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The Jobs Challenge

Fresh Perspectives on the
Global Employment Crisis

 **DAI**

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Guest Reviewer: George Laudato

Series Editors: Steven O'Connor,
Elizabeth Drachman

Designer: Joanne Kent

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IN SEARCH OF NEW SOLUTIONS TO THE EMPLOYMENT PUZZLE: A GUIDE TO THE JOURNAL

by Ulrich Ernst and Lara Goldmark

Almost 50 years ago, a survey of economic policies in nine Western countries put “full employment” at the top of the list of objectives (Kirschen and Morissens 1965). Raising incomes—gross domestic product (GDP) per capita—did not make the list. Since then, policies have focused much more on growth, with the expectation that a rising income tide would lift all boats and ensure maximum employment. The lingering effects of the Great Recession have placed the issue of employment back at the center of economic policy discussions. Job losses during the worldwide economic slump continue to bedevil policy makers in a wide range of countries. Dismal employment prospects, especially for young people, have led to major social conflicts. Most observers agree that the bleak employment outlook played a critical role in the Arab Spring. Unemployment and income losses already threaten the accomplishments of European integration. In emerging economies, the global crisis has further complicated the challenge of integrating the informal sector.

The magnitude of the employment challenge is enormous. In the Middle East and North Africa, anywhere from 55 to 85 million jobs are needed to employ youth. In high-income countries, it will take some 14 million new jobs to restore employment to pre-crisis levels (International Labour Organization 2010: 3). The economic, social, and political costs of inaction are staggering.

While full employment has re-emerged as a cornerstone of economic policy, new realities in

labor markets render traditional policy instruments less effective. Even so, one cannot help but experience a sense of déjà vu in today’s policy debate. Much of it revolves around the same arguments advanced by John Maynard Keynes (and countered by Friedrich von Hayek) in responding to the massive unemployment of the Great Depression.¹ That debate from the 1930s may be of historical interest, but we no longer live in a world where simple approaches yield simple solutions. It is high time to change the way we think about employment. The current global crisis may offer an opportunity to do just that—by providing a sense of urgency, highlighting the limitations of traditional policy instruments, and calling for creative new approaches.

As the world of work has changed, we have begun to realize that rising to the jobs challenge requires systemic solutions. Seemingly minor elements in, say, regulatory regimes may have significant and often unwanted impacts on investment behavior and hiring decisions. Policies designed to promote full employment therefore can no longer be limited to “labor market policies” or attempts to boost aggregate demand. Structural solutions need to traverse traditional policy boundaries. DAI’s experience in developing regions—the Middle East and North Africa, Sub-Saharan Africa, Asia, Latin America, and countries in transition—has taught us that employment is an issue everywhere, and that it takes a concerted approach to solve the jobs puzzle. This issue of *Developing Alternatives*

¹ Keynes argued for expanding aggregate demand to make up for slack demand by households. Hayek believed that expanding aggregate demand through government expenditures would create uncontrollable inflationary pressures. See Wapshott (2011). For a more entertaining view of that clash and its aftermath, see the videos of “Keynes vs. Hayek, Round Two” at www.econstories.tv.

aims to contribute to the debate through a development lens. While many of the current lessons have in fact been learned in countries belonging to the Organisation for Economic Co-operation and Development, the issues facing developing and transition economies are unique and demand new thinking.

Perhaps nothing illustrates the economic, social, and political impacts of dismal job prospects as well as the Arab Spring (although events in Europe may ultimately rival it). As Edward Sayre makes clear in the journal's first article, the Arab Spring has demonstrated the consequences of a government's failure to uphold the social contract, sometimes by design, sometimes by force of circumstance. The article also illustrates how traditional thinking raises expectations that modern economies simply cannot fulfill, creating serious mismatches between the worlds of academe and economy. While the situation in other countries may be different, the impact of dashed expectations and diminished life prospects are universal. World leaders today are acutely aware that societies must offer economic opportunity to youth—and that youth must be equipped with the necessary skills to seize those opportunities.

Failure to generate jobs (or fill those that do exist) raises questions about the adequacy of policy instruments. What is a government to do? Ulrich Ernst's "The Looming Jobs Challenge" walks the reader through the major levers in the economic policy toolbox, highlighting what each can and cannot do. While the government may be able to provide some short-term mitigation in the event of employment crises or shocks, budget pressures have curtailed the maneuvering options. In any case, actual job creation through government actions has always been, and will always be, quite limited. Stimulating demand for labor and equipping job seekers to take advantage of emerging opportunities calls for structural policies. Key elements of such policies must be pursued in the medium-to-long term, to allow private firms to grow and

educational systems to meet the needs both of individuals and of economic value chains. The emphasis no longer can be on short-term "band aids," the current situation requires longer-term rethinking to reshape the world of work.

Bryanna Millis and Marina Krivoslykova explore the apparent dilemma of rising labor productivity and its impact on job expansion. Obviously, in a static analysis, higher labor productivity means lower demand for labor—other things being the same (*ceteris paribus*—the economist's escape clause). The simplification that higher productivity means job losses has driven dissenting movements, starting with the Luddites in 18th-century England. In reality, of course, nothing else stays the same. The answer as to whether jobs are lost or gained as productivity rises depends on multiple market and policy factors. In a developing economy undergoing a structural transition, productivity changes are needed to compete globally, and the overall impact of rising productivity on worker remuneration and aggregate demand hinges on structural characteristics and the ability of domestic suppliers of goods and services to respond to increased demand. The authors spotlight two important factors as worthy of attention in today's global economy: rapidly increasing natural resource scarcity and the role of process or product innovation (with the former likely to reduce jobs and the latter tending to increase employment).

In "Flexibility that Works," Lara Goldmark and Karen Miller make the case that it is time to free ourselves from the shackles of antiquated legal and regulatory frameworks, and outdated ideological debates. They question the notion that jobs are for life, 40 hours a week, every week. They briefly review some of the evidence regarding the direct and indirect costs of labor and their implications for hiring decisions. And against that background, they propose an updated definition for "flexible labor markets" that includes a broader range of employment options—from programs that allow low-income

mothers access to childcare, transport, and shorter working hours to training programs that combine internships, on-the-job training, mentorship, and career counseling. At the macro level, these types of policies can ensure that economies are able to make “soft” adjustments to employment arrangements in times of crisis; and at the micro level, “workplace flexibility” initiatives can help place and keep youth and low-income individuals in jobs.

Louise Williams addresses the current tension in the workforce development arena between, on the one hand, emphasis on life-long learning and critical thinking, and, on the other, “relevance” and “practical skills” in worker education and training. Adopting a “bottom-up” approach, she examines an emerging model for workforce development that entails placing an analytical overlay on the value chain map. This approach allows practitioners to define the universe of key jobs along the chain, identify their critical skill sets, and implement upgrading initiatives for workers that make the best use of available resources. Williams cautions, however, that by focusing only on the immediate priority of relevance, reformers risk sending the message of, “Don’t think—work!” Most countries are well advised to match their supply of practical skills more effectively to the demands of the local job market. However, there is good reason, given the dynamic nature of markets and the need for workers to adapt and learn throughout their careers, to stress training in more complex thinking and information-processing skills. The value chain approach allows for a better combination of responding to the immediate needs of the economy and laying the foundations for meeting future challenges.

