the series of hydro power units without notifying or consulting other Mekong basin countries. In the downstream countries, objections to the construction of the series were especially intense during the drought of 2004, when the construction of two upstream reservoirs led to a drought in the downstream areas. Recently, the countries have relaxed their opposition. There have been appeals for cooperation between China and the Mekong Commission, and requests that rules

be drafted governing the exploitation of the series of upstream HPPs. Plans for downstream power projects are being studied, and international organisations and donors are apparently willing to allocate funds for the further elaboration of and feasibility reports on these plans. However, donors do not seem to want to finance the construction itself because not all countries are in agreement on certain issues.

11 Chronicle of Eurasian Regional Integration 2007

Nazira Tiuliundieva

Institutional Integration

Major events of political and economic integration in the region took place in the second half of the year. October 2007 signified several important political initiatives and cardinal decisions taken in accordance with the results of the summits, sessions and meetings of integration agencies, which were held in the FSU countries. The Heads of the CIS countries were also active in reaching certain important conclusions and in tackling different decisions in an economic and political way. In Dushanbe, the capital of Tajikistan, on 5-6 October 2007, the "trilateral summit" meeting of the leaders of the CIS countries (Commonwealth of Independent States), Eurasian Economic Community (EurAsEC) and Collective Security Treaty Organisation (CSTO) took place. On the 16th of October 2007 in Tehran, the Summit of Caspian States was held. Later, on the 17th of October in Almaty, a meeting of a committee of senior officials was held at the *Conference on Interaction and Confidence-Building in Asia* and was devoted to the 15th anniversary of the forum initiated by the President of the Republic of Kazakhstan, Nursultan Nazarbayev.

The key decisions taken as a result of the summits are the basis for the real integration of the countries. First of all, they relate to the establishment of the Customs Union within EurAsEC, the MoU concluded between CSTO and Shanghai Cooperation Organisation (SCO), Russia's initiative on the sale of the Russian arms and special machinery to CSTO countries at the local prices, and the adoption of the Declaration from the Summit of Caspian States where the parties have undertaken not to provide their territories to any third-party countries for aggression against any of the littoral states.

The involvement of new countries into the management process of the activity of integration unions and entities is an important factor in institutional integration. The change of the General Secretaries of EurAsEC and CIS, Kyrgyzstan's chairmanship at the next CIS summit, as well as at the CSTO session in 2008, and Tajikistan's chairmanship in EurAsEC can all be labled as evidence that the interests of small, non-key countries in the integration organisations have started to be more widely considered.

EurAsEC Summit

The most important conclusion of the **EurAsEC Summit** on 6 October 2007 in Dushanbe was the decision to establish the customs union between Russia, Belarus and Kazakhstan (for details see *Establishment*

of the Customs Union). With this, the important issue was the decision on the establishment of the legal base of the Customs Union[1] and the signing of the package of documents concerning it. The Presidents of Kazakhstan, Russia and Belarus signed the treaty on the establishment of the Customs Union, its commission and the unified customs territory[2]. The signing and ratification of additional agreements is expected to be completed in 2010.

Another important outcome of the EurAsEC Summit in Dushanbe was the **change of the Secretary General** of the organisation. Instead of Grigoriy Alexeevich Rapota, the new General Secretary Tair Aimukhametovich Mansurov will represent the organisation. T.A. Mansurov is Kazakhstan's representative and he was appointed this post on 6 October 2007. Born in 1948, he graduated from the Kazakh Polytechnic Institute, Higher Party School in Moscow, with a PhD in political sciences. After the institute he worked according to his specialty: he was a concrete worker, an engineer, and then a senior engineer in the construction division "AlmatyCentroStroy". He was also a manager in the public administration agencies in Almaty, Karaganda, and Moscow. From 1994 to 2002 – Extraordinary and Plenipotentiary Ambassador of Kazakhstan to Russia; from 1996 to 2002 – Extraordinary and Plenipotentiary Ambassador of Kazakhstan to Finland (jointly); in 2002-2003 – ambassador at large (MFA RK), advisor to the President of Kazakhstan. From 2003 to 2007 he was the *akim* of North-Kazakhstan Oblast.

The summit of the Eurasian Economic Community set further objectives for the organisation's activity. The activity of EurAsEC agencies for 2008 will be aimed at the establishment of the Customs Union and the Single Economic Space. This is mentioned in the **budgetary statement** of the EurAsEC Inter-State Council "On Budget Policy for 2008", which was approved by the heads of the Community's membercountries. The statement notes that one of the objectives in the Community's further development in 2008 will be to further elaborate on inter-state target programmes for the establishment of the unified transport territory, the common energy market and the efficient use of the water and power resources of the Central Asian region. Included amongst the main priorities of EurAsEC are: the development of peaceful use of nuclear power, progression in the fields of modern science and technology, information technologies, biotechnologies, nanotechnologies, microelectronics, alternative power sources etc. EurAsEC will aim to continue working on the development and improvement of cooperation in the social and humanitarian area and in the area of migration policy. As the budget statement mentions, the budget policy in 2008 "must be implemented with the consideration of the basic activity directions of EurAsEC in the real economy sector

[1] *Resolution No. 346 "On Establishment of the Legal Base for the Customs Union within EurAsEC" (http://www.evrazes.com/ru/main/infopage/190/).*

[2] *Resolution No. 1 "On Establishment of the Legal Base for the Customs Union within EurAsEC" (http://www.evrazes.com/).*

and must support the deeper economic integration of the Community's member states". In 2008 the budget policy, with regard to revenues, will be aimed at the current and full payment of the countries' shares to the Community's budget in accordance with the obligations outlined, as well as at not letting them fall into debt. With regard to expenses, it is necessary to use the Community's budget funds strictly according to the target use, including the financing of EurAsEC agencies, interstate target programmes and investment projects. As mentioned in the document, great significance in the financing of investment projects and programmes will achieved by cooperation with the Eurasian Development Bank. The statement highlights that "at the same time it is necessary to observe the principles of transparency when spending the budget of funds". The document also states that due to the integration of CACO in EurAsEC and the Republic of Uzbekistan joining the Community, the EurAsEC budget in 2006 will increase from 109 million to 145.4 million Russian roubles. In 2006 the growth of the member states' economies continued, and practically all of the basic social and economic indicators improved. Thus, gross domestic product increased in comparison with 2005 by 7%, production of consumer products by 4%, and production of agricultural products by 3%. According to a preliminary assessment, mutual trade constituted 70 billion USD.

Session of the Collective Security Treaty Organisation (CSTO) Security Council

A Session of the CSTO Security Council was held on 6 October 2007 in Dushanbe. During this CSTO Session the heads of the membercountries (Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia, Tajikistan and Uzbekistan) approved the package of documents on joint peacemaking activity, and came to an agreement on the development of the military-economic cooperation. According to the results of the session, the decision was reached to establish two coordination councils: on the fight against illegal migration and on emergencies.

The MoU between the SCO Secretariat and CSTO was signed. In accordance with the MoU, interaction between the two organisations will be implemented in the following areas: provision of regional and international security, stability; counteraction to terrorism; fight against (and prevention of) illegal drugs and weapons trafficking; counteraction to organised transnational crime; and in other spheres that represent mutual interest. Thus, the CSTO countries set new priorities and extended their capacity, thanks to cooperation with SCO on security issues.

With regard to the fight against illegal migration, the member countries of CSTO intend to cooperate with EurAsEC. It was supposed that in the very near future, the coalition council of the heads of migration services would be established, and its tasks would include regulation of the labour migration, harmonisation of the countries' legislation and adoption of measures on prevention of illegal migration from third-party countries. Thus, the CSTO member-countries decided to focus their efforts

on separate areas of cooperation, with both SCO and EurAsEC having excluded duplication in the above-mentioned areas of interaction and thus encouraging enhanced performance of the organisation.

The main outcome of the CSTO summit was the **signing of the Cooperation Agreement on Security Issues with Shanghai Cooperation Organisation**. This document consolidates the common targets and directions of the bilateral activity of the international Eurasian organisations. According to this document, SCO and CSTO will now exchange information, hold consultations, lay out joint programmes and measures for the development of cooperation on securing regional and international security and stability, and aid each other in the counteraction of terrorism, illegal drugs and weapons trafficking, and transnational organised crime. The Cooperation Agreement between CSTO and SCO is aimed at the liquidation of duplicating agencies and the establishment of a unified security system from Belarus to China.

During the session of the Collective Security Treaty Organisation, Russia offered the member-countries the option **to buy Russian arms and special machinery** for their armed forces and special services **at local Russian prices**. Moscow also expressed the wish that other CSTO members – Armenia, Belarus, Kazakhstan, Kyrgyzstan, Tajikistan or Uzbekistan – should take more active roles in international peacemaking activities.

The outcome of the session was that the Declaration of the heads of the states was adopted, which developed the main conclusions of the organisation's aim in supporting peace and stability within the area of its responsibility, and which stated the priority directions of these activities. The CSTO document appeals for fulfillment of the obligations stipulated by international agreements, and for peaceful settlement of the Iranian nuclear problem. It also prevents the forced settlement of frozen conflicts. One of the key components in the agenda of the Session of the CSTO Security Council was the issue of establishing peacemaking forces. According to the Deputy Minister of Defense of Tajikistan Ramil Nadyrov, the establishment of peacemaking forces in the CSTO format will allow the Organisation's member-countries to take part in peacemaking operations under the banner of the UN – not only in the territory of the organisation's member-countries, but also in the territory of other states. A full package of the documents discussing the establishment of the CSTO peacemaking forces has already been coordinated. The General Secretary of CSTO Nikolai Bordyuzha expressed the opinion that the CSTO peacemaking forces could be positioned in South Ossetia and Abkhazia. So far it is expected that the peacemaking forces will take part in operations in accordance with UN mandates and will be used upon the decision of the CSTO Council. During the CSTO session Kazakhstan also offered a few initiatives. In particular, the President of Kazakhstan made the proposal to include the issues of ecological and power security into the list of issues, because they are transnational and directly relate to the interests of all member-countries. According to N.Nazarbayev,

the "provision for collective power security will be encouraged by the adoption of the Eurasian Pact of Stability of Power Supplies".

Initiatives in the area of provision for global power security were also mentioned by the President of Kazakhstan during the work of the 62nd Session of the UN General Assembly in New-York in September 2007, when the President of Kazakhstan stated his idea of developing the Global Power Ecological Strategy.

The Summit of the Leaders of Caspian States on October 16, 2007

Relying on dialogue to solve problems in the strategically significant post-Soviet territory – Caspian region – was a success during the summit of the leaders of Caspian States in Tehran, held on October 16, 2007. The Presidents of the five neighbouring states to the Caspian Sea: Russia, Iran, Azerbaijan, Kazakhstan and Turkmenistan discussed the most significant components of regional policy and the different approaches used in tackling the problems that were rising due to the legal status of Caspian Sea. A Joint Declaration was accepted following the results of the summit. Its signing became a critical point in the negotiations that have already lasted 12 years. The adopted document is not final, as the Convention on Legal Status of the Caspian Sea will become the full and official document.

The final declaration or "Pact of Political Stability" in the region, as the mass media dubbed it, consolidated the current political level agreements of the States on the general issues of the legal status of the Caspian Sea, such as the security and stability of the sea, and on the problems concerning the position of the Caspian States according to separate aspects of international relationships (consolidation of the role of the UNO, International Atomic Energy Agency, non-proliferation of nuclear weapons, international terrorism). The Declaration especially stresses the necessity to activate the negotiation process for these problems. As a result, the following decisions were taken: the Heads of the States agreed to conduct a summit once a year and to hold meetings on the level of the Ministers of Foreign Affairs twice a year. The Declaration also states that the Caspian Sea shall be used exclusively for peaceful purposes and that the five states should decide any problems on the sea using only pacifistic methods. In addition, they agreed on the establishment of expert groups to solve the problems of stability and safety, joint biological resources conservation, reproduction and preservation of ecological safety of the Caspian Sea.

In the process of the Caspian Summit, the President of Kazakhstan proposed to revise the existing mechanism of allocating quotas for biological resources, where Iran possesses 45%, Russia 27%, and Kazakhstan, Azerbaijan and Turkmenistan 28%. Moreover, the President of Kazakhstan pointed to the necessity of holding back the item discussion on free transit through the sea in the forthcoming Convention on the Legal Status of the Caspian Sea. In this case it concerns not only the vessels but also the transit of energy carriers. With this method, the

routes of the pipelines will be coordinated with the territories of the countries. The decision made by the summit's participants to deny the use of their territory to third-party countries for aggressive purposes against costal states became the main and strategic result of the summit. The appearance of this item in the text of the Declaration could be interpreted as a diplomatic success for Iran. The signed Declaration finally settled all the geopolitical claims of the world players. It actually forbids the presence of the West in the Caspian region.

Participants of the summit also raised questions concerning the establishment of new international routes to transport cargoes on the Caspian Sea and from the Caspian Sea to the Sea of Azov and the Black Sea. Particularly, the ability to develop the international "North-South" transport corridor was discussed.

One more important result of the summit was the agreement of closer economic integration for the five Caspian States. This fact is attested by the decision of the Heads of the Caspian States to conduct the Conference on Economic Cooperation in Russia in summer 2008, where they plan to discuss the problems of development of sea, railway transport, trade, tourism, biological resources conservation and reproduction. The next summit of the Caspian States will be held in Azerbaijan in 2008.