Education and workforce development are at the core of structural policies designed to achieve and sustain full employment. Higher education in particular can and must play a crucial role in this process. It is at once an “industry” that competes globally and a pillar of

support for other sectors in pursuit of innovation to boost competitiveness. (In some respect, this dual role parallels that of the information technology sector.) Both aspects of higher education require careful policy attention to make the sector itself competitive and to leverage its full contribution to productivity-raising innovation in other value chains. In the concluding article, Manuk Hergnyan and Howard Williams explore the policy options to ensure that higher education plays its role in the overall development and job creation process. That article has its roots in the *National Competitiveness Report of Armenia 2010*, which focused on the role of higher education in the economy as part of a comprehensive competitiveness strategy for the country (Economy and Values Research Center 2010).

These articles highlight ideas and options that can help policy makers and practitioners address unemployment in the context of a global crisis. Rethinking the employment puzzle will be a long process. It is our hope that the perspectives offered in this journal may help to illuminate the way forward.

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DIMENSIONS OF YOUTH UNEMPLOYMENT IN THE MIDDLE EAST

by Edward Sayre

A skills mismatch

The Middle East is facing the highest level of youth joblessness in the world. This joblessness is the result of a combination of demographic forces and the failure of economic, educational, and political institutions to create good employment opportunities or to help youth meet the skill requirements to obtain existing jobs. Traditionally, many young people in the region saw education as the way to acquire credentials for government jobs (Said 2001). However, since the collapse of the regional economy in the 1980s, those jobs have not been forthcoming (Shaban, Assaad, and Al-Qudsi 2001). Without reforming their economic, educational, and political institutions, countries in the Middle East are likely to experience persistently high youth unemployment.

The failure of economic, educational, and political institutions represents a broken social contract. In the post-colonial period, governments of the Arab republics—the very countries where the connection between demographic trends and unemployment is now most apparent—had in effect promised their citizens economic well-being (Salehi-Isfahani 2001). The rupture of this social contract, by not being able to absorb the swelling youth population into the ranks of the employed, is at the root of the Arab revolutions of 2011. We will present three case studies—Tunisia, the West Bank and Gaza, and Qatar—to explore the connection between demographic developments, the institutions that serve youth, and youth unemployment, and to shed light on the connection between youth unemployment and the Arab Spring.

The youth bulge in the Middle East

The Middle East is in the midst of a demographic transition, moving from high to low fertility rates. From Morocco to Iran, the region is experiencing a “youth bulge”: young people aged 15 to 29 comprise near to or more than 30 percent of the total population, compared to approximately 20 percent in most Western countries (Sayre and Constant 2011).

Previous rapid population growth has led to large cohorts of young people, but because of unemployment, many youth have delayed getting married and having children, resulting in recent fertility declines. With fewer (or no) dependents, these youth are uniquely able to turn their disaffected status into political action. Educational systems and labor markets are under intense pressure to provide these young people with skills and employment, and they have largely failed to do so. Because the entrance of these youths into the labor market coincided with government inability to provide employment, these new entrants have been characterized as a “generation in waiting” (Dhillon and Yousef 2009). They have been unable to transition from the education system to employment, often going for two to three years without jobs after graduation. Accordingly, the average age at marriage has risen sharply and young people are waiting even longer to raise a family.

The popular movements in Tunisia, Egypt, and Libya in 2011 show the consequences of failing to meet the needs of youth. Continued failure in these and other countries will intensify frustration and deepen political challenges. And, as Dhillon and Yousef point out, the new regimes

will not be able to address the delayed transition to adulthood of Arab youth without dramatic reforms.

Institutional failures

This delayed transition results from a lack of resources to accommodate the burgeoning youth numbers. When many Arab countries began running short of funds in the 1980s, they broke the post-colonial social contract. Most evident in the republics of the Levant and North Africa, this contract was essentially a tradeoff, at least for the middle and upper-middle classes: limited political freedom for the guarantee of employment. Egyptian Law No. 14 of 1964 was exemplary, guaranteeing every university graduate a government job (similar laws existed elsewhere in the region). While this law was no longer enforced as of 1984 (Assaad 1997), Egyptian families continued to spend inordinate sums on private tutoring in order to guarantee enrollment in higher education, which still seemed to offer a chance to land a government job.

At the same time, regional educational systems have failed to produce the types of graduates needed in modern economies. During the relative economic boom of the early 2000s, for example, Egyptian companies continued to face manpower shortages in critical fields, even though youth unemployment rates hovered in the double digits. Secondary schools, vocational schools, and colleges in other Middle Eastern economies are not producing the right kinds of graduates to meet private sector needs. Rather, these educational systems are producing students with few of the critical reasoning skills vital for the economy of the 21st century. Centralized and bureaucratic, the educational systems are set up to reliably deliver the wrong set of skills; they are unlikely to correctly prepare students for what the market will need in a global economy dominated by firms that succeed by virtue of their ability to respond quickly to advances in technology and markets.

Antiquated economic institutions and governing norms (including rigid labor laws that do not allow firms to shed workers or otherwise adapt their labor profiles when needs change) distort the signals for new skills demanded. For example, parents are still investing heavily in private tutors to get their children into the best schools. The goal is to perform well on national standardized tests, without regard for the applicability of these skills to the job market. As a result, private tutors are ubiquitous in the region, and teachers are paid so poorly that they save their energy and efforts for the wealthier students who can afford to employ them privately after school. The teachers, parents, and students are all colluding in a system where it makes sense to short-change students who cannot afford tutoring in order to guarantee high test performance for those who can. Even after these investments, however, the students have limited human capital because they have merely learned how to perform well on the test and earn graduation credentials.

Unemployment

Chronic unemployment in the Middle East stems from three factors. First, populations expanded rapidly due to declining infant mortality and fairly stable fertility. Second, relatively full government coffers in the 1970s led governments to expand their role—and public expectations thereof—in providing public sector jobs if educated workers could not find work elsewhere (either in their domestic economy or in countries such as the Gulf states, which provided a safety valve for local domestic labor markets). Third, the reversal of oil prices dried up job opportunities in the Gulf and hurt the purses of domestic public sector finances in the 1980s and 1990s when remittances from the Gulf slowed down.

For young people born in the 1980s and 1990s, the effects of these events have been particularly acute. Youth unemployment exceeds 20 percent in every Middle Eastern country. The youth unemployment rate relative to the

unemployment rate of older people indicates the degree to which this current generation has been denied the opportunities provided to previous generations. This relative deprivation can be seen in countries such as Egypt, Jordan, and Syria, where the youth unemployment rate is four times that for workers over the age of 30 (Kabbani and Kamel 2009). In Egypt, youth make up 80 percent of the total unemployed, and 95 percent of unemployed youth have at least a secondary education (Assaad and Barsoum 2009).

Case Study 1: Tunisia

Tunisia, birthplace of the Arab Spring, serves as a useful example of how the youth bulge encountered political and economic institutions that have failed Arab young people and delayed their transition to adulthood.

Demography

Tunisia's demographic profile shows a clear transition from high to low fertility, but the politics of Tunisia's demography are distinctive. Tunisia has been a leader in the Middle East in progressive reforms regarding the economic and marital rights of women. Shortly after rising to power in 1956, Habib Bourgiba established a new family law that guaranteed Tunisian women many rights that are still denied elsewhere in the region. Specifically, this new law ended the practice of *talaq* (repudiation) divorce, outlawed polygamy, and afforded women equality in divorce proceedings. New laws raised the legal age of marriage, encouraged the enrollment of girls in school, and empowered women to seek birth control well in advance of their North African neighbors, creating job opportunities for women and allowing them to get the education and income needed to be financially self-sufficient (Richards and Waterbury 1996: 86). In 1956, the fertility rate in Tunisia was 7.1 children per woman, not unlike many of the post-colonial states (Zouari-Bouattour and Siala 2001). Today it is below 2.0. Overall, the rate of population growth declined from 3 percent per year to less

than 1 percent per year in the 2000s. Tunisia went through the demographic shift from high birth/high death rates to low birth/low death rates much sooner than other North African countries.

With the decrease in fertility came two direct effects. First, schooling of girls increased. The demand for female education rose as the number of children fell and females did not have to compete with as many male siblings for educational resources. Second, armed with higher levels of schooling and more civil and economic rights, more women entered the workforce. Female labor force participation remains lower in Tunisia than in the West, but stands well above the rest of the region.

Employment and education

Tunisia also is at the forefront of the Arab world when it comes to external economic relations (being one of the first countries to sign a Euro-Med agreement with the European Union). But its labor market and educational institutions remain highly static and prevent the dynamic development of human capital.

Specifically, the school-to-work transition in Tunisia suffers from the following barriers:

- A nationalized, top-down curriculum and standards that are inflexible and unresponsive to local needs;
- A focus on general studies leading to a *baccalauréat* destined for continuing at the university;
- Tracking of students into rigid vocational tracks tied to careers in government-controlled sectors; and
- Poor job prospects that encourage young people to extend their education and defer entry into the labor market (Boughzala 1997).

Additionally, despite economic reforms in trade and capital markets, strict labor regulations remain in place, inflating the cost of hiring new workers.

Youth unemployment

This rigid system has led to high and rising rates of youth unemployment in Tunisia. While the overall unemployment rate has been decreasing, rates for 20- to 24-year-olds and 25- to 29-year-olds are at least double those for people in their 30s and beyond. The unemployment rate for Tunisians aged 35 to 39 fell from 8.6 percent in 2004 to 6.6 percent in 2008, while the rate for youth aged 25 to 29 years rose from 20.1 percent to 25.2 percent over these same years (Haouas, Sayre, and Yagoubi 2012).

This relative increase in the unemployment rate for Tunisian youth happened against a backdrop of rapidly rising labor force participation for nearly all workers. The percentage of workers who were working or seeking a job rose from 61.7 percent to 66.4 percent for the 35- to 39-year-old age group; the labor force participation rate for 25- to 29-year-olds also increased from 62.9 to 66.2 percent. However, the youngest workers, who continued to fare the worst, were dropping out of the labor market in record numbers. As young people continued to extend their schooling years to avoid the poor labor market, they eventually left school with even worse prospects than those who graduated before them. The Tunisian case is one where the economic outcomes for youth became disconnected from the broader economy, and these new entrants continued to suffer from joblessness despite a growing economy.

Case Study 2: West Bank and Gaza

The West Bank and Gaza offer an intermediate case of youth unemployment and disaffection. Palestinian youth have not fomented revolution, perhaps deterred by their more recent experience with extreme political violence. (A similar case in North Africa is Algeria, which, because of its intense civil war between the government and Islamist militants in the 1990s, did not see an elevated level of political tension in 2011.) This lack of political violence, however, does not

mean that the prerequisites for turmoil do not exist, nor does it rule out the possibility that disaffected Palestinian youth will take to the streets to demand change.

In the areas of demography, education, and employment outcomes, the Palestinians fall somewhere between the static labor market of Tunisia and the growth economies of the Gulf. Demographic trends for Palestine actually diverge between the West Bank and Gaza Strip. The fertility rate in the West Bank has been dropping steadily since the 1990s; by 2008, the West Bank began to show signs of the youth bulge. In Gaza, the size of the youngest cohorts has not peaked and the 0- to 4-year-old cohort in 2008 was the largest of all. The reasons for this lack of the youth bulge have largely to do with the poor economic prospects in Gaza, which limit, in particular, job opportunities for women outside the home, resulting in few incentives to engage in family planning and continued high birth rates (Sayre and al-Botmeh 2009).

Demographic projections show that the overall percentage of 15- to 29-year-olds in the West Bank is close to reaching a maximum of nearly 30 percent in the next five to 10 years, but the youth in Gaza will reach a maximum percentage in 2035.

The overall unemployment rate in the West Bank and Gaza is considerably higher than in most Middle Eastern countries, and is even higher for young people—above 40 percent on average for both West Bank and Gaza in 2010. The source of high unemployment among Palestinians differs from what one would see in Tunisia, Egypt, or even Syria. The Israeli market was for some time a major source of employment for Palestinians, but the number of Palestinians allowed to work in Israel has been curtailed from nearly 400,000 in 1993 to fewer than 100,000 today. With the strong growth in the size of the Palestinian workforce and the political turmoil since the mid-1990s, the Palestinian economy

has not been able to absorb all the new labor market entrants. A second source of unemployment, however, is similar to the rest of the region: the educational system has failed to match skills with jobs.¹

Case Study 3: Qatar

The Gulf state of Qatar, rich in natural gas and ambitious in its development plans since the 1990s, stands in stark contrast to countries of the Levant and North Africa. Boasting the highest per capita income in the region and continuing to grow and develop in new areas, Qatar's economy seems far removed from the problems of youth unemployment plaguing the Middle East. However, for all its differences, Qatar faces some similar challenges: relatively high unemployment levels for young people, and institutions favoring training for specific types of jobs that may not be available under varying economic conditions.

Qatar's population has increased dramatically in the past 20 years. The number of Qatari nationals increased from 116,000 in 1990 to more than 230,000 in 2010 (QSA 2012). The overall population increased even more dramatically as the number of expatriates increased from 305,000 in 1990 to more than 1.4 million in 2010. These developments were largely a response to the aggressive development strategies Qatar has financed since 1995 and the need for non-Qatari labor, especially in the construction sector.

Qatari unemployment is primarily a problem for first-time job seekers and women with less than a college education, although other demographic groups still exhibit significant numbers of unemployed. Only 13 percent of unemployed male youth (15 to 29 years old) and 8 percent of unemployed female youth have been employed previously. While the over-

all unemployment rates are much higher for women, the total number of unemployed is roughly equal between Qatari men and women since men have much higher overall participation (job seeking) rates.