The proposal of the President of Iran, Mahmud Akhmadinezhad, to establish a new Caspian integration structure is symbolic. This proposal brings about the conclusion that mechanisms of problem solving in the process of integration meetings about the Caspian Sea are implemented. This fact clearly illustrates that the leading country-players of the region realise the need and potential that these integration structures have to solve unsettled, disputable intergovernmental problems within water area of the Caspian Sea, where geopolitical interests of leading world forces meet.

Conference on Interaction and Confidence-building Measures in Asia held on October 17, 2007

The meeting of the representatives of another integration union, in which coverage is wider than post-Soviet territory, was held on October 17, 2007. On October 5, 2007, 15 years after the day when the President of Kazakhstan, Nursultan Nazarbaev, initiated a meeting of the Conference on Interaction and Confidence-building Measures in Asia (CICMA) from the UN chair. Pursuant to the decision of the second summit of the Heads of the States and Governments of CICMA, the 5th of October was declared an official holiday – the Day of CICMA.

A solemn meeting of the Committee of senior officials of CICMA was held at the level of the Deputy Ministers of Foreign Affairs in Almaty. In the opinion of the Minister of Foreign Affairs of the Republic of Kazakhstan, Marat Tazhin, general efforts by CICMA achieved the next stage of its development – the execution of confidence-building measures among member states in humanitarian, economic and ecological areas, and in

the sphere of the struggle against new challenges and threats. The idea of calling the Conference on Interaction and Confidence-building Measures in Asia resulted in the establishment of a notable international forum, the area for the dialogue and search of mutually acceptable measures to find a solution to the problems and conflicts in the region. It is expected that the Conference on Interaction and Confidence-building Measures in Asia will soon receive the status of rightful observer under the UN General Assembly. Today the forum integrates 18 states, occupying 90% of the territory of Asia, and their population amounts half of the population of the Earth. Other countries also desire to become rightful members of the Conference. This fact is witnessed by the global community, which widely acknowledges the purposes and activity of CICMA.

The Summit of the States of CIS

The Summit of the States of CIS was held on October 5, 2007, and the result of this was that 17 agreements were signed. The Presidents of Azerbaijan, Armenia, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Uzbekistan and the Head of the Ministry of Foreign Affairs of Ukraine took part in the summit.

The prospective of the further development of the Commonwealth was one of the main agendas of the summit. It was agreed that one main theme would be chosen once a year. Migration became the first theme in 2007 (for more details see the section *Problems of migration in CIS*). It is evident that this is very considerable problem for all the states of the CIS, including the Russian Federation. An agreement was reached to establish a special body for coordinating positions on migration[3]. The Declaration on Coordinated Migration Policy of the States of the CIS was accepted.[4] Cooperation on security resulted in the adoption of draft legal documents.[5]

Georgia, Moldova, Azerbaijan and Turkmenistan refused to sign the Declaration on Coordinated Migration Policy. However, the document for the support of the **chairmanship of the Republic of Kazakhstan in OSCE** did not cause discord and was signed unanimously. The proposal of the Head of Kazakhstan for the establishment of the Economic Union of Central Asian states will be noted among the other initiatives of the Kazakhstan party in the summit held in Dushanbe. In the opinion of the President of RK, the necessity of such integration was caused by the requirement "to permit the strong 50-million region to establish an independent market, applying both economic and political means".

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[3] *http://www.cis.minsk.by/webnpa/text.aspx?RN=N00700505*

[4] *http://www.cis.minsk.by/webnpa/text.aspx?RN=N90700504#dekl*

[5] *Decision on the Program of cooperation of the member states of the Commonwealth of Independent States in the struggle with terrorism and other violent manifests of extremism for 2008-2010; Decision on Intergovernmental Program of joint measures to struggle against crime for 2008-2010; etc.*

The prospects of CIS development are rather multifaceted and diversified. It is not by accident that the heads of the states have insistently returned to the question of the model of further CIS developments during the last two years. In the process of the previous CIS summit held on November 2006, its Chairman, N.Nazarbaev, proposed the Concept of CIS Reforming, which included the understanding of the CIS as an independent space of post-Soviet integration. The Concept proposed then by the President of Kazakhstan, or as it was called during the October summit, the **Concept of Further Development and Improvement of the CIS**[6], and the **Plan for its Implementation** were the main items on the agenda for the October summit of the Commonwealth.

The affirmation of the concept of further development in the Commonwealth and the plan of main actions for its implementation is a significant step forward from dissociation and centrifugal trends to centripetal tendencies. The conception provides for the long-term successive reform of the CIS and is designed to transform the CIS into a capable organisation and to enable its future development. Today, the major purpose of CIS development is the formation of integrated economical and political association of interested states, providing effective development of every its participant in long-term prospective.

The majority of its participants, excluding the President of Georgia, M. Saakashvili, signed the documents of the summit. Turkmenistan also refused to sign the concept document, which reduced the level of its participation in CIS to associated membership some years ago. Azerbaijan took a special position on the problem of future CIS development. The President of Azerbaijan, I. Aliev, signed the concept of further CIS development but reserved special opinion. This means that Azerbaijan will participate in the execution of the document, but only selectively. Other states also keep to such practices, as membership in CIS does not assume any obligations.

Pursuant to the accepted concept, the increase in efficiency of the Commonwealth's activity will be the main purpose of the forthcoming CIS development stage. It will be required to achieve a singular understanding of the legal status of decisions of CIS agencies, and must be able to enable the states to execute taken obligations, and monitor their execution.

The concept provides for the evolutionary improvement of existing structures without abruptly breaking of what was already acquired, therefore keeping a wealth of experience. The main purposes of the Commonwealth, and the total vision of their achievement, and the mechanisms of the Commonwealth's functioning body and its organisational enhancement, are outlined in the concept document.

The main purposes of CIS development are:

- To support social and economic stability and international security;

[6] *http://www.cis.minsk.by/webnpa/text.aspx?RN=N90700503#kocep*

• To strengthen good-neighbourly relations between the member states of CIS, based on mutual respect of interests;

• To increase the competitiveness of the member states, to ensure their entrance into the global economy to achieve progress and prosperity in the territory of the Commonwealth and in the member states of the CIS;

• To achieve maximum efficiency in joint solutions of the problems caused by the globalisation, use its advantages;

• To increase the living standards and welfare of the citizens of the member states of the CIS;

• To contribute to the access of every member state of CIS to the World Trade Organisation;

• To oppose traditional and new threats and challenges;

• To develop cooperation in the humanitarian sphere;

• To implement basic international principles and standards in area of democracy and human rights;

• To bring together further national legislations of the member states of the Commonwealth in different spheres of multilateral cooperation, basing on admitted principles and regulations of international law;

• To provide efficient dialogue area on all the levels to implement above mentioned purposes and prepare the Commonwealth to new stages of advanced cooperation.

When elaborating the methods of further CIS development, the member states will proceed from the necessity to keep achieving and strengthen their existing positive experience. A new qualitative level of interaction will be reached gradually and step-by-step. The Commonwealth will be entrusted with a large volume of the work at every stage, which it should fulfill successfully in the interests of all the member states. With it, the diversified character of CIS unlimited with separate spheres of cooperation will be preserved. All new and existing spheres of interaction will be developed harmonically.

Priority directions of the activities of CIS such as: the development of economic integration, cooperation in the humanitarian sphere, and the provision of stability and security, are also affirmed in the document.

Today, economic cooperation is the top-priority task in the CIS. Fully-fledged trade and economic interaction of the member states of CIS is a necessary condition for the stable development of the states of the Commonwealth. Economic relations within the CIS will be based on market principals, mutual respect and mutual benefit. The economic purpose of the CIS on the current stage will become the completion of the formation of the free trade zone and its further improvement pursuant to the principles, rules and regulations of the WTO. It is necessary to take complex measures in this area and elaborate the Strategies of CIS economic development, the mechanism of economic cooperation of the member states of the CIS, the appointing of priorities directed to assist thet development of national economies, the close cooperation in mutually

beneficial economic areas, the establishment of new investments and technical bases of production in essence, the provision of progressive structural transformations in economy, and the strengthening of the scientific and technical potential of the states of the Commonwealth.

With it, pursuant to the document, the main role will be given to activities according to the following priority directions:

• The completion of the introduction of a full-scale regime of free trade;

• The liberalisation of the conditions and further development of mutual trade, and cancellation of current restrictions and withdrawal from the regime of free trade, including those concerning the import of raw materials and export of ready products to provide free access of for the products of national manufacturers to the markets of the member states of the CIS;

• The development of a conformed line for energy resources and transport services, development of common markets for separate types of production – firstly, agricultural products;

• The development of interaction in areas of transport, including the formation of the network of international transport corridors in the territory of the CIS; the increase of efficiency of tariff policy and the removal of affection on national level of fiscal and administrative barriers, when implementing international freight traffic; the increase of the level of interaction between various types of transport in transit transportation; the harmonisation of national systems of air traffic organisation of the states of the CIS according to the standards and regulations of international organisations of civil aviation;

• The intensification of cooperation in areas of energy to increase the reliability of power supply and to optimisation of fuel and energy resource use;

• The multilateral cooperation in areas of extraction, transportation and transit of hydrocarbons;

• The development of production cooperation relations between the enterprises and the technologically related productions, the development of intergovernmental programmes on technical re-equipment, innovation technologies, the interaction on the advanced directions of scientific and technical cooperation;

• The development of military and economic cooperation of interested states with the help of interaction of national military-industrial complexes, when developing, updating, maintaining, providing exploitation and utilisation of military products, and diversification and conversion of military production;

• The development and implementation of big large-scale joint investment projects, in the first place in area of transport, energy and

telecommunications, providing significant influence on development of economies of the states of the Commonwealth;;

• The establishment of efficient mechanisms of payment and account relations;

• The establishment of financial and industrial groups, transnational companies, joint enterprises and other forms of economic cooperation;

• Integration with the world economy;

• The establishment of the network of information and marketing centres for the promotion of goods and services to national markets of the member states of the CIS;

• The creation of favourable legal, economic and organisation conditions for an extension of leasing the activity in the CIS.

• Adjusting methods of exchanging opinions on key global policy problems, the development of cooperation in the observation of elections and referendums, the establishment and development of contacts and mutual benefit cooperation with other regional organisations and integration consolidations are planned in the political sphere.

It is expected that the Plan will define the methods of approaching the national laws of the member states of the Commonwealth in various areas of multilateral interaction, based on the accepted principles and regulations of international law, within the area of intergovernmental cooperation.

Humanitarian cooperation is the most important element of interaction within the Commonwealth. The Plan of the Conception implementation contains measures for further development of total educational, scientific, information and cultural spaces, health care, sports and tourism. Forums for communication and interaction with the representatives of social organisations, mass media, academic circles, creative intellectuals, business, local government and citizens on key directions and questions about Commonwealth activities will serve for this purpose.

The Plan provides for the development of various target programmes to increase the information awareness of society, the strengthening of the peaceful culture, the practice of intercultural dialogue, and tolerance in national and religious questions in area of security. The most basic of measures is directed to activate the efforts of the member states of the CIS in the area of the struggle against international terrorism and other manifests of extremism and international organised crime, including the illegal turnover of weapons, narcotic drugs and psychotropic substances, in counteraction to corruption, legalisation (laundering) of profits gained illegally, human trafficking, information technology crimes, in the registration and protection of national borders.

To raise the effectiveness of the Commonwealth, it is planned to appoint national coordinators from high officials to monitor the execution

of the decisions of the high agencies of the Commonwealth pursuant to national law in the member states of the CIS.

Development of Security Legal Base on October CIS Summit

The states of CIS, as well as the world community, have to oppose various global challenges and threats. It is impossible to struggle effectively against the growing levels of international terrorism, organised crime and drug dealing without coordinated collective efforts.

Cooperation development of law-enforcement machinery of the states of CIS received a new impulse, when the heads of the states signed the **Agreement of the member states of the Commonwealth of Independent States of counteraction to legalisation (laundering) of criminal profits and finance of terrorism**[7], which focused on the improvement of the legal base and cooperation in this sphere, and the **Agreement of cooperation of the member states of the Commonwealth of Independent States on counteraction to the theft of cultural artefacts and provision for their return**[8], which was developed to implement coordinated measures to prevent, suppress, reveal, or disclose infringements of the law concerning the theft of cultural artefacts, their search and provision for their return.

The experience of integration development of CIS shows the theme of cooperation in area of security is one of the most topical. Today the Commonwealth possesses the complex of base agreements and programs on joint counteraction to current challenges and threats, which are implemented successively. The Presidents approved the I**ntergovernmental Programme of Joint Measures of Struggle against the Criminality for 2008–2010, the Programme of Cooperation of the Member States of the Commonwealth of Independent States in the Struggle against Illegal Turnover of Narcotic Drugs, Psychotropic Substances and their Precursors for 2008–2010 and the Programme of Cooperation of the Member States of the Commonwealth of Independent States in the Struggle against Terrorism and Other Violent Manifestations of Extremism for 2008–2010**[11] for the change of implemented programmes.

The Deputy UN General Secretary and Executive Director of United Nations Office on Drugs and Crime, Antonio Maria Costa, who took part in the summit as an observer, spoke to the heads of the states on the subject of narcotic drugs and possible ways of cooperation in this direction.