In many major sectors, less than 10 percent of the workforce is Qatari national, but this differs in the public administration workforce, which is more than half Qatari. The percentage of Qatari nationals employed differs greatly between men and women. Half of the 58,000 men who work in public administration and defense, for example, are Qatari. For women the number is even more striking: 85 percent of all women who work in this sector are Qatari. The education sector shows a similar pattern. While only 15 percent of the 10,500 men who work in education are Qatari, Qatari women comprise 41 percent of the 15,000 women in this sector. Other fields where Qatari nationals play a significant role include the energy sector (oil, gas, and electricity), where 36 percent of the 3,600 men are Qatari and 80 percent of the very small female workforce are Qatari. In the health sector, 13 percent of the 8,700 men and 22 percent of the 10,000 women who work in this sector are Qatari. The health sector is expected to grow rapidly (GSDP 2010), offering good prospects for Qatari employment. Another sector that is likely to grow fast, finance and insurance, also claims to be 16 percent Qatari for men and 45 percent Qatari for women.

Conclusion

The demographic driver of unemployment is a recent phenomenon that has caused the 15- to 29-year-old cohort to be the largest single age group to be unemployed in many countries in the region. With this demographic transition, the number of young children in the most recent cohorts has decreased, reducing dependency

¹ In recent years, the U.S. Agency for International Development funded a project (implemented by DAI) to offer graduates of higher education supplemental training for the world of work, and subsidized their employment by Palestinian companies.

ratios and leading to more free time and fewer family obligations for younger people, who simultaneously have fewer useful societal functions to perform. These young people have had to wait longer to get jobs, get married, and start families than previous generations. Their stalled transition to adulthood, in the context of fewer societal obligations, has changed their situation from an economic issue to a political one.

Demographic pressures will lead to severe economic and political strains throughout the Middle East for the next 20 years. Middle Eastern regimes need to reform their labor markets and educational systems to prevent disconnects between skills acquired and skills needed. Failing to do so will likely lead to continued political upheaval. But the necessary reforms will be hard to implement after the recent revolutions because newly elected governments will likely focus on pro-redistributive policies that will exacerbate the very labor force weaknesses that must be addressed. That said, it is still possible to redevelop the education-to-employment connection in a way that can avert more economic hardship and political instability.

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THE LOOMING JOBS CHALLENGE

by Ulrich Ernst

Job creation as the first order of (policy) business

Faced with the devastating impact of the Great Depression, policy makers found themselves ill-equipped to pull their economies out of the prolonged slump. The widespread loss of jobs and economic opportunities provided the background for a fierce policy debate between adherents of intervention and proponents of benign inaction. The economic reconstruction after World War II sought ways to prevent a recurrence of such a crisis. Full employment became a rallying cry in the United States and elsewhere from the immediate post-war period until today. In a development context, however, some observers felt that employment had often taken a backseat to economic growth; that is, to raising gross domestic product (GDP). In 2004, the World Commission on the Social Dimension of Globalization articulated that view:

... the international economic organizations have tended to regard employment as derivative from their main mandates, rather than as an objective in its own right. The [World Trade Organization, or WTO] promotes the expansion of trade, and this is seen as the way to create employment: "Trade liberalization increases national income and fosters growth and employment." The [International Monetary Fund] promotes sound financial policies as a basis for growth and employment creation. The World Bank tends to assume that what is needed is growth, and that growth creates jobs and incomes. As a result, employment and enterprise are not seen as major policy goals in their own right. This was evident in the lack of emphasis on employment in the design

of the [Poverty Reduction Strategy Paper] process. (World Commission: 113)

However, by now the emphasis has certainly shifted back to job creation as the core goal of economic strategy. For countries in the Organisation for Economic Co-operation and Development, at least, that renewed focus also reflects in part a realization of a growing fissure between GDP and employment growth. The expansion of job opportunities has begun to lag economic growth. The global financial and economic crisis of 2008 to 2009 has widened these fissures. Labor productivity is growing faster than GDP, thus negating the historical relationship between economic growth and employment expansion. The divergence raises a new set of policy issues, at least for the developed economies.

Why economic slumps occur—and how to deal with them

Thus nations ... fall into ruin equally by spending too much, and by spending too little. A nation spends too much whenever it exceeds its revenue ... diminishing future production; ... A nation [that] spends too little ... does not consume its own production— Jean de Sismondi (1819)

Much of the theory of, and experience with, government instruments for pursuing full employment has its origin in coping with the fact that economic activity—income and jobs—moves in business cycles. The main policy challenge is to extend the peaks and cushion the troughs. Classical economists showed little concern for the dynamic processes of capital accumulation and creation of new jobs in a growing economy.

They stressed forces that led to the attainment of some equilibrium with full employment of all factors, including labor.

The quest (or hope) for an economic equilibrium, alas, proved futile. Economic progress was characterized by fluctuations around the long-term trend—rapid expansion, followed by stagnation and descent into slumps, which in turn gave way to a revival of economic activity. Early observations of this phenomenon, by people like Jean de Sismondi and Robert Owen, had little impact on classical economic thinking.

The history of economic thought is replete with efforts to understand both the occurrence of business cycles and their causes. Marx predicted that profit cycles would ultimately lead to the failure of the capitalist system as a whole. Joseph Schumpeter saw cycles of innovation as the main force in the economy, leading to cyclical variations as a result of “creative destruction.”

With the Great Depression, the trough of the business cycle reached new depths. Neither the equilibrium ideas of classical economics nor the theory of creative destruction could explain what happened, nor, most importantly, how to get out of the slump. Marxists felt vindicated. Initial policy responses seemed to amplify the crisis. The Keynesian school called for government to take compensatory action if aggregate demand flagged and the economy slumped as domestic consumers reduced spending, or export markets shrank. Austrian economist Friedrich Hayek and his disciples maintained that the real culprit behind periodic slumps is the temporary shortage of capital brought on by overinvestment. His main policy prescription of “waiting out the crisis” may have seemed

a tad academic. Little wonder, then, that John Maynard Keynes’ theories carried the day.

The recent crisis has affected economies differently, and some have recovered quite nicely, while others are facing crises ranging from sovereign debt to shaky financial systems. But there is little agreement on the most appropriate role for government in facing the Great Recession. A time traveler from the period of the Keynes-Hayek debate would probably have a sense of *déjà vu*. Keynesians urge governments to boost aggregate demand, and criticize the inadequacy of stimulus packages, while the heirs of the Austrian school urge austerity, arguing that whatever stimulus there was has been ineffective.

From a development point of view, the debate about policy options certainly matters. To what extent are theories linked to countercyclical interventions applicable to the fundamental development challenge of stimulating economic growth, creating jobs for young people reaching adulthood, and managing the transition to a modern, competitive economy?

The economic policy toolbox

Do governments have a role in boosting economic growth and employment? Empirical evidence says yes. Government action has had an impact, often pulling economies back from the precipice.¹ For transition or emerging economies, the “do nothing, just stand there” argument has not worked. In fact, all of the more successful growth economies can point to a very active role of government in promoting growth and employment.

Governments can draw on a range of tools to boost the retention of existing jobs and the cre-

¹ The “do nothing/wait out the crisis” school argues that government action has never had any impact on growth, although it sees benefits in shrinking government and deregulating markets. Doubts as to the short-term impact of government intervention ultimately depend on the counterfactual—what would have happened without the intervention?

ation of new jobs as the economy slows down. The principal means are fiscal and monetary policy variants to provide temporary stimulus measures, assuming that the existing fiscal and monetary framework allows for growth and employment expansion in the medium-to-long term. Trade policy options aimed at job retention and creation tend to straddle the line between short- and medium-term interventions. Finally, governments can increasingly draw on structural policy measures that tend to focus on the medium-to-long term.

There has been comparatively little discussion of the appropriate policy instruments for developing and transition countries. In the first place, their growth and jobs challenges tend to be chronic, rather than the effect of a temporary downturn. Second, small and open economies have less freedom with respect to their policy instruments (especially if they have fixed exchange rates or are dollarized). Even so, governments have tried to use standard approaches in trying to manipulate their economies, often with disastrous results.

Public finance measures

Direct hiring

Governments can certainly create jobs directly, by hiring people. These jobs may be in government proper or in state-owned enterprises. That option had been quite popular in some developing and transition countries, where graduates of higher education were in effect guaranteed a government job (see the article by Edward Sayre in this issue). State-owned enterprises often were set up or used to absorb labor, especially in backward regions of a country.

Predictably, that arrangement led to bloated civil service payrolls, overstaffing in state-owned enterprises, inadequate performance incentives, and generally low pay. Guaranteed jobs in government have largely fallen prey to fiscal realities. Privatization has reduced over-

staffing (although obligations to workers often deter private investors). The loss of “easy” job opportunities and prestige associated with these jobs has contributed to the emergence of a disillusioned, restive group of young people. Educational institutions often add to these pressures by continuing to train for jobs that no longer exist and skills for which there is little demand in the private sector. Some of these factors played a role in the Arab Spring.

Fiscal stimulus to boost aggregate demand

Aggregate demand is simply the sum of private sector, export, and government demand. Private consumption may decline in response to a downswing in the business cycle, however caused, for example, as private debt levels become unsustainable. Export demand may shrivel up because of global trends. Since demand is linked to GDP, a downturn in aggregate demand implies lower economic growth or even a decline. A lower GDP leads to further declines in demand, until the business cycle reaches its nadir, and things begin to turn around. Fiscal stimulus measures seek to compensate, at least in part, for any decline in private sector consumption or export demand. To boost aggregate demand, governments have two options—provide tax breaks for consumers or employers to create more disposable income or maintain employment levels, or expand public (non-wage) expenditures, typically for investments or hiring people on a temporary basis.

Extra spending might in theory use government savings accumulated during better days. However, few governments ever run the surplus needed to put something away for a rainy day. The typical stimulus package, therefore, involves expanded deficits and additional borrowing. The aftermath of the Great Recession illustrates this dynamic. Households, buoyed by the housing bubble, accumulated debt. When the bubble burst, consumers shifted from consumption to savings. Government borrowing (in effect using some of those household savings)

was intended to compensate. That, in a nutshell, is the Keynesian theory.

There is considerable evidence that government action in response to the recent crisis had an impact on economic growth and employment. For example, the International Labour Organization estimates that in G20 countries, discretionary fiscal stimulus may have generated or saved 8 million jobs in 2009 and 6.7 million in 2010. Alan Blinder and Mark Zandi (2010), using an econometric model of the United States, conclude that government response averted a “Great Depression 2.0,” adding to GDP growth and reducing unemployment. Others have questioned their results, with adherents of the “waiting-out-the-crisis” school arguing that the stimulus program failed to protect or produce a single job, while government deficit and debt ballooned.² We will likely never know the relevant “counterfactual”—what would have happened without government intervention—with any precision.

Another part of stimulus packages, particularly in the United States, involved tax cuts for consumers or businesses. There is, however, little evidence that these measures had much effect on aggregate demand. Households used the extra money to retire debt instead of pumping it back into the economy in the form of increased consumption. The Congressional Budget Office (CBO) estimated that tax cuts included in the stimulus package (in part to make it politically more acceptable) had the least impact. According to the CBO, tax cuts for low-income individuals raised GDP by as much as \$1.50 for every \$1 of revenue loss. Tax cuts for the rich and corporations generated at best only 60 cents in GDP increases for every \$1 of revenue loss (CBO: 6).

What are the lessons for developing and transition countries? A number of them adopted some form of stimulus package, often with donor support. These programs typically targeted the non-tradable sector, through initiatives such as infrastructure development. However, the multiplier effects in a small, open economy are likely to be less and may even be negligible, since any income generated is likely to be spent on imports, given that domestic supply capacities tend to be limited.

Subsidies to boost private sector hiring

The government can encourage employers to retain existing or hire new workers by providing targeted incentives or subsidies. Tax breaks for hiring effectively lower the labor cost to the industry, thereby raising the effective labor productivity from the point of view of the firm. As an alternative, direct public subsidies may be tied to hiring or retention. That option may include public financing for upfront employment costs, such as firm- or industry-specific training prior to employment. It may also involve direct wage subsidies. Such measures obviously require careful comparison of the relative costs of transfer payments, such as unemployment insurance payments, in case of layoffs versus the direct or indirect costs of targeted subsidies.

A paper by George Akerlof et al. (1991) explored the choices facing the German government after reunification, which led to privatization of the formerly state-owned enterprises. Overstaffing (and low labor productivity) was rampant. Privatization therefore involved shedding jobs. Akerlof and his coauthors showed that it would have been better for the government to subsidize employment, rather than accept the large

² Some critics of government stimulus packages involving additional expenditures have claimed that government simply cannot augment aggregate demand, arguing that government expenditures simply are a transfer from the private sector. In other words, these expenditures would otherwise have been made by the private sector. That argument seems to gloss over the distinction between consumption and savings. If private households increase their savings, part of which may be in the form of Treasury bills (debt instruments of the government), government can use its borrowings to offset the reduction in aggregate demand.

number of laid-off workers protected by the country's strong social safety net. They proposed a program of "self-eliminating flexible employment bonuses" to give many workers a chance to keep their jobs in companies about to be privatized. "According to our estimates, even deep wage subsidies (for example, an employment bonus equal to 75 percent of current wages) would have very low budgetary costs" (4). Similar considerations probably would apply to privatizations in other former socialist countries and elsewhere.

Donor-funded programs have employed similar tactics. For example, in Palestine, the U.S. Agency for International Development financed a project to provide intensive practical training to more than 1,000 university graduates and financial incentives to firms to hire them.³

Obviously, wielding such instruments calls for considerable care. The efficacy of tax incentives or employment subsidies to retain current and hire new workers depends to a large extent on market conditions as well as the competitiveness of firms targeted. Are these tax expenditures or subsidies designed to bridge a temporary gap in demand, or is the industry coping with a permanent decline in its markets? At worst, such incentives may simply keep obsolete branches alive a little longer.

Expanding the monetary base for improved liquidity

Monetary policy instruments aimed at boosting employment include both monetary expansion through a variety of channels, typically the reduction of interest rates, and manipulation of the exchange rate. An undervalued national currency improves price competitiveness of local producers in export markets as part of a policy

package to encourage growth and expand employment opportunities.