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7 http://www.cis.minsk.by/webnpa/text.aspx?RN=N00700508

8 http://cis.minsk.by/webnpa/text.aspx?RN=N00700512

9 http://www.cis.minsk.by/webnpa/text.aspx?RN=N90700509

10 http://www.cis.minsk.by/webnpa/text.aspx?RN=N90700510

11 http://cis.minsk.by/webnpa/text.aspx?RN=N90700511

He noted that the flow of narcotic drugs coming from Afghanistan promised not only consequences in healthcare but would also bring in big revenue to extremists and finance terrorism. According to his figures, approximately 70% of Afghan opium is raised in southern regions of the country and controlled by the Talibs, and about 20% of heroin is produced in Central Asia and passes through this country. It amounts to over 200 tonnes. The UN representative expressed regret of the fact that just 4% from the total volume of Afghan narcotics is withdrawn. He also expressed confidence that the CIS may play a key role in the resolution of the problem by blocking the northern route of narcotic traffic.

The heads of the states also approved the **Protocol of affirmation of the Provision for the organisation of interaction of border and other agencies of the member states of the CIS in assisting in the initiation and adjustment (liquidation) of crisis situations on external borders**, which aims to discover bases of organisation and mechanisms of interaction, the order of joint actions and decisions of concerning disputable questions, and legal status of the group.

The Presidents signed the **Agreement of social and legal guarantees to the staff of CIS Collective Peace-Keeping Forces**, elaborated to provide security and protection of the staff of the CIS Collective Peace-Keeping Forces (CPKF), when executing peace-keeping operations on the territories of the member states of the CIS, and including complex measures aimed to keep CPKF in operational readiness, creation of favourable conditions for them to implement assigned tasks appropriately, and to strengthen social and legal protection of the staff of the CIS Collective Peace-Keeping Forces and members of their families.

Appointment of S.N. Lebedev to the Post of the Executive Secretary of CIS

Sergei Nikolaevich Lebedev was appointed to the post of the Chairman of Executive Committee, the Executive Secretary of CIS, on October 5, 2007. S.N. Lebedev was born on April 9, 1948 in Dzhizak town (Uzbek SSR), and finished secondary school with a gold medal in 1965. When he graduated from Chernigov subsidiary of Kiev Polytechnic Institute in 1970, he stayed at the Institute, and was elected as the Secretary of Chernigov City Committee of Komsomol in a short time. Lebedev served his military obligations in the Kiev military district in 1971-1972, then worked in the Chernigov regional committee of VLKSM. He served in state security agencies from 1973 and in foreign intelligence (the First Main Department of KGB of USSR) from 1975. Lebedev passed his counterintelligence preparation (Kiev school of KGB) and intelligence training (Krasnoznamenniy Institute of KGB). He graduated from the Diplomatic Academy of MFA of USSR with honours in 1978. S.N. Lebedev speaks both German and English. He was the official representative of the foreign intelligence service in the USA between 1998 and 2000. He was appointed the Director of SVR by the Decree of the President of RF on May 20, 2000. His military rank is Army General. He possesses many state awards.

Results of Industrial Council Work of CIS for the year

52 documents, introduced by the agencies of industrial cooperation, were accepted into the meetings of the Council of the Heads of States of the CIS, the Council of the Heads of the Governments, the Council of the Ministers of Foreign Affairs and Economic Council of the CIS in 2007. They include the following: the Agreement of the formation of general electric energy market of the member states of the CIS[12], Actions on development of leasing for agricultural equipment, machinery and devices in the member states of CIS for the period till 2010, the Protocol of amendments to the Agreement of coordinated policy for standardisation, metrology and certification dated March 13, 1992, Intergovernmental programme of joint anti-criminal actions for 2008–2010, Program of cooperation of the member states of the CIS in the struggle against the illegal turnover of narcotic drugs, psychotropic substances and their precursors for 2008–2010 and others.

The Meeting of the Council of the Heads of the Governments of CIS Held in Ashgabat

Delegations of Moldova, Kazakhstan, Azerbaijan, Armenia, Georgia, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Belarus, Ukraine and Russia participated in the regular meeting of the Council of the Heads of the Governments of the CIS on November 22, 2007. 27 and their questions were presented for discussion. The participants focused their attention on the development of cooperation in the areas of fuel and energy complex, finance, and border and interregional interaction.

Problems on transport and transport infrastructure were emphasised. They did not succeed in reaching a full unity of positions. The Russian Federation refused to sign an agreement on the market of motor transport services in the territory of the Commonwealth of Independent States. Russian experts noted an infringement of Russia›s interests in this proposal. Despite this, a record attendance of the Prime Ministers for the last years was fixed in Ashgabat, they demonstrated the readiness to take serious decisions, and openness to the discussions on disputed issues. Undoubtedly, the participation of the President of Turkmenistan, Gurbanguly Berdymukhammedov, who negotiated with Victor Zubkov for a relative extension of trade and economic cooperation between Russia and Turkmenistan, gave weight to this meeting.

Gurbanguly Berdymukhammedov called the heads of the Governments to participate in one of the most large-scale projects in the transport and communication sphere, the establishment of transport corridors combining railway and sea routes. "If the ferry service connects sea ports between Astrakhan, Turkmenbashi and Aktau (Kazakhstan), and the railways connect Kazakhstan, Turkmenistan and Iran, significant possibilities will be opened for foreign transportation on the North-South, West-East routes for the states of the CIS", the President of Turkmenistan stressed.

[12] *http://www.cis.minsk.by/webnpa/text.aspx?RN=N00700600*

Shanghai Cooperation Organisation

Anti-terror maneuvers "Peace Mission-2007" were held within the Shanghai Cooperation Organisation in August. As it was mentioned above, a Memorandum of Understanding was signed between the secretariats of the Shanghai Cooperation Organisation and Collective Security Treaty Organisation in Dushanbe. Also two packages of the documents on the regulative and organisational formation of mechanism of peacemaking activities within the CSTO and on enhancement of regulative legal base of activity of Intergovernmental Committee on Military and Economic Cooperation (ICMEC) were signed at the same summit of the member states of the CSTO.

The meeting of the Council of the Heads of the member states of the Shanghai Cooperation Organisation was held on August 16, 2007 in Bishkek. Pursuant to the agreement achieved on the anniversary meeting of the Council of the Heads of the member states of SCO (Shanghai, June 15, 2006), the Heads of the states signed the Agreement of long-term neighbourliness, friendship and cooperation of the member states of the Shanghai Cooperation Organisation. The leaders of six countries signed the Bishkek declaration and affirmed the Plan of actions for the member states of SCO on provision of the international information security (IIS), elaborated as development of the Statement of the member states of the SCO on IIS dated June 15, 2006. The authorised representatives of the member states of Organisation signed the Agreement between Governments of the member states of the SCO of cooperation in the area of culture. Significant agreements between financial and economic structures of the SCO, Business Council and Interbank Association were signed.

The Memorandum of Understanding Signed between EurAsEC and Two UN Regional Committees

The secretariats of the UN Economic Commission for Europe (ECE), UN Economic and Social Commission for Asia and Pacific Ocean (UNESCAP) and secretariat of Integration Committee of Eurasian Economic Community (EurAsEC) concluded the Memorandum of Understanding on May 23, 2007. A Reporter of the agency "Interfax-Kazakhstan" testified that the document was signed in Almaty during the 63rd session of UNESCAP. The Executive Secretary of UNESCAP, Kim Khak Su, the Executive Secretary of UNECE, Marek Belka, and the General Secretary of EurAsEC, Grigoriy Rapota, signed the Memorandum.

Integration of Organisation "Central Asian Cooperation" with Eurasian Economic Community

Uzbekistan ratified the Protocol of integration of the "Central Asian Cooperation" organisation with the EurAsEC on April 3, 2007. The Law "On Ratification of the Protocol of Integration of the Central Asian Cooperation organisation with the Eurasian Economic Community" (Minsk, January 25, 2006), signed on the eve by the President Islam

Karimov, was published in official mass media on Tuesday and came into force" – "Interfax" was informed by the press service of the President. Earlier the Legislative house had accepted it on January 26, 2007 and the Senate approved the document on the plenary meeting on March 30. The press service remarked that the adopted law contains proviso of non-usage relatively the Republic of Uzbekistan of stated documents in the annexes concerning use of water and energy resources of Naryn-Syr Darya cascade of reservoirs in 1998 and 1999, the execution term of which is expired, and of the activity of the Central Asian Bank of Cooperation and Development (CABCD) in connection with the fact that its subsidiary bank "Tashkent" ceased its activity in 2003. Provisos were made according to Article 24 of the Law of the Republic of Uzbekistan "On international treaties of the Republic of Uzbekistan".

Cooperation of Russia and Kazakhstan

In the process of an official visit of the President of the RF to Kazakhstan on May 10, 2007, prospective of further cooperation between the RF and RK actually on all the questions of bilateral interaction was discussed and planned. The highest priority directions of cooperation are research of the space, transport, industry, fuel and energy complex, cooperation between regions of two countries.

The plan of actions for cooperation in 2007–2008, which defines special directions of bilateral cooperation, terms of their implementation and responsible representatives of the parties, including the solution of social problems of population of Baikonur, was affirmed. This plan of actions creates a good basis for complex development of integration processes.

The agreements on the establishment of an international centre for uranium enrichment, on establishment of subsidiaries of trade representative offices of the Republic of Kazakhstan and the Russian Federation were signed. The signed **agreement on cooperation in the nuclear area**, in the sphere of the peaceful use of nuclear energy is an extremely significant decision for cooperation between Kazakhstan and Russia.

Agreements on the joint use of Baikonur, enhancement of transport and energy infrastructure, simplification of regimes in control points on Russian and Kazakhstan border will be reached in the near future.

The President of Kazakhstan raised the problem of the possible extension of the Caspian pipeline consortium (CPC). Agreement of admissible prices for gas was achieved on existing joint project of extension of Orenburg gas and condensed fluid processing plant at Karachaganak field.

Relations between Russia and Belarus

The President of the Russian Federation V.V.Putin visited, in an official capacity the Republic of Belarus on December 13–14, 2007

In the process of negotiations of the President of Russian Federation V.V.Putin, with the President of the Republic of Belarus and regular

meeting of High State Council of Union state, the Parties discussed a wide range of Russian and Belarusian relations, considering the development of integration processes within the union, building and actual international problems. Priority attention was given to Russian and Belarusian cooperation in trade and economic, fuel and energy areas. A memorandum of the current stage of development between the Russian Federation and the Republic of Belarus, concerning importance of implementation of bilateral agreements in the economic sphere and provision of the Republic of Belarus with governmental loan by the Russian Federation, was signed.

The parties expressed their support of the rapid establishment of an actual customs union, extension of interregional relations, intensification of industrial cooperation and establishment of highly-efficient joint ventures, including implementation of union cooperation programmes. It was noted that the Russian Federation and the Republic of Belarus will take agreed actions concerning accession to the WTO, coordination of tariff and nontariff policy and extension of mutual trade.

The heads of the two countries stressed the significance of the execution of the Agreement of provision of equal rights of the citizens of Russia and Belarus for freedom of movement, choice of residence on the territories of the member states of the Union State, concluded between the Russian Federation and the Republic of Belarus. Efforts will be applied to implement the concept of the social development of a Union State, provision of agreed approaches in areas of education, healthcare, science, sports and culture. It is necessary to execute the agreement of the property of the Union state, which shall fix joint status of the property created within the union building and deal with basic questions of its use. In the area of military and military technical cooperation, the Presidents of Russian Federation and the Republic of Belarus marked high level interaction between Russia and Belarus, stressed the significance of strengthening of collective security, including within the Collective Security Treaty Organisation, and the efforts of all the international community on counteraction to new global threats and challenges.

Evident progress was not noted in the building of the Union between Russia and Belarus. The most important decisions were noted in the Statement for the press along with answers for questions according to the results of the meeting of High State Council of Union state of Russia and Belarus on December 14, 2007[13]. To provide gradual transfer of bilateral energy cooperation to universal market principles, provided the parties shall obligatorily execute previously signed agreements and contracts, the Russian Federation took the decision to provide Belarus with state credit to the amount of $1.5 billion. It was declared Gazprom prices for gas supplied to Belarus would not be increased. Gazprom will execute in full volume all obligations of the Agreement concluded between Gazprom

[13] *http://www.kremlin.ru/appears/2007/12/14/2241_type63377type63380type63381_154348.shtml*

Public Corporation and Beltransgas Public Corporation dated December 31, 2006 of volumes and conditions of natural gas supplies to the Republic of Belarus and transit of gas through the territory of the Republic of Belarus in 2007–2011.

In the result of the meeting of the High State Council of the Union State of Russia and Belarus, the following documents were signed:

• The Memorandum of the current stage of development of economic cooperation between the Russian Federation and the Republic of Belarus.

• Joint statement according to the results of negotiations of the President of Russian Federation Vladimir Vladimirovich Putin and the President of the Republic of Belarus Aleksandr Grigorievich Lukashenko.

• Agreement between the Government of Russian Federation and the Government of the Republic of Belarus on the development of cooperation in production and mutual supply of medicines.

• Agreement between the Government of Russian Federation and the Government of the Republic of Belarus on the establishment of equal conditions in pricing policies for railway transport.

• Agreement between the banks Vnesheconombank and Belvnesheconombank on providing Belarus banks with a subordinated loan.