Monetary expansion and reduction of interest rates are designed to facilitate access to investment capital, but also to boost consumption. Low interest rates for consumer loans fuel rises in aggregate demand. However, once consumers already face high levels of debt, as in the run-up to the Great Recession, they are unlikely to respond to lower interest rates. Induced investment may trigger additional hiring, provided there is adequate demand. For the U.S. economy, it seems that lack of capital is less a problem than inadequate demand, which may have diminished the impact of the Federal Reserve's Quantitative Easings I and II.⁴

Adherents of the Austrian school maintain that expanding the monetary base for investment, even in situations where there is sufficient demand, will trigger later contraction. In line with Hayek's original contention, they argue that monetary authorities are simply sowing the ground for a bust following the boom. The fact that the Federal Reserve's actions have not led to inflation, as measured by the Consumer Price Index, has prompted calls to use the expansion of the monetary base itself as an indicator of inflation, a somewhat unorthodox way of making the facts fit the theory. This debate is not just academic. The European Central Bank is facing pressures to support austerity on the one hand, and to engage in its own program of quantitative easing on the other. The battle between austerity and growth continues.

What are the lessons for policy makers in developing and transition countries? Given the typically high liquidity in their banks already, and the limited capacity of suppliers of goods and services to respond to any increases in

³ Employment Generation Program, implemented by DAI.

⁴ Ekkehard Ernst (2010) uses a model predicting variations in unemployment rates as a means of testing fiscal versus monetary stimulus options.

consumption or investment demand, monetary instruments need to be handled with caution. Much depends on the foreign exchange regime. In countries with a floating exchange, monetary easing can lower the interest rate, thereby lowering capital inflow (or increasing capital outflow). That, in turn, lowers the exchange rate and makes countries more competitive internationally. In the case of fixed exchange rates, monetary policies have little impact, since exchange intervention brings the interest rate back up.

Trade policy and foreign direct investment

International trade, aside from the effects of exchange rate manipulations, also offers policy options. Countries that are running a trade deficit also are likely to lag behind in employment expansion. Jobs are being “lost” to overseas competitors, the argument goes. Even if adjustment programs are in place to cushion the blow, calls for a response to slow these job “losses” become ever louder in times of crisis.

Protectionism to stem the “export of jobs” is an alluring response. The suggested remedy is to turn away from free and open trade by raising import tariffs or imposing import quotas to shift demand to domestically produced goods. Aside from the fact that such policies now are likely to conflict with regional trade agreements, as well as WTO obligations, the experience with these beggar-thy-neighbor policies has not been encouraging (case in point, the Great Depression, widely believed to have been exacerbated by protectionist policies). If one country opts for protection, it may gain temporary advantages. But it is likely to spark a tit-for-tat in international trade, leaving all countries worse off. Protection may result in the temporary retention of jobs. But ultimately the consumer pays.

That is not to say, however, that governments should not consider policies to mitigate the

impact of international competition. In fact, the WTO allows for temporary measures to protect a domestic industry. Similarly, the government may ratchet up structural measures, such as retraining or relocation subsidies for workers affected.

Promoting foreign direct investment (FDI) should be a safe option for advancing economic growth and employment expansion. But perhaps not. While FDI has in fact contributed to net job creation in some instances, such as Ireland or Malaysia, its effects can be mixed, as Jože Mencinger (2003) points out. A number of studies have found no relationship between FDI and GDP growth or employment expansion. Government support for FDI through tax incentives, investment subsidies, or sale of existing firms should therefore be carefully calibrated. For example, Vietnam has found few of the expected spillover effects from FDI. In sum, FDI is not a panacea for rapid creation of jobs.

Structural policies

For both developed and developing countries, the most promising avenue to increasing overall employment is through structural policies. In most instances, these kinds of policies are likely to pay off in the medium-to-long term. They actually range across the entire spectrum of development policy, from health programs to business incubation efforts. Three areas deserve particular attention:

- Restructuring education and training to ensure the employability of workers;
- Improving the business environment to improve flexibility for workers and employers; and
- Offering incentives for competitive technology choices by investors and firms with greater impact on employment.

There are no best practices to address the mismatch between education and training and the world of work across different levels of devel-

opment and systems. What has worked well, however, has involved some effective cooperation among the members of the “triple helix” — the private sector, educational institutions, and government — where the private sector includes both employers and workers’ associations. Properly designed and executed education and training initiatives can contribute directly to competitiveness, often even within a relatively short time frame.⁵

Improving the business environment is designed to accelerate economic growth. These reforms try to improve the churning of the economy — the formation of new enterprises and the exit of uncompetitive firms. For example, the indicator of *regulatory quality*, one of six World Bank Worldwide Governance Indicators,⁶ is positively related to *new business density*, the number of new businesses registered per 1,000 population. Business environment reforms can reduce costs or improve quality of goods and services, thereby strengthening the competitiveness of value chains. And they may seek a more favorable balance between protecting the rights of workers and ensuring flexibility for employers, a topic further explored by Lara Goldmark and Karen Miller in this issue.

Finally, governments, especially those in countries with surplus labor, need to develop a strategy that combines competitiveness with maximum employment impact. In the early stages, that is simple. As workers shift from rural to urban areas, from agriculture to industry, competitiveness and employment impact move together. But at some point, as Bryanna Millis and Marina Krivoslykova discuss in this issue, governments have to deal with tradeoffs

between competitive practices, typically involving higher capital intensity, and employment impacts.

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⁵ In this issue, Louise Williams examines the implications of developing education and training interventions for value chain competitiveness, and Manuk Hergnyan and Howard Williams explore the role of higher education.

⁶ data.worldbank.org/data-catalog/worldwide-governance-indicators.

SMASHING THE LOOMS: PRODUCTIVITY VS. EMPLOYMENT—A TRADEOFF?

by Bryanna Millis and Marina Krivoshlykova

According to legend, Sherwood Forest sheltered not only Robin Hood, but also Ned Ludd, who became the symbolic figurehead of England's 19th-century movement pitting textile artisans against the industrialization of their craft. The Luddites sought to save their jobs by smashing the new mechanized looms that required no special skills but vastly raised labor productivity. Smashing looms did not stem the tide of technological progress, however, and England's economy ultimately benefitted from higher productivity, increased incomes, and new employment opportunities.

By the 18th century, it had taken 1,400 years for world income to double. As a result of the industrial revolution, which launched Western economies on an unprecedented growth trajectory, world income doubled again in only 70 years in the 19th century, and again in 35 years in the 20th century. As workers shifted from low-productivity agriculture to manufacturing to services sectors—a shift common to all developed and developing countries—aggregate productivity rose. Lower prices and higher income levels enabled successive generations to focus less on survival and more on education and problem solving, speeding up the cycle of technological innovation.

Times of economic downturn, especially prolonged downturn, often rekindle concerns that increased productivity is destroying jobs. Is this, in fact, the case? The short answer is that it depends. On the face of it, a simple static view suggests an inverse relationship. In the

smashing-of-looms scenario, if a skilled textile artisan produces one bale of cloth a day, a mechanized loom enabling one operator to produce 10 bales of cloth a day will replace 10 artisans. Everything else being equal, nine jobs are lost (as are the skills of 10 artisans). Yet in an economy, all else is not equal. Rising demand for output may require the level of employment to remain steady or even grow—requiring, for example, nine more operators. Moreover, there are multiple market and policy factors that affect the employment impact of productivity increases, including the level of development, the nature of the productivity increases, and types of innovation that drive increased productivity. Any tradeoff between higher productivity and employment expansion needs to go beyond comparative statics—what matters is the dynamic performance of the economy.

Aggregate patterns and trends

The most commonly used measure of productivity is labor productivity (output per worker or total hours worked). In one of the earliest quantitative studies of economic growth, Robert Solow linked U.S. output (gross domestic product [GDP], or total value added) to total hours worked and a measure of capital services, with a proxy for “technological progress,” now generally known as total factor productivity (TFP).¹ TFP, which is treated as a “residual” in growth accounting, has consistently been found to account for the lion's share of growth in labor productivity. It is a composite of many factors including product and process innovation, efficiency improvements, increasing returns

¹ Also known as multifactor productivity (MFP); see Bureau of Labor Statistics (2010). TFP is more commonly used in the development debate.

to scale, reallocation of resources from low- to higher-productivity activities, and others.

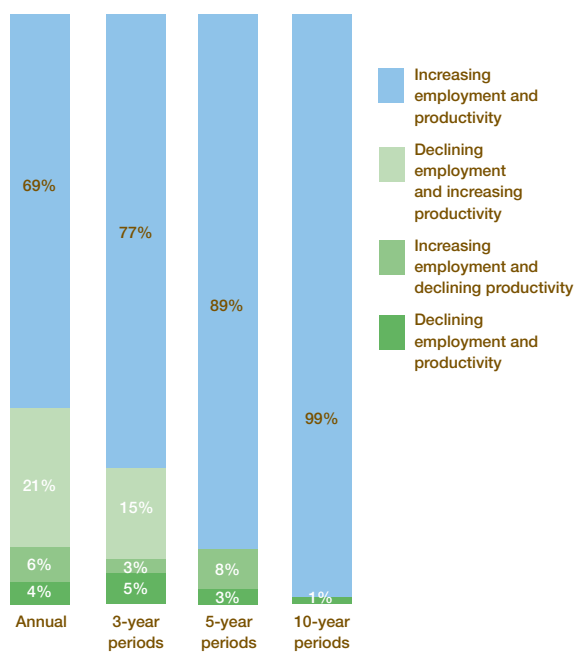
In his pioneering study, Solow (1957) treated technical change—the “Solow residual”—as exogenous “manna from heaven.” That view held, with some exceptions, for the next 30 years. Paul Romer (1990) and others advanced growth theory by introducing the concept of endogenous technical change—its pace and direction being shaped by research and development and innovation in the economy in response to emerging challenges and incentives.

At the aggregate level, productivity increases appear to be associated with short-term employment losses, but these have historically been followed by longer-term employment gains. The United States and France have experienced these trends since 1890, and the pattern also applies to developing countries where such studies have been conducted, including Estonia, Mexico, and South Korea.² Figure 1, from a study by the McKinsey Global Institute, illustrates this trend in the United States for 10-year periods since 1929, using Bureau of Labor Statistics data. On a rolling annual basis, only 69 percent of periods have shown both productivity and employment growth; looking at 10-year rolling periods, every period except one (99 percent) has recorded increases in both productivity and employment. On a short-term basis there may indeed be a tradeoff between productivity and employment, yet over time employment and productivity increase together.

Implications of structural shifts: Structural changes accompany growth

While aggregate evidence on productivity and employment trends is instructive, averages conceal important sectoral patterns of productivity growth and job creation that matter for

FIGURE 1. PRODUCTIVITY AND EMPLOYMENT TRENDS



Source: McKinsey 2011

policy making. Policy makers in both mature and emerging economies are under pressure to “create jobs.” Short-term considerations have dominated the popular and frequently politically charged debates about the impact of technological advances (and associated productivity improvements) on employment. Critics focus on the immediately visible and most painful effects of productivity improvements such as movement of jobs overseas, loss of manufacturing jobs—estimated at 6 million in the United States since 1999—or increased demand for higher-skilled workers at the expense of unskilled labor in developed countries (Davidson 2012). In developing countries, the immediate impacts of productivity enhancements include shifts away from cheap labor-based strategies and rural to urban migration.

At any given moment in an economy, sectors and firms differ greatly in terms of productiv-

² See Blanchard, Solow, and Wilson; Kim, Lim, and Park (2010); Millick and Cabral (2009); Merikull (2010).

ity and employment potential. These differences reflect choices of technology according to market incentives and perceived patterns of comparative advantage, such as natural resource endowments. For example, innovations and technical progress generate faster rates of overall economic growth and higher living standards, but in an open economy they also drive increased international division of labor. They change the structure of the economy, as described above, shifting jobs out of lower-skilled areas as production requires fewer workers, favors different kinds of workers, or even moves overseas. The jobs that are destroyed are not likely to be recreated in the same place or require the same sets of skills. As production of goods and services increases along with productivity, workers need to be redeployed elsewhere in the economy. The more rapidly these changes take place, the less time societies—and workers—have to adjust through policy reforms or retraining. (In this journal, Louise Williams argues that demand-driven education and training—guided by content, process, and performance standards informed by business and industry leaders—can provide workers with the skills to adjust to innovation, new technologies, and changes in employment opportunities.)

Economic dualism and structural shifts

Early thinking in development economics was greatly influenced by “economic dualism”—the coexistence of a large subsistence sector, primarily agriculture, and modern industrial and services sectors.³ The essence of the development challenge was to find ways to absorb surplus agricultural labor through investments in the modern sector.⁴ While the concept of economic dualism may no longer be cutting-edge,

virtually all recent development success stories have involved large-scale structural shifts—workers moving from traditional low-productivity sectors to higher-productivity sectors and thereby driving advances in aggregate productivity.

Policies to support this transition are, at least initially, concerned with large-scale absorption of labor in manufacturing, typically for exports, and often involve foreign direct investment. There are, of course, limits to this extensive strategy, since the number of workers who can shift from agriculture is finite. China and Vietnam currently have reached that stage, and are beginning to move to more intensive strategies, increasing the productivity of labor and other resources.

There is also a secondary effect to these structural shifts. As workers leave agriculture, per capita income in that sector increases, stimulating further development. Economist John Mellor (1999) argues that agricultural productivity increases in poor countries have a major effect on reducing poverty and creating jobs. As agricultural incomes increase, workers have greater purchasing power and begin to spend on nontradable goods and services, including health care, retail, education, transportation, and housing, stimulating employment in those sectors and reducing poverty. Mellor references research in Kenya that has found the employment multipliers from agricultural growth to be three times as large as those for nonagricultural growth (Block and Timmer 1994). Rural households can also spend more on imports, but that effect is more limited.

³ Alternatively, the two sectors may refer to tradable and nontradable goods and services, a distinction introduced by Bela Balassa and Paul Samuelson in the 1960s.

⁴ W. Arthur Lewis (1954) presented a theory of development with “unlimited supplies of labor.”

Profiles of structural shifts

As countries move along the development trajectory, the share of agriculture in the overall economy gradually drops, from more than 30 percent of domestic GDP (and around 80 percent of employment) for very poor countries, to less than 2 percent for rich ones. The share of industry (manufacturing, construction, utilities, and mining) rises from around 25 percent for very poor countries to 40 percent at the middle-income stage, before beginning to decline. The share of the service economy continues to grow, primarily in health care (around 15 percent of GDP in the United States), professional services (11 percent), retail/wholesale (13 percent), financial services (8 percent), entertainment (8 percent), and education (5 percent) (Palma and Anayiotos 2012).