Russia and Belarus concluded the **Agreement of provision of Russian stabilisation credit to the amount of 1.5 billion USD**, based on the Memorandum signed on December 20, 2007 in Moscow. Funds of stabilisation credit are provided with one tranche for 15 years under the rate LIBOR+0.75%. Belarus is provided with a 5-year grace period for payments of principal debt. However, percents shall be paid during this period.

Russia and Belarus planned the budget of Union state for 2008 in amount of 5 billion Russian roubles, it amounts 14.9% more than the level of 2007.

Functional Directions of Integration

Establishment of Customs Union

Integration processes in EurAsEC will receive strong impetus after the establishment of a customs union, the agreement of which was signed by Russia, Belarus and Kazakhstan. This agreement was planned to conclude within the CIS with participation of Ukraine, but its government refused to participate in it after many years of negotiation. Customs Union is supposed to become the most important step in formation of single economic zone in the post-Soviet space: it is open for other states to join. Central Asian states already declared their intention to join, however, there is the issue of unsatisfactory status of control over movement of people and freights.

Russia, Belarus and Kazakhstan signed international legal documents defining the structure of customs union management, mechanism of attachment of other states to it, establishment of single customs territory in an October meeting of the Interstate Council of EurAsEC. Plan of actions on forming of customs union under EurAsEC also was affirmed. Formation of Customs Union between Russia, Belarus and Kazakhstan will be completed by 2010.

Contractual basis was established in 2007. Four documents were signed by Belarus, Kazakhstan and Russia. These are: the Treaty of Establishment of an Integration Committee. Agreement of single customs territory, etc. The Protocol of amendments of basic agreement of establishment of EurAsEC was signed. Pursuant to this protocol functions of the superior body of Customs Union shall be transferred to tariff regulation national agency – Interstate Council. The total number of documents forming the customs union is 22 to be signed in 2008–2009.

The process of domestic procedures and harmonisation of drafts of international treaties forming the legal base of the customs union started in 2007. The drafts of such documents as the Agreement of indirect taxes charge on exporting and importing goods and providing services in Customs Union; the Agreement of defining of customs cost of goods transported through the customs border of the customs union; the Agreement of single rules of identification of country of origin of goods; the Agreement of single measures of nontariff regulation concerning the third countries were discussed and approved.

The Members of EurAsEC Will Integrate Transit Controls

Customs officers of the member states of EurAsEC will work on the common technological basis. The Council of the heads of customs agencies under Integration Committee of EurAsEC approved the draft of the conception of interstate program on establishment of Customs transit control system.

This system provides for the elimination of internal barriers, preventing movement of goods through the territory of EurAsEC states. Integration Committee of EurAsEC explained that the Customs transit control system implies unification of data of freight, following as transit through several countries. Every border shall possess data on freight. "Information which Kazakhstan customs officers fixe accepting freight from China shall be transferred, for instance, to Brest on the border with Poland in order for the customs officer to close transit. This shall be done automatically. "We already take measures in this direction", the employees of the committee noted.

Interaction of Revenue Services

The Chief of Russian Federal Revenue Service, M.P. Mokretsov, was in charge of XXI meeting of the Council of Heads of Revenue Services under Integration Committee of EurAsEC conducted on June 1 in Kazan. Results of the activity of the Council, analysis of main indices of work of tax

systems and changes in tax legislation of the member states of EurAsEC in 2006 were heard, and the Conception of bases of tax legislation of the member states of EurAsEC was formed at the meeting.

The results of information exchange between Revenue Services on entities and natural persons, gaining incomes from the sources in the member states of EurAsEC, export and import transactions between business entities of the Community were considered.

Recommendations for improvement of taxation of small business enterprises were prepared, based on the results of analysis of taxation indices of small business in the member states of EurAsEC.

Experience was exchanged on questions of control on subjects of shadow economy, use of indirect taxation methods. Enhancing the method of formation of basic Revenue Service indices.

Migration in the CIS

The history of the states of the Commonwealth, cultural relations of nations, general traditions, lack of language barriers generate the basis for the active movement of population. Concering this issue, proposals on coordinated migration policy of the CIS member states was one of key points in the agenda of the summit of the CIS.

In general, necessary legal and organisational base for cooperation of the states concerning regulation of migration flows of population in the CIS already exist. However, significant periods of time expired after the acceptance of majority of normative legal documents, during which both internal and external conditions for the CIS member states changed significantly. States gradually formed various approaches to the solution of population migration issues. As a result, national legislations of the CIS states differ on many parameters.

Today, two agencies of industrial cooperation (the Consultative Council on labour, migration and social protection of population, and the Joint Committee of the member states of the Agreement of cooperation of the member states of the CIS in counteraction of illegal migration) deal with questions of migration. The Consultative Council is responsible for preparation of proposals on work force migration regulation; the Joint Committee deals with counteraction to illegal migration. As a result, these agencies, acting parallel, solve the urgent problems of migration cooperation in their spheres. At the same time, a complex approach to the solution of cooperation questions in this area, is lacking as specified industrial agencies act separately from each other. The situation becomes more complicated because the questions of migration regulation are treated by specialists of various departments.

Despite the fact that, starting from 2000, the volumes of officially registered migration increased, actual number of migrants remains much higher, according to various expert assessments, than reports of migration services, statistic agencies and other bodies involved in the process of

population migration regulation show. Lack of actual indices and efficient interaction of the parties on elimination of the gaps in this direction results in spontaneity of migration flows and distortion of the balance of social and economic interests of the countries of the Commonwealth; this immediately influences the big picture of migration cooperation.

To execute the Decision of the Council of the heads of states of the CIS dated June 10, 2007, the Group was established to elaborate proposals on coordinated migration policy. In the result of such work, raw documents, regulating interaction of the states in this area, were submitted to the Presidents. The heads of states signed the *Declaration of coordinated migration policy of the CIS member states* on the summit in Dushanbe on October 6. However, Georgia, Moldova, Azerbaijan and Turkmenistan refused to sign the document. Moreover, the Council of the Heads of the Governments received a slew of assignments: to elaborate on the complexities of the first-priority measures directed to practical implementation of the principles, provided in the Declaration, make decisions on the draft of the Convention of legal status of working migrants and members of their families on behalf of the Council of the heads of states, and consider the draft of the Convention of migration policy of the member states of the CIS, proposed by the Republic of Tajikistan, in the stated order.

The Agreement of establishment of the Council of the leaders of migration agencies of the member states of the CIS, signed by the Presidents, shall contribute to the solution of the migration problems.

The Plan provides for actions directed to increase the level of interaction of migration agencies of the member states of the CIS to solve the migration problems. The activity of the existing and reasonability of new structures is supposed to be considered in the definition of the coordinated migration policy. The list of joint actions for prevention of illegal migration and regulation of labour migration was also formed.

Formation of General Energy Markets

One of the most crucial tasks for post-Soviet states is the establishment of a single energy space. Interaction on problems of energy policy and the provision of protection to the interests of the states producing gas started from the May Central Asian tour of the President of Russia in 2007, when **agreements on the building of the Caspian gas pipeline** were achieved.

"The Agreement of formation of general energy market of the CIS member states" was signed within the CIS on May 25, 2007[14]. Russia, Belarus, Kazakhstan, Kyrgyzstan, Tajikistan and Armenia signed the document. Establishment of the general energy market implies first of all development of relations concerning purchase and sale of electric power and associated services on the basis of general rules and appropriate agreements. General energy market is created to form single energy market space, based on the principles of equal rights, honest competitiveness and

mutual benefit. Its establishment is aimed to increase service quality and provision of reliable electric power supply to the consumers in the member states of the CIS, based on economic, technical and technological advantages of the parallel operation of electric energy systems.

The Agreement is the fundamental document for the development of normative legal documents of formed general electric energy markets in the member states of the CIS. It was agreed that competent agencies of the member states of the CIS (after signing of the Agreement) will submit their own schedules of main measures, directed to preparation and accession to the general electric energy market of the member states of the CIS to the Execution Committee of the Electric Energy Council of the CIS within a year. The Execution Committee of the Electric Energy Council of the CIS will prepare an aggregate schedule of the formation of a general electric energy market of the member states of the CIS on their base and submit it to the Electric Energy Council of the CIS for affirmation.

Formation of the general energy market of the states of EurAsEC assumes solution of the problems of the several levels: political, economical and social, based on the principles of complementing and balance of interests. Generality of tasks shall be expressed also in harmonisation of legal provision. General principles shall result not only in interstate treaties, but also in certain measures on unification of the norms of national legislations concerning regulation of fuel and energy complex.

The necessity of the establishment of the Energy Club of the SCO as soon as possible was stressed at the meeting of Prime Ministers of the member states of the Shanghai Cooperation Organisation in November 2007 in Tashkent. It will assist, institutionally, to coordinate actions of gas producing countries of the SCO on regional and world energy markets, and also develop cooperation between producers and consumers of gas within the organisation, and, at last, elaborate coordinated strategy, harmonizing economy of gas complexes of these states with their geopolitical interests. Bilateral and multilateral energy projects are implemented between the countries of the former USSR (in the areas of oil and gas, generation and supply of electric power, etc.).

The proposal of the President of RK on *design of the project of other energy strategy – Asian energy strategy*, made at the anniversary summit of the SCO on June 2006 in Shanghai, was also implemented in 2007. The draft of the Asian energy strategy was presented by the Kazakhstan party on the second meeting of the SCO Forum on June 15, 2007 in Almaty. The main purpose of the designed project of the Asian energy strategy is to enable global energy balance and energy security of entire Central Asian region. The leaders of ministries and agencies responsible for the fuel and energy complex (FEC) of the member states of the SCO discussed this project on their first meeting on June 29,

[14] *http://www.cis.minsk.by/webnpa/text.aspx?RN=N00700600*

2007 in Moscow. The draft of the strategy is coordinated between the member states of the SCO. The establishment of the Energy Club of the SCO, which will become the starting point on the way to acceptance of the Asian energy strategy by SCO states will contribute to formation of integral energy infrastructure within the SCO.

Establishment of Three Joint Enterprises in Nuclear Power Sector

Three joint enterprises were established within strategic cooperation of RF and RK in the nuclear power complex in 2006-2007. Firstly, JV "Zarechnoe" was established on the territory of Kazakhstan to extract natural uranium to supply reactors designed in Russia with fuel. The JV, financed by Eurasian Development Bank, started extraction of uranium in 2007. Secondly, the Presidents of RF and RK agreed to involve Kazakhstan to the implementation of Russian initiative on the establishment of the International center for provision of services on nuclear fuel cycle, including uranium enrichment on the territory of Russia under International Atomic Energy Agency control at the meeting held on October 3, 2006 in Uralsk. The representatives of Russia and Kazakhstan signed articles of association of three Joint Ventures concerning peaceful uses of atomic energy on October 12, 2006 in Moscow, and the agreement of establishment of a Uranium enrichment international centre was signed in Angarsk in presence of the Presidents of RF and RK on May 10, 2007. Thirdly, the third JV was established between "Kazatomprom" and "Atomstroyexport" within the program of strategic cooperation for the development of atomic energy. The generation of Russian and Kazakhstan nuclear reactors with power units of the new type VBER-300, designed by Experimental design bureau of machine building named after Afrikantov, will be the result of work on this JV. Power units VBER can be used in the building of a new Nuclear power plant in Aktau. Reactors with power units of the new type may have a strong export position of Russian and Kazakh JV.

Cancellation of the Cooperation Agreement between the Government of Tajikistan and Rusal

The President of Tajikistan, Emomali Rakhmon, signed the cancellation of the agreement between the Government of Tajikistan and the Russian company Rusal building of Rogun hydro power plant on September 2007. The Tajikistan party declared "non-fulfillment of obligations by Russian company" as the reason of such decision in the publication of the press service of the Tajik President.

Tajikistan established the "Rogun Hydro Power Plant" Public Corporation for the construction of the plant. However, undoubtedly, other foreign investors will be attracted. Authorities of the republic also declared they succeeded to raise their own funds in amount of 50 million USD.

Construction of the dike was started in 1987; its height reached 40 meters by 1993. However, construction was suspended, and the dike was washed out with flood water, when the Soviet Union collapsed. Rusal

owned by Oleg Deripaska, concluded the agreement with Tajikistan about the completion of the Rogun hydro power plant with a capability of 3.6 thousand megawatt in 2004. The project was estimated to cost 1.3 billion USD. However, the construction of the hydroplant was not started due to technical disagreements between the company and the Government of Tajikistan concerning type and height of the dike.

The company "Russian Aluminum", formed by merging the companies "Rusal", "SUAL" and Swiss trader "Glencore", received notification of cancellation of the agreement from Tajikistan. Experts agree that it will be difficult for Tajikistan to find other investors after cancellation of the agreement with one company. China, Russia and Kazakhstan show relative interest in Rogun hydro power plant as economic benefits from the production of electric power in Rogun hydro power plant are significant. Nevertheless, Russian companies are likely be involved in the project possibly under much stricter terms.

EurAsEC: Single Educational Standards

Single educational standards will be introduced in the states of Eurasian Economic Community. An appropriate agreement was signed on May 18, 2007 in Bishkek during the 12th meeting of the Council of mutual acknowledgement and equivalence of documents of education, academic degrees and titles under Integration Committee of EurAsEC. The agreement contains acknowledgement of requirements to the order of state certification of educational institutions, acknowledgement of educational standards of the states of EurAsEC. The authorized representatives of Belarus, Kazakhstan, Kyrgyzstan, Russia, Tajikistan and Uzbekistan took part in the meeting in Bishkek. The long-term purpose of the Council under the Integration Committee of EurAsEC is to establish single educational space.

12 International and Regional Development Banks in Central Asia: Overview of Activities

Natalia Maqsimchook, EDB

An examination of the integration process that is now so prevalent in the global economy reveals two distinct trends: firstly, the continuing growth in the number of countries which are members of international economic unions and other international and regional organisations; and, secondly, a worldwide improvement in the processes of global economic integration. These observations suggest that globalisation is gaining momentum in terms of both quantity and quality.

The focus of this overview is on the operations of financial institutions in four Central Asian states: Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan. The overview covers the Asian Development Bank (ADB), the World Bank (WB), the European Bank of Reconstruction and Development (EBRD) and the Islamic Development Bank (IDB).

This report is based on information from public sources, including the websites and annual reports of these development banks. Direct comparison is not always possible due to objective reasons. In particular, the banks use different classifications of their activities, and their reporting format and periods vary. However, it is possible to identify common trends and gain an insight into the areas and scope of operations of the international financial institutions (IFIs) in the region.

The role and functions of these institutions are well known. By providing financial aid to member countries for socioeconomic development and balance of payments support, IFIs play an important role in organising international credit relations and maintaining the stability of international settlement operations.

Just as importantly, international and regional development banks facilitate cash flows to those countries whose access to capital markets is limited, and mitigate the effects of global financial markets instability. IFIs are important providers of general and specialist expertise in matters of development and economic growth for the member countries.

Though they work towards shared development goals, each IFI has a unique mission and specific sectors of engagement. For example, the WB provides loans and technical assistance (TA) for projects and structural reforms in the area of sustainable development and poverty reduction. The WB's main partners are the governments of recipient countries (in this case, excluding the International Finance Corporation). The ADB supports its member countries' efforts to reduce poverty and improve quality of life of the population. The majority of ADB loans are disbursed to the

public sector or governments of the recipient countries, but the bank also provides direct assistance to private companies through equity participation and equity investments, credits and credit guarantees, depending on the country's level of development. The EBRD was established to assist the transition of post-Socialist European nations to an open market economy and in the development of private sector initiatives. The main recipients of EBRD loans are private companies, privatised state-owned companies and newly created businesses including joint ventures. Finally, the IDB aims to assist the socioeconomic development of its member states through equity participation and lending to public and private sectors with a focus on agriculture and infrastructure development projects.

The forces of political transformation, economic liberalisation and globalisation have opened up new opportunities and prospects, but they have also raised enormous challenges for many countries. Problems relating to the stability of the global economy; the depletion of non-renewable resources; energy; poverty; unemployment; food shortages; spread of HIV/AIDS; and the environmental situation all pose new risks for development, and have forced IFIs to take new commitments and search for new approaches.

In 2007, the WB had 185 member countries; the ADB had 67; the EBRD had 63; and the IDB had 56. A number of Central Asian states are now among this community of member states through their shareholdings in IFIs.

	ADB	WB	EBRD	IDB
Kazakhstan	1994	1992	1992	1995
Kyrgyzstan	1994	1992	1992	1993
Tajikistan	1998	1993	1992	1996
Uzbekistan	1995	1992	1992	2003

Table 12.1
Central Asian countries' IFI membership

As Central Asian countries have become more experienced and developed their own strategies for cooperation with IFIs, they have reduced their borrowing. This is in no sense a denial of the fact that many loans and TA projects have benefited these countries enormously.

IFIs in CA region identify generally similar priorities for country assistance, but there is certain differentiation in the functional sectors which they target. IFIs will continue to be key providers of expertise and consultancy with regard to economic reform, good governance, public administration, social protection, poverty reduction, private-sector development, banking, investment and trade.

Traditionally, the WB is the leading consultant in matters of structural reform, public finance and banking sector reform. At present, the WB's most diverse loan portfolios are those in Kazakhstan and Tajikistan. In these countries, the Bank's portfolios cover industry, trade, public-sector

governance and law, health and social protection. Public administration, good governance and legal reform are key priorities for the WB and governments alike, and these sectors are systematically favoured in the allocation of loan funds. Energy and mining are the priorities for the WB in Tajikistan. In Kyrgyzstan, the majority of the projects are being implemented in agriculture. The WB also pays close attention to infrastructure development. For example, the Bank allocates considerable resources for the development of the transport sector in Kyrgyzstan and Tajikistan. In Kyrgyzstan, the Bank supports projects to improve access to safe drinking water in rural areas. Kazakhstan is a leading country in terms of cumulative WB lending. In all these countries, borrowing has been declining and investment projects have been on the rise for several years.

The ADB was somewhat late in establishing its presence in Central Asia, but it has now found its niche in the region in transport and infrastructure development projects. The ADB is the region's leading IFI in terms of support provided for construction and rehabilitation of roads and tracks. In each of these Central Asian countries, the ADB's portfolio includes a large transport and communications segment: $177.8 million (29%) in Kyrgyzstan, $105.3 million (28.3%) in Tajikistan, and $265.3 million (24%) in Uzbekistan. Other ADB's priorities in Central Asia are agriculture and natural resources. The largest beneficiary in this sector is Uzbekistan ($245.4 million), whilst Kazakhstan ranks second in agricultural loans ($140 million). Kazakhstan and Kyrgyzstan receive substantial support for the development of the financial sector (45% and 11% of cumulative lending, respectively). The ADB is also active in the energy sector, especially in Kyrgyzstan and Tajikistan ($30 million and $75.5 million, respectively). Generally, Uzbekistan is the largest beneficiary of sovereign loans, whilst Kazakhstan is the leader in non-sovereign operations.

The EBRD focuses on private-sector operations and small- and medium-size businesses. At the same time, the Bank maintains a political dialogue with governments aimed at improving the business and investment environment. In terms of net operations in 1992–2008, the four countries are ranked as follows: Kazakhstan (€1700 million), Uzbekistan (€449.8 million), Kyrgyzstan (€119.2 million) and Tajikistan (€63 million). A large portion of the EBRD's portfolio in the region is devoted to the corporate sector (agribusiness, industry, real estate and tourism), especially in Tajikistan (31%) and Kyrgyzstan (28%). Commitments to the financial sector account for 44% in Kazakhstan, 27% in Uzbekistan, and 19% in Tajikistan. The EBRD is also active in the energy sector in Kyrgyzstan, and participates in infrastructure development projects (including transport) in Kazakhstan, Tajikistan and Uzbekistan.

Shared priorities in Central Asia's countries, and sectoral differentiation, enable IFIs to promote regional cooperation initiatives in Central Asia. External assistance could be instrumental in enabling this region to realise the full potential of such cooperation.

The management of water resources is one of key areas of regional co-operation in Central Asia. The facilitation of trade and transit is another priority for the region. IFIs, together with other international development agencies, are well placed to promote regional co-operation by providing technical assistance, acting as intermediaries in multi-lateral negotiations, providing financial resources to compensate for losses to negotiating parties and eliminating other barrier to regional cooperation.

Asian Development Bank

Countries	Loans		TA	Grants	Total
	Sovereign	Non-sovereign			
Kazakhstan	-	100.0	0.7	-	100.7
Kyrgyzstan	15.0	-	1.7	53.6	70.3
Tajikistan	71.7	-	3.3	22.8	97.6
Uzbekistan	126.0	-	1.4	-	127.4

Table 12.2
Loan, TA and grant approvals in 2007 ($ million)

Source: Asian Development Bank, www.adb.org, 2008 Factsheets

In 2007, all the countries except Kazakhstan were in receipt of sovereign loans. The largest amount of TA was provided to Tajikistan, whilst Kyrgyzstan was the leading grant beneficiary. This is explained by the way in which these countries are being categorised. Generally, grants are allocated from concessionary Asian Development Fund (ADF) resources.

Kazakhstan

Kazakhstan is the ADB's 18th largest borrower and one of the top ten recipients of non-sovereign loans, i.e. loans provided to the private sector. Since 1994, cumulative lending and cumulative disbursements to Kazakhstan totalled $726.6 million and $610.7 million, respectively. A total of 16 credits were approved, three of which are now active. Partnership between Kazakhstan and the ADB focuses on support for the private sector, sustainable development and environmental protection and regional co-operation. As of 2007, the ADB had extended loans in the framework of 17 projects in agriculture, natural resources, education, finance, transport and communications, water supply, sanitation, and irrigation. As government resources expanded, Kazakhstan's external borrowing needs fell: to date, active loans portfolio includes only two sovereign loans, both in rural water supply and management sector.

The majority of active ABD projects are private-sector operations that were successfully commenced in 2006. By the end of 2007, these projects totalled $550 million. The ADB responds to the increasing demand for infrastructure financing by providing long-term, fixed-interest loans in local currency. The ADB became the first supranational issuer of tenge-denominated bonds, and has assisted in the development of a full-scale securitisation market in Kazakhstan.

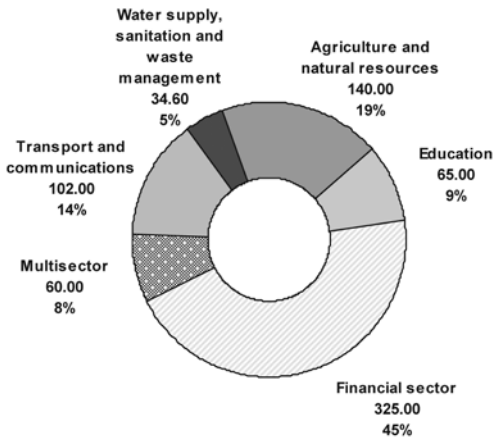

Figure 12.1
Cumulative lending ($ million)

Source: Asian Development Bank, www.adb.org/kazakhstan, as at 31 December 2007

The ADB has also been assisting the National Bank of Kazakhstan to introduce an inflation-targeting monetary policy regime and to strengthen financial governance through a TA project which is developing a new, quarterly inflation-forecasting model.

Private-sector activities will continue to be the main focus of future ADB operations. The public sector lending programme will be directed mainly towards transport, rural water supply, irrigation and sanitation.

Kyrgyzstan

Kyrgyzstan became a member of the ADB and a beneficiary of ADB aid in 1994. Initially co-operation strategy covered four areas: (i) agriculture (including rural finance), (ii) public services, (iii) human resource development (especially education), and (iv) physical infrastructure (especially energy and roads). Further assistance strategies were broadened to include support to the financial sector, with the main emphasis on reducing poverty. Since 2005, concessionary ADF resources have been allocated to Kyrgyzstan under the 50% grant scheme, in view of the country's heavy indebtedness. In September 2007, a new grant framework was approved by the ADB's Board of Directors, which enables Kyrgyzstan to receive 100% of its annual ADF allocation in grants. Total grant assistance for 2007-2008 is about $46 million.

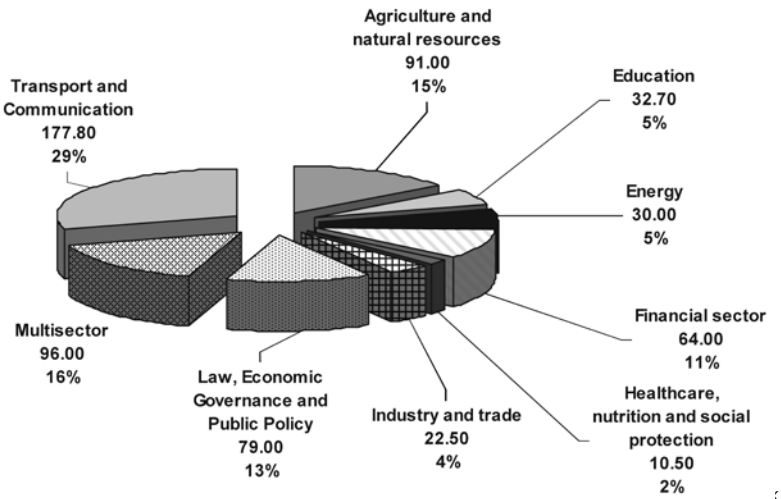

Figure 12.2
Cumulative lending ($ million)

Source: Asian Development Bank, www.adb.org/kyrgyzstan, as at 31 December 2007

In the transport sector, the ADB provided three loans totaling $140 million to reconstruct the Bishkek–Osh road, the country's major transport corridor and part of the international road network linking Central Asia with China and Russia. These loans were also used to repair the regional Almaty–Bishkek road and a section of the Osh–Sarytash–Irkeshtam road which links the Fergana Valley with China.

Co-operation in the social sector includes projects to improve basic education, health, and childcare at home and in the community. The education project builds on the achievements of the first ADB initiative which was aimed at modernising the core curriculum by providing a new generation of textbooks and learning materials. The project is also upgrading facilities and equipment in 90 rural schools.

The ADB helped to implement a programme to improve the policy, regulatory and institutional capabilities of the banking sector. The ADB is also seeking to enhance supervision of the securities market, to improve market transparency and investment conditions, and to protect investors.

The ADB's lending reached a peak of $89.2 million in 1997, and declined thereafter as the Government's debt-reduction strategy limited the size of its externally funded Public Investment Programme to about 3% of GDP.

In 2007, grants for a total of $53.6 million were distributed as follows: $10 million for modernising and reforming the tax administration system; $25.6 million for the CAREC Regional Road Corridor Improvement Project; $5 million for the southern agricultural area development project; and $10 million for the development of a vocational education system. Two grants worth $3 million were received from Japan Fund for Poverty Reduction. Also in 2007, three TA projects totaling $1.7 million were approved; these will help to improve the skills of government employees involved in tax administration and agricultural land improvement.

As at 31 December 2007, the ADB's cumulative lending was $603 million, cumulative disbursements totalled $525 million, total number of loans – 26, including 10 on-going loans. ADF grants totalled $66.1 million and TA grants 39.7 million.

At the present time, the ADB, the WB, the United Kingdom Department for International Development, Swiss Co-operation and various UN Agencies are finalising a Joint Country Support Strategy for Kyrgyzstan.

Tajikistan

Tajikistan joined the ADB after a protracted civil war in the country, and is classified as a Category A developing member country eligible only for assistance from concessionary ADF resources. The ADB's first Country Assistance Strategy and Programme (CSP) for Tajikistan covered the period 2004-2008. Acknowledging the country's weak institutional

capabilities and limited capacity for external borrowing, the CSP focused upon rural development, regional cooperation, governance, and the social sector. Regional projects are also funded from the sub-regional ADF.

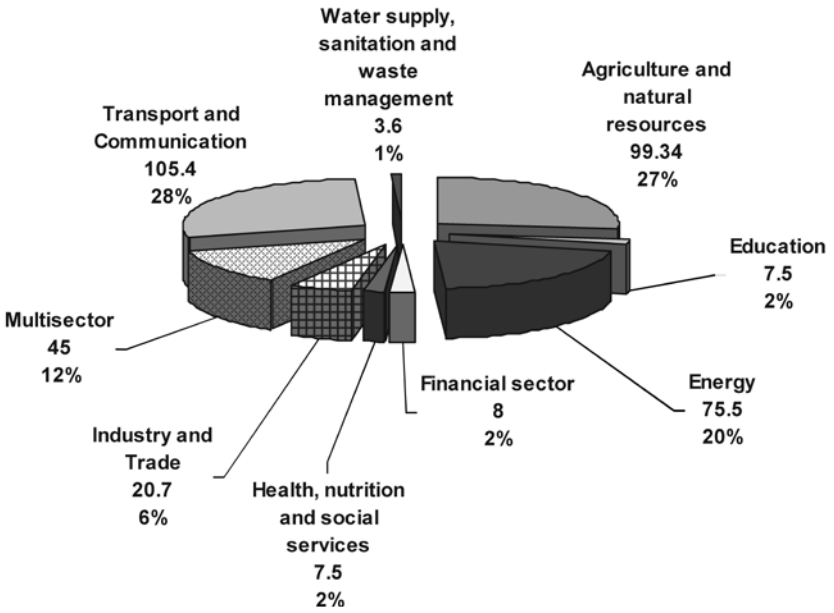

Figure 12.3
Cumulative lending
($ million)

Source:
Asian Development Bank and Tajikistan, http://www.adb.org/Tajikistan

Financial resources have been distributed to the five key sectors of the economy as follows: energy – 20.3%, transport and communications – 28.3%; agriculture and natural resources – 26.7%; industry and trade – 5.6%; and multi-sector projects – 12.1%.

Tajikistan belongs to the category of countries which receives funds only under sovereign guarantee. However, grants made up a substantial proportion of the financial resources allocated to Tajikistan in 2007. Allocations for TA projects in 2007 totalled $22.8 million. Of the total commitment of funds in 2007 of $57.9 million (including loans and grants), $38.3 million was disbursed under 14 ongoing projects.

Since the start of its co-operation with Tajikistan, the ADB has funded a number of projects which have had a significant impact on the country's economic rehabilitation and social development.

In 2006, Tajikistan's transport and communications sector benefited from the ADB's $20-million Road Rehabilitation Project, which upgraded the road from Dushanbe to Kurgan-Tyube and Kulyab in southern Tajikistan. Both towns are important commercial centres. In 2003 and 2005, the ADB approved a total of $44.5 million for the Dushanbe–Kyrgyz Border Road Rehabilitation Project. The road is the only link between the Rasht valley and the capital, Dushanbe, and is part of an international corridor to Kyrgyzstan and China.

Tajikistan hosted the sixth CAREC Ministerial Conference in November 2007, which endorsed, inter alia, the CAREC Transport and Trade Facilitation Strategy – a ten-year plan to develop six transport and trade corridors linking the CAREC countries to each other and to major international markets.

In 2006, the ADB approved a $21.5 million loan to the energy sector for the Regional Power Transmission Interconnection Project to enable the export of clean energy from Tajikistan to Afghanistan. This project will link the hydro-electric plants on the Vakhsh River in Tajikistan to Pul-e-Khumri in Afghanistan with a 220-KWt dual-circuit transmission line.

In 2007, the ADB provided funding for a Rural Development Project ($8.8 million in loans and $8.3 million in grants); the Khatlon Province Flood Risk Management Project ($22 million in loans); and a regional CAREC transport corridor project ($40.9 million in loans and $12.5 in grants).

Also in 2007, the ADB continued its efforts to resolve the issue of cotton farm debt and drafted an Agri-cotton Sector Restructuring Programme. The Rural Development Project approved in 2007 is designed to encourage private investment in non-cotton cash crops and to develop the agribusiness infrastructure.

TA funds in 2007 totalled $3.3 million, including three advisory and two loan-preparation projects.

Since joining the ADB in 1998, Tajikistan has received $372.5 million in loans, $33 million in TA and $39.5 million in grants.

Uzbekistan

Since joining the ADB, Uzbekistan has received $1.1 billion in loans (26 loans in total) and $35.5 million in TA.

The current cooperation programme focuses on rural development; the private sector; regional transport corridors and customs administration; and the improvement of public services. The Government is using TA funds to develop a strategy for the transport sector and an institutional reform programme.

About 26% of ADB lending was to education, with the Basic Education Textbook Development Project a good example of private sector participation. Rural investments support market-oriented agricultural reform to boost income, maintain irrigation systems and arrest land degradation. In the transport sector, two railway projects have overhauled 660 km of track on a key regional transport corridor and rehabilitated 341 km of track on the Samarkand–Bukhara–Khodjadavlet route and parts of the line between Djizakh and Samarkand. Loans have been used to purchase modern track-laying and maintenance equipment and to install an optical-fibre telecommunications system and computerised accounting system.

Regional cooperation projects are aimed at developing regional transport corridors and modernising customs administration in order to help Uzbekistan gain access to markets in neighbouring countries.

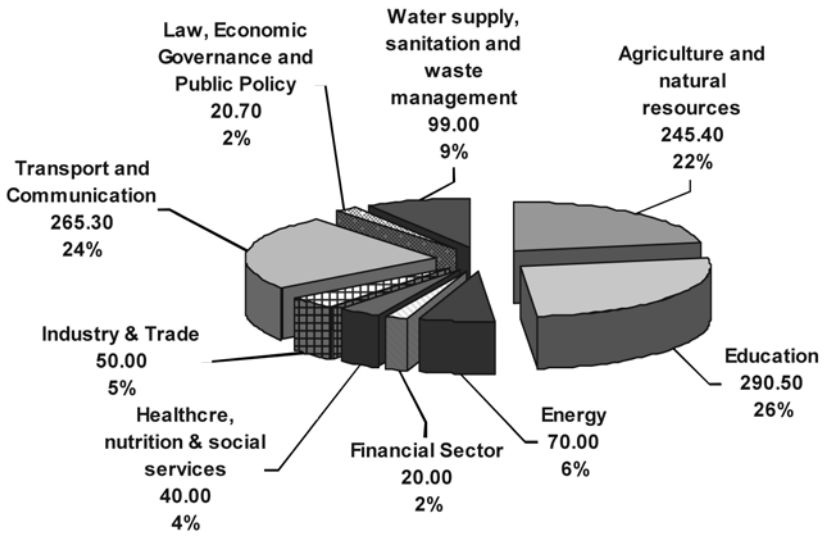

Figure 12.4
Cumulative lending ($ million)

Source: Asian Development Bank, www.adb.org/uzbekistan, as at 31 December 2007

Lending in 2007 totalled $127.4 million. A loan of $20.7 million, approved in June 2007, will support further reform of public financial management. Two more projects were approved in 2007: a $75.3 million loan to the CAREC Regional Road Project to develop strategic international highways and improve road quality in Uzbekistan, and a $30 million ADF loan to the Rural Education Project.

Up to 70% of the lending programme is earmarked for environmentally sustainable rural development projects, specifically those supporting increased agricultural productivity, private businesses and rural infrastructure.

World Bank

Table 12.3
Lending in 2002–2008 (as at 30 June 2008)

Source: www.worldbank.org, Country lending summaries

	Kazakhstan	Kyrgyzstan	Tajikistan	Uzbekistan
Approved projects	12	14	15	2
Loans*	$367.9 million	$165.1 million	$139.9 million	$55.0 million

* – commitments

The WB supports Central Asian countries' efforts to reduce poverty, especially in rural areas, and government programmes to improve the quality of social protection (health, education, access to safe drinking water) and modernise basic infrastructure (water supply, heating and power). In general terms, this region is seeing a move away from loans for structural reform, and is set to gain more from targeted investment projects.

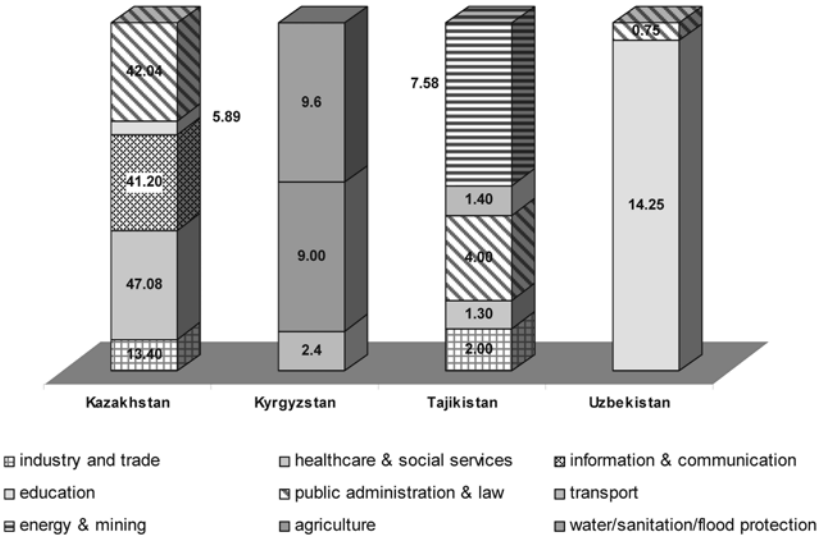

Figure 12.5
Commitments by sector in 2008 ($ million)

Source: www.worldbank.org, Country Briefs

In the 2008 fiscal year (July 1, 2007–June 30, 2008), the WB's most diverse loan portfolios were those for Kazakhstan and Tajikistan. Public-sector governance and law are key priorities for the WB and governments alike, and these sectors are systematically favoured in the allocation of loan funds. However, an examination of the overall structure of the WB's commitments by sector confirms that co-operation programmes are individually tailored to each country.

Kazakhstan

The WB has supported a number of sectors in Kazakhstan since this country joined the Bank in 1992. The WB has assisted projects to upgrade and modernize the country's power transmission systems, to increase agricultural productivity by overhauling ageing irrigation systems, and to nurture the business skills of the rural community by encouraging diversification into non-traditional activities. In addition, people in the west of the country, who have suffered from a shortage of clean water, now enjoy better health as a result of improved water supply and sanitation. As Kazakhstan's need for external financing has decreased, the WB's programme has shifted towards focused investment loans, knowledge transfer, and policy dialogue. Now, the WB's strategy focuses on the country's development priorities, including the prudent management of oil revenues and increased public-sector efficiency; improvement of the business and investment climate; enhanced competitiveness through investment in human capital and basic infrastructure; and sustained growth through focus on the environment.

As of 2008, the WB's commitments to ongoing projects totalled $607.8 million. New targeted investment loans totalling $149.6 million were approved for three projects: *Health Sector Technology Transfer and Institutional Reform; Technology Commercialization; and Customs Development*.

Kyrgyzstan

Since the Kyrgyz Republic joined the WB in 1992, the Bank has helped the country transform its mainly rural economy. It has assisted the country's land reform programme and has allocated loans for overhauling irrigation systems; improving access to safe drinking water and better sanitation in rural areas; extending the availability of rural credit; and the rehabilitation of power, heating and other infrastructure in small towns.

In addition to investment projects and structural reform, the WB has also provided TA for the preparation and implementation of projects and the strengthening of institutions. Several donors, principally the Japanese Government, are setting up trust funds for Kyrgyzstan.

As part of its programme to reduce poverty, Kyrgyzstan is reducing its external borrowing in line with a State Programme of External Debt Management and Fulfilment of Obligations in the Fiscal Sector. Reflecting the overall trend in the region, large structural reform projects are yielding ground to smaller investment projects.

As of 2008, the WB's commitments to ongoing projects totalled $199.2 million. In 2008, new targeted investment loans totalling $21 million were approved for two projects: *Agricultural Investments and Services*; and the *Bishkek and Osh Urban Infrastructure Project*. These projects are concerned with water supply (46%), agriculture (43%) and transport (11%).

Tajikistan

Since Tajikistan joined the WB in 1993, the Bank has allocated this country $532.65 million in grants and concessionary loans. As a country of low-income and low per-capita-GDP, Tajikistan receives concessionary financial resources from the International Development Agency (IDA).

Through soft loans and grants from the IDA, the WB has helped Tajikistan to rebuild infrastructure destroyed during the civil war and has supported economic reform. The WB's loan portfolio covers rural and agribusiness development (including the cotton sector); improvement of water supply in rural areas and Dushanbe; maintenance and modernisation of municipal infrastructure; water resources management in the Fergana Valley; mitigation of commercial losses in the power and gas supply systems; and reforms in public sector governance, health and education.

The Strategic Partnership between the Tajik Government and the WB for 2006-2009 focuses on: (1) supporting private businesses; (2) enhancing and preserving the quality of human capital; and (3) exploiting the country's hydropower potential. The loan portfolio includes 15 investment loans and two policy-development grants. Rural development and environmental projects account for more than half of the loan portfolio, and infrastructure and energy projects for two thirds. One quarter of the portfolio is devoted to the development of human potential (education,

health and the reduction of poverty), and the remaining 8% is earmarked for economic management.

As of 2008, the WB's commitments to ongoing projects totalled $161.4 million. Loan commitments in 2008 of a total $16.6 million go to two new projects: a policy development programme ($10 million) and a project to enhance the reliability of heating and power systems in winter. These complex projects cover many sectors including trade and industry; transport; health and social protection; energy and mining; and public administration and law.

Uzbekistan

Since Uzbekistan joined the WB in 1992, 14 loans have been approved, seven of which are ongoing. The portfolio totals $588.5 million, about two-thirds of which has been disbursed. Lending under ongoing projects totals $223.0 million.

Assistance from the WB has helped Uzbekistan to improve primary health care facilities in rural areas and access to safe drinking water in rural parts of western Uzbekistan. Funding to improve water supply in Bukhara and Samarkand is ongoing, and a project to improve drainage downstream of the Amu Darya is being implemented.

In June 2008, the WB's Board of Directors approved a new Country Assistance Strategy. Ongoing projects will be continued, but no new loans will be approved. The Strategy focuses on TA, analysis, research and consultancy.

European Bank of Reconstruction and Development

	Kazakhstan	Kyrgyzstan	Tajikistan	Uzbekistan
Number of projects	97	47	31	44
Net business volume	€1.7 billion	€119.2 million	€63.0 million	€449.8 million
Total project value	€3.4 billion	€215.4 million	€102.8 million	€1,169.9 million
Gross disbursements	€1.4 billion	€104.4 million	€39.0 million	€338.1 million
Share in private sector	81%	66%	74%	58%
Additional mobilisation	€1.7 billion	€89.3 million	€30.4 million	€704 million

Table 12.4
Lending in 1992–2008 (as at 1 January, 2008)

Source: Country references, www.ebrd.com

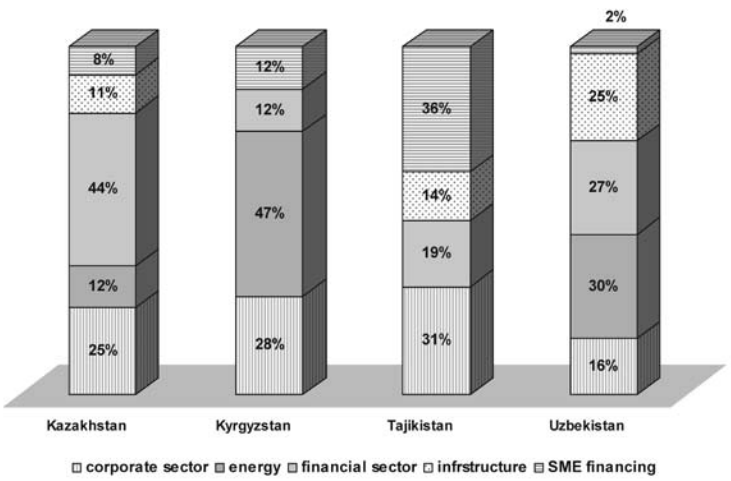

Figure 12.6
Commitments by sector

Source:
Country references, www.ebrd.com

According to EBRD classification, agribusiness, industry, real estate, tourism and telecommunications are all included in the corporate sector. The infrastructure sector includes municipal and environmental infrastructure and transport. The financial sector comprises trade finance, equity funds, banks and non-bank financial institutions. The energy sector includes natural resources and energy. Micro- and small businesses are financed through intermediary financial institutions.

In Kazakhstan, the EBRD is the largest investor in sectors not connected with oil and gas. The EBRD's priorities are the promotion of domestic and foreign investments; operations in the financial and infrastructure sectors; and support to small- and medium-size businesses. In 2007, the EBRD approved 20 new projects at a total cost of €532 million, including three projects in each of the agribusiness, bank credit and natural resource sectors; two projects in manufacturing; one each in small-business finance; bank equity investment; non-bank financial institutions; real estate and tourism; and energy; and four equity funds projects.

In Kyrgyzstan, the EBRD focuses mainly on private business, the financial sector, basic infrastructure and consultation with the Government on investment policy, privatisation in the telecommunications sector and the reform of banking supervision. In 2007, the EBRD's commitments in Kyrgyzstan totalled €12 million and covered 10 new projects, four of these in small businesses financing; two projects in bank lending; one project in a real estate and tourism sector; and one equity fund project.

The EBRD's Strategy for Tajikistan is mainly targeted at private sector development. As in Kyrgyzstan, to achieve this goal, the EBRD employs the programme financing mechanisms which are appropriate to the early stages of a country's transition to a market economy and designed to stimulate trade. These include direct lending and equity investment,

credit lines in local commercial banks for micro-, small and medium-size businesses, and the facilitation of direct foreign investment, including co-financing. Having approved nine new transactions in 2007, the EBRD's operations in Tajikistan totalled €26 million, including three agribusiness projects; five small business financing projects; a public-sector transport project; and one equity fund project.

In Uzbekistan, the EBRD's total annual operations increased to €17 million in 2007 after a sharp decline in 2006 caused by the introduction of restrictions on public sector projects. Eight new projects are being implemented, mainly under Early Transition Countries Initiative: three agribusiness projects; one project in real estate and tourism sector; one bank equity project; and one equity fund project. The EBRD's Direct Lending Facility proved to be very effective in responding to the needs of small businesses. The EBRD has sought to involve the Government of Uzbekistan in consultations on political and economic reform, including full-scale privatisation; the liberalisation of trade and state procurement prices for agricultural products; lifting restrictions in relation to the circulation of cash; and the introduction of market tariffs for utilities in all sectors of the economy.

The EBRD's portfolios for each Central Asian country notably include projects which are classed as regional investments. One such beneficiary is the Centras direct investment fund, which invests in the capital of companies operating in or exporting their products or services from Kazakhstan, Russia and Central Asia. Besides this project, there are seven other regional projects in Kazakhstan investing in real estate, environmental protection, the introduction of environmental safety standards, health and safety in Lukoil divisions which represent equity investment funds in companies in Kazakhstan, Russia, Ukraine, Mongolia, the Baltic, Georgia and Armenia. In general, these are examples of EBRD-funded projects that facilitate regional co-operation among businesses.

Islamic Development Bank

Between 1 January 2007 and 9 January 2008, the IDB Group approved financing for this region (including Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan) totalling $221.5 million. This includes nine loans for a total $206.4 million; three TA projects at a total cost of $0.7 million; and three projects to be funded by the Islamic Corporation for the Development of the Private Sector ($14.4 million). Loans approved in fiscal year 2007 nearly doubled the previous year's total. Since the start-up of the IDB's activities in the region, it has allocated $1,231.7 million to 173 projects.

Azerbaijan is the region's leading beneficiary (receiving $335.1 million), with Kazakhstan ranking a close second ($315 million). However, Kazakhstan was the largest recipient of IDB financing in 2007 (71.4% of all ordinary financing). Uzbekistan merits attention since the first allocation under the Sukuk facility was made there.

Kazakhstan

Total IDB Group funding of the public and private sectors in Kazakhstan exceeds $300 million – one of the highest figures in Central Asia. The IDB's projects and operations include the construction of the Almaty–Gulshad road and the Astana–Karaganda road; purchase of equipment for the Syzganov hospital; modernisation of Kazpost; and a rural water-supply project in Karaganda Oblast. The IDB Group also helped private companies purchase farm machinery and drilling equipment. A number of commercial banks participated in credit lines for small-and medium-size businesses, including a new $150-million project involving Kazkommertsbank, TuranAlem Bank and Khalyk Bank.

The IDB's non-credit operations in Kazakhstan relate to institutional development; the development of human potential through training; consultancy; training seminars and trips; and student grants. Examples of capacity-building TA include training of Kazakh officials in strategic planning, WTO accession, industrial development and Islamic banking and finance.

Kyrgyzstan

Kyrgyzstan joined the IDB in November 1993. By 2007, the country's loans from the Bank included seven loans for a total $60.9 million and two operations on instalments for credit sales totalling $18.5 million. Of the projects benefiting from these credits, five were completed, two were cancelled and two projects are being implemented. The IDB does not provide programme loans.

After a six-year period during which no loans were extended, in February 2007 the IDB approved a $17.3 million loan for the reconstruction of the Osh–Irkeshtam road. Kyrgyzstan had been an inactive borrower prior to this because of the difficulties it had in servicing its loans and applying disbursements, which persuaded the Government to pursue a debt-reduction strategy.

In 1995, the IDB allocated just $1.9 million in loans to Kyrgyzstan, but in 1998, lending to this country peaked at $20.5 million. Since 1998, the IDB has allocated financial resources to Kyrgyzstan on concessionary terms only. Under the terms of an IMF loan, Kyrgyzstan is unable to benefit from other forms of financing, such as credit sale, leasing or istisna.

Kyrgyzstan hopes the IDB will increase its lending programme to $34 million in 2007 to cover two projects, namely the reconstruction of the Osh–Irkeshtam road and construction of a 110–KWt power transmission line. According to a Memorandum of Understanding between the Government and the IDB, loans totalling $51.4 million are to be allocated in 2006-2008.

Tajikistan

Tajikistan joined the IDB in November 1996, in the category of IDB's Least Developed Member Countries, which includes 28 countries. Tajikistan has a 0.04% share in the IDB's subscription capital. In 1996-2007, net approved lending totalled $127 million.[1] The IDB's strategy prioritises the eradication of poverty and the development of infrastructure, the private sector, trade (e.g. inter-regional trade), Islamic banking, the banking sector and human potential.

The IDB regards transport as a key sector in Tajikistan and in Central Asia generally. In the energy sector, the IDB's portfolio includes projects to build power transmission lines and power plants, and to improve environmentally sustainable water resources and energy management. It also includes irrigation and projects to improve the management of agricultural water resources.

Tajikistan is a member of the Islamic Corporation for the Development of the Private Sector (ICD). This enables the country to access financial products such as direct financing through equity investments, credit facilities with national commercial banks and consultancy for private and state-owned companies.

As part of the CAREC programme, the IDB has participated in the financing of several regional initiatives, mainly in the energy and transport sectors.

[1] *http://www.isdb.org/irj/go/km/docs/documents/IDBDevelopments/Internet/English/IDB/CM/Publications/ Member_Countries_Facts_Figures/FF_2008.pdf, available as of September 2008*

13 First and Second EDB Round Tables on Regional Integration, November 2007 and May 2008

The first EDB Round Table: Perspective Areas and Mechanisms of Regional Integration of EurAsEC Member States

On November 15-17, 2007, the Eurasian Development Bank (EDB) held its first Round Table in Almaty on Perspective Areas and Mechanisms of Regional Integration of EurAsEC Member States.

Among crucial problems that have emerged in the region, the round table discussed mutual trade and mutual investment between EurAsEC member states, the globalisation of the economies of EurAsEC countries, the Central Asian water and energy sector and the development of cross-border infrastructure in EurAsEC.

"We regard the round table, which was the first international forum organised by the Eurasian Development Bank, as a practical step towards developing the EDB's research programme and analytical work," said Vladimir Yasinskiy, member of the EDB Board. "We consult our participants on issues relating to economic development, the efficient use of resources and the expansion of trade and economic ties. In accordance with the Strategy for 2008-2010, the Bank aims to become a leading intellectual centre offering analytical and information support to integration processes in member states."

Well-known experts in economic and political intra-regional relations attended the round table; among them were CIS Deputy Executive Secretary Yevgeniy Novozhilov, EurAsEC Deputy Secretary-General Serik Primbetov, Director of the Institute of Economic Forecasting of the Russian Academy of Sciences Viktor Ivanter, Head of the Centre for Comparative Studies of Transformation Processes at the Institute of Economy of Russian Academy of Sciences Leonid Vardomskiy, Acting Chairman of the Executive Committee of the International Fund for Saving the Aral Sea Sulton Rakhimov, and international financial experts and EDB officials.

International experts identified a number of barriers to integration processes in EurAsEC.

"Unless we create a proper infrastructure, our sentiments about business will not lead anywhere. It will perform to its capacity only and when an energy system, a road and railway networks and many other

things are put in place. However, this alone is not sufficient either; there is another form of infrastructure which is absolutely necessary, and that is a financial infrastructure. Without it, business – except for largest, oligarchic structures – will not be able to work," said Academician Viktor Ivanter, director of the Institute of Economic Forecasting at the Russian Academy of Sciences.

"In the performance of banking systems in EurAsEC member states, as in the whole post-Soviet space, over the past few years we can point to both successes and persisting problems," noted Anna Abalkina, senior research fellow at the Centre for Problems of Globalisation and Integration at the Institute of Economy, Russian Academy of Sciences. Banking systems have significantly advanced in their development over the past 15 years. For example, reforms in this sphere have led to a two-tier banking system and a growth in the capitalisation of banks in EurAsEC countries. In the past year alone, their combined assets grew by over 60%. Growing transparency and the increasing role of foreign capital, which facilitates competition on the market and improved corporate standards in the banking sector have become a positive result. Russia and Kazakhstan's banks have been active in condacting their IPOs in recent years.

"It is premature to create a formal single financial market at the moment. It is more promising to take measures to strengthen stability of national financial systems, increase their capitalisation and develop a regional capital market," Ms Abalkina said.

Another important aspect of integration problems was examined by Leonid Vardomskiy of the Russian Institute of Economy in his presentation entitled "EurAsEC Among Post-Soviet Integration Groups: Incentives and Barriers to Development". He believes that, compared to other integration blocs, EurAsEC holds the most promise because of the absence of significant contradictions in the foreign policies of member states, external threats which are largely common and national leaders' understanding that many major problems related to socioeconomic development and global positioning can be solved by expanding mutual cooperation. A recent agreement on the creation of the Customs Union as part of EurAsEC by Belarus, Kazakhstan and Russia means that "the community has switched to a two-tier system for regulating foreign trade relations" which makes it possible to address the difference in the preparedness of members for a higher level of cooperation, which emerged during integration. A group of the most developed countries in EurAsEC has completed the stage of recovery growth and is entering the stage of active modernisation, demanding deeper reforms of economic partnership. Meanwhile, other members of the community are not ready for the Customs Union because of the state of their economies. Some have not completed the recovery stage (Kyrgyzstan and Tajikistan); others are lagging behind in terms of economic institutions and foreign trade cooperation (Uzbekistan). They will cooperate with one another and with the Customs Union countries at the level of a free trade zone.

Using a two-tier model in EurAsEC is a step forward in creating a successful regional bloc. At the same time, we should be aware of a number of threats posed to this project. One of them is linked to the fact that the modernisation and diversification of the economies of Belarus, Kazakhstan and Russia are based above all on technologies obtained from third countries. This may complicate the formation of the Customs Union. Gains for national economies from the Union (the mutual openness of commodity markets, the coordination of customs, foreign trade and currency policies, scale of production and so on) may not compensate them for losses inflicted by collective protectionism (the appreciation of imports, the poor quality of regional products and so on). Another problem is created by the founding countries' desire to join the WTO. Despite declarations of simultaneous movement towards two aims, at a certain stage the countries will have to choose their priorities and this will have an impact on the terms and conditions of fulfilling the aim, which will be pushed into second place, the expert believes.

G. Kasymov of the Department of Transport Policy and Market Infrastructure at the Secretariat of the EurAsEC Integration Committee, raised the problem of the discrepancy between transport infrastructure and a growth in freight, the inefficiency of using transport potential and the inadequacy of conditions for transiting between the Asia-Pacific region and Europe through EurAsEC. The expert outlined priorities for the formation of a single transport space. This concerns drafting and implementing proposals to create rational schemes for building logistics centres; planning direct container routes; defining problems in the development of transport infrastructure to remove barriers to the free movement of transport through member states; coordinating efforts of transit countries to bring transport links in line with international standards; organising multimodal shipments; developing the main transport network and improving traffic controls within it; devising mechanisms to jointly develop transport infrastructure; implementing a set of measures to improve transport safety; and creating mechanisms to charge for the use of transport infrastructure.

Sulton Rakhimov, acting chairman of the Executive Committee of the International Fund for Saving the Aral Sea, pointed to the significance of work in the sphere of managing water resources in the region, being conducted with assistance from international organisations, and the need to pursue cooperation with the aim of finding mutually-acceptable solutions in this sphere. At this stage, issues relating to the rational use of water and energy resources are mainly discussed within the framework of two regional organisations – the International Fund for Saving the Aral Sea and EurAsEC. The fund has been dealing with these issues since 1993, whereas EurAsEC, realising the importance of this issue in the region, started dealing with it only recently. However, the activity of both organisations, as well as their desire and direct efforts, give grounds to hope that this issue will be solved soon and, therefore, help socioeconomic growth and sustainable development in Central Asia.

The following problem was raised at a follow up press conference on the results of the round tabe: how lawmaking on integration in EurAsEC could be combined with Russia's policy to encourage immigration from member states, which is actually draining specialists from the neighbouring countries. Russian experts acknowledged that labour migration processes in the Community were complex and needed regulation and harmonisation. The year 2008 may be declared the year of "finding a solution to this problem".

The second EDB Round Table: Developing Cross-Border Infrastructure in the Eurasian Space

The Eurasian Development Bank held its second Round Table in Moscow on 15–16 May, 2008. Heads of executive bodies of the CIS and EurAsEC and national government agencies, leading scientists and experts from Russia, Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan took part.

The meeting discussed topical regional problems relating to institutions and conditions for integration in the sphere of infrastructure and transport corridors, common energy markets, the experience and mechanisms of cooperation in the basins of cross-border rivers, the development of the Central Asian water and energy sector, financial integration and investment in cross-border infrastructure and border cooperation.

Participants in the meeting welcomed the EDB's initiative to develop the mechanism of the round table as a regular platform for the wide, unbiased and objective discussion of acute topical and long-term topics and for preparing recommendations on expanding integration processes. Joint efforts by round table participants may well turn these meetings into an efficient and informal instrument for developing integration interaction.

The main conclusions and recommendations drawn up at the round table were:

In the electric power sphere:

• despite remarkable activity in the past few years, mutual investment in energy sector remains at a low level and is characterised by a unilateral structure. Practically all investment has been made by Russia and its entities. Insignificant mutual trade in electricity and the low level of mutual investment are not in line with the great potential the sector has to offer;

• the creation of a common electric power market is facing a number of barriers. A major obstacle is incomplete liberalisation on the Russian market, which is the largest market in the CIS and forms its backbone;

• the logic of a common electric power market demands expansion beyond the relatively narrow limits of the post-Soviet market. The incentive to expand the zone of the common power market is a specific aspect of this sector. Both Russia and Kazakhstan, which act as locomotives

of economic integration in the region, and other countries – Armenia, Azerbaijan, Belarus, Kyrgyzstan, Tajikistan, Turkmenistan, Ukraine and Uzbekistan – are showing an interest in this. Almost all CIS countries can gain real advantages as countries exporting and transiting power if the mechanisms for a common power market involving Eurasian giants such as China, Iran, India, Turkey and EU states are launched.

In the sphere of transport corridors and transport infrastructure:

The formation of a single transport space requires the following tasks to be resolved:

• drafting and implementing proposals on the best transport routes to transport passengers and freight, including the creation of rational schemes to build international logistics centres, planning direct (rapid) container routes and attracting freight that is appropriate in that particular region;

• defining the most topical problems in developing transport infrastructure with the aim of eliminating barriers to the free movement of transport in Eurasian countries and utilising the countries' transit potential;

• coordinating efforts of transit countries to bring transport communications into line with international standards;

• developing cooperation between different types of transport and organising mixed (multimodal) shipments;

• eliminating natural barriers which have a negative impact on shipments by developing the main transport network and improving traffic control in it;

• forming financial mechanisms for the joint development of transport infrastructure;

• implementing a set of measures to improve transport safety (above all, road safety);

• creating efficient mechanisms to charge for the use of transport infrastructure.

In the water and energy sphere:

In the sphere of cooperation in solving the Aral Sea problem and water and energy cooperation in the Aral Sea basin, the following priorities exist:

• continuing work to ensure and restore the system of monitoring cross-border waters to take efficient measures to use and protect water resources from depletion and pollution;

• strengthening regional cooperation on the basis of international practice in managing cross-border rivers. One prospect for improving water relations between Aral Sea countries is to initiate their rapid

accession to the 1992 UNECE Helsinki Convention of the Protection and Use of Transboundary Watercourses and International Lakes;

• speeding up the development and adoption of appropriate intergovernmental agreements on the basis of a concept for the efficient use of water and energy resources in the Central Asian region drafted under EurAsEC to create efficient interstate institutional, legal and financial mechanisms for the joint use of water resources in cross-border rivers and the development of their hydrotechnical potential;

• maintaining a balance of interests between irrigation and hydro-energy generation. National interests of the countries in the upper areas are based on using the water flow to generate power, while countries in the downstream areas need it for irrigation. Their interests in the Syr Darya river are assured by the framework agreement adopted on 17 March 1998, which is not binding. An international water and energy consortium with the appropriate functions and powers could solve this problem;

• strenthening the status and efficiency of the activities of regional cooperation structures under the auspices of the International Fund for Saving the Aral Sea.

14 Book Review: Boris Kheifets and Aleksandr Libman "Corporate Integration. An Alternative for the Post-Soviet Space"

Yerzhan Moldabekov

Kheifets B. and Libman A. (2008) *Corporate Integration. An Alternative for the Post-Soviet Space*, Moscow: LKI

The book discusses corporate integration, which is quite a new phenomenon in the post-Soviet space.

Corporate integration in CIS countries is boosted by the expansion of economic activities by enterprises beyond certain CIS countries. Many firms from CIS countries export their products to other countries and import resources from their, and in order to improve the efficiency of their activities they build business chains by buying enterprises in other CIS countries or using a system of trade loans. The acquisition of stakes by enterprises and the use of the system of trade loans are perfect examples of corporate integration of CIS countries. As a result, the need has emerged to analyse various approaches to bringing about integration and study foreign experience and, based on it, draft the most efficient means of corporate integration in the post-Soviet space.

The authors of the monograph, Boris Heyfets and Alexandr Libman, have been working on this topic for many years. In 2006, they published a monograph entitled "Expansion of Russian Capital to CIS Countries" (Moscow: Ekonomika). In this book, based on revised and updated information, the authors compare the advantages of corporate integration with the strengths of so-called formal integration and analyse their mutual relations. In other words, they compare bottom-up integration with top-down integration. On the basis of this analysis, they conclude that corporate integration and formal integration are not adversaries. On the contrary, thanks to its greater efficiency corporate integration supplements and creates conditions for developing formal integration.

The book also provides a historical and regional review of different approaches to corporate integration taking place in the world and analyses the advantages and shortcomings of different types of corporate integration and their applicability in the post-Soviet space.

Among types of integration, particular attention is paid to investment expansion, because this is the most widespread type of integration in the post-Soviet space. Based on statistical data, the authors analyse the flows of different types of investment between CIS countries, and study examples of the acquisition of stakes by companies in the post-Soviet space. In addition, the authors describe the main investment strategies adopted by enterprises in the post-Soviet space and specify their positive and negative aspects.

The monograph also discusses other types of corporate integration such as production and scientific cooperation, international strategic alliances, labour migration and mutual economic relations between regions. The authors show that production and scientific cooperation in the CIS has a significant foundation thanks to a common production and technical infrastructure inherited after the break-up of the USSR. It also scrutinises the reasons for labour migration and its importance in the context of corporate integration in the post-Soviet space.

The book also analyses the competitive environment in the CIS (competition between companies from CIS countries and other countries) and its influence on corporate integration in the CIS.

Compelling qualities of this book include the clarity and consistence of presentation as well as the application of a large amount of illustrative data on the flows of investment between CIS countries and the acquisition of stakes by various enterprises in companies from other CIS countries.

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Khristenko V.B. (2004) Making Headway to Integration, *Russia in Global Politics*, No.2 (March-April). http://eng.globalaffairs.ru/numbers/6/508.html, available as of September 2008.

Mau V., Novikov V. (2002) Otnosheniya ES i Rossii: prostranstvo vybora ili vybor prostranstva? *Voprosy ekonomiki*, 6: 133-143.

Olcott M.B., Eslund A., Garnett S.W. (1999) *Getting It Wrong. Regional Cooperation and the Commonwealth of Independent States*, Washington D.C.: Carnegie Endowment for International Peace.

Schleifer A., Treisman D. (2003) *A Normal Country*. NBER Working Paper 10057.

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Journal of Eurasian Economic Integration

The *Journal of Eurasian Economic Integration* is a quarterly academic and analytical journal published in Russian by the Eurasian Development Bank. The members of the Editorial Board and Advisory Council are distinguished academicians, practitioners and renowned experts in regional integration. *Eurasian Economic Integration* brings together academic and analytical articles, reviews of books relating to regional integration, interviews and quarterly chronicles of regional integration. With its focus on economics, the journal is a rich source of material addressing a broad range of issues specific to Eurasian integration. These include integration theory and its relevance to the development context; economic integration (trade, investment, financial institutions); institutional integration; cooperation issues in the post-Soviet space; and international experience of regional integration. The first issue was published in the third quarter of 2008.

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Industry Reports

The following Industry Reports have already been published and distributed:

- *Nuclear Energy Complexes in Russia and Kazakhstan: Prospects for Development and Cooperation.* April 2008. In Russian and English.
- *Water and Energy Resources in Central Asia: Utilisation and Development Issues.* April 2008. In Russian and English.
- *The CIS Common Electricity Market.* August 2008. In Russian and English.

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