Throughout this evolution, countries tend to focus on building export industries where they have natural comparative advantages and competitive advantages developed over time, starting with commodities, such as mining and basic crops, labor-intensive light manufacturing goods, and, in some cases, information and communication technologies (ICT) and tourism. These industries account for more than 70 percent of all poor country exports. As countries expand their economies, they reinvest their export revenues into the imports of intermediate goods and knowledge to develop higher-value exports through improved productivity and export diversification beyond commodities. As countries go from middle- to upper-income levels, diversification stops and countries tend to specialize in a few goods and services where they have developed competitive advantage and have become world-class producers achieving high levels of value and productivity.

The implications of increasingly dominant services in the economy (and the reduced share of manufacturing sector output) are being felt today in developed economies in the form of jobless economic growth after the historic

correlation between employment and output (measured as GDP per worker) split. A recent report from the McKinsey Global Institute finds that in high-income countries, services generated most of the net job growth from 1985 to 2005, while goods-producing sectors faced increasing productivity and decreasing overall employment between 1995 and 2005 (McKinsey 2010). Even in middle-income countries, where industry contributes almost half of overall GDP growth, 85 percent of net new jobs are generated by services with corresponding growth in productivity.

The pivotal role of technology and innovation in structural shifts

Investors and firms are ultimately responsible for choosing among technological options for production. However, government policy can channel those decisions in ways that exploit latent comparative advantages, develop new areas, or favor labor- versus capital-intensive options. The initial stages of the structural transition toward increased productivity—the movement of excess labor from agriculture to labor-intensive industries and low-skill services—call for little more than the adoption of well-established technologies, often with an important financial role for foreign investors. However, as an economy shifts toward an intensive development path it becomes critical to raise domestic value-added innovation, primarily from resident entrepreneurs. Moving to more advanced technology requires not only greater capital investments, but also a better qualified labor force and adaptation of new technologies to evolving comparative advantages.

Innovation greatly expands the choice of technological options, with different implications for job creation; its employment impact varies based on the kind of innovation taking place. Product innovation—the creation of new kinds of goods and services—tends to have a beneficial impact on employment in manufacturing and services industries (that have high

demand growth). In contrast, process innovation—changes in how firms operate—is in some cases associated with job losses. This distinction is particularly evident in industries characterized by new technologies, such as ICT, versus more traditional industries such as textiles and leather. Product innovation is much more common in high-tech industries, while traditional industries primarily engage in process innovation in order to compete (Pianta 2003).

Cost-reducing productivity gains can (through process innovation), on aggregate, lead to higher employment if they result in price declines that boost consumer demand for the same good or service, or lead to consumer savings spent on products elsewhere. Increasing the quality and value of goods and services (through product innovation) in turn tends to boost demand and helps create jobs in the industries that produce them. For emerging economies, particularly smaller countries, major export markets provide the appropriate level of demand. If an economy can promote significant productivity advances in the tradables sector, it can count on both external demand and import substitution, as long as the affected sectors become competitive.

What does this mean for development practice?

Economists and policy makers agree that demand for the final output (indicating market and industry growth potential) is a critical factor in turning productivity and innovation into job creation. What can be done to ensure that productivity growth is accompanied by growth in output markets leading to increased employment?

The structural policies described by Ulrich Ernst in this issue outline the broad approaches governments can take to stimulate employment-generating growth. Promoting a business-enabling environment entails both reducing barriers and implementing policies that spur

innovation—product innovation for higher levels of domestic production and process innovation for improved efficiency—and recognizing the employment implications of each.

A sectoral approach supports the development of specific policy prescriptions for globally competed versus domestic sectors (Palmade and Anayiotos 2012). First, policy makers can have an impact on competitiveness in nontradables directly through reforms to domestic industries—such as transportation, utilities, finance, construction, education, and health—that spur exports and social development. Second, policy makers can focus strategic resources on developing target export industries to increase exports. An understanding of the global industry landscape (and productivity benchmarking) is critical for getting the policy infrastructure right. Such approaches to economic growth require the development of sector-specific growth strategies that focus on productivity improvements and seek to remove binding constraints to growth.

Conclusion

With an ever-increasing pace of technological change, Luddites in the 21st century would be hard pressed to identify any one innovation to smash. Though this flourishing innovation has proven to be for the good—abundant empirical evidence links productivity increases with broad-based economic growth, increased employment, and higher standards of living—a continuing debate centers on the impacts of short-term or sector-specific job losses that occur as economies restructure. There is a critical role for governments—informed by industry-level analysis—to establish policy environments in accordance with the extensive or intensive growth paths desired, differentiating between domestic and export industries and providing the context for the technological choices made by firms that can maintain a balanced approach to promoting both productivity and employment.

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FLEXIBILITY THAT WORKS

by Lara Goldmark and Karen Miller

The current recession has exacerbated a global employment crisis that has been a long time in coming. Governments long wedded to the “growth-first” theory are realizing that their policy toolkit lacks a magic bullet to create jobs. Can this crisis help advance global thinking on employment? After all, labor policy has been ideologically driven for so long it is hard to imagine a move to pragmatic flexibility.

The urgent need for jobs is likely to lead to greater acceptance of employment options that are temporary or part-time, that acquaint a young person with the workplace but do not offer any long-term guarantees. Do these options exploit workers? Not, we argue below, if a transition is made in ways that accept the labor market as a highly dynamic system, in need of similarly dynamic institutions. Flexibility need not be exploitative if a broader range of hiring alternatives is accompanied by investment in workers’ long-term well-being—through training, risk mitigation options, and socially intelligent work-life benefits.

How did we get here?

The rise of the labor movement in Europe and North America shaped the institutions, laws, and regulations that govern employment in today’s global economy. The emergence of organized manufacturing often was accompanied by inhumane working conditions, strikingly described in George Orwell’s *The Road to Wigan Pier*. Unions, after some struggle, emerged to advance the interests of workers.

Trade unions retained power through World War II and beyond, based on the “social compromise,” a broad set of policies that aimed to

Why do things get stuck?

John Maynard Keynes introduced the concept of “wage stickiness” to explain why markets would not clear on their own. Often, workers are paid based on contracts that preclude wages from falling if there is an excess supply of labor. In addition, theories of “efficiency wages” hold that high wages make workers more productive.

Stickiness equals rigidity, preventing markets from responding to changing conditions. How to “unstick” the situation? It is time to redefine what work is, offering new and different benefits appropriate for today’s social, economic, and environmental realities.

achieve consensus on the optimal organization of production (the technical side) while considering the outcomes that had a direct impact on workers’ interests and values (the social side). The consensus was reached by negotiations that allowed workers to participate in the decision-making process through collective bargaining.

This era also saw the advent of the Ford model of production, described by Don Wells as a “manufacturing system designed to spew out standardized, low-cost goods and afford its workers decent enough wages to buy them” (1995: 1). Soon, however, as workers’ skills developed, attention shifted to other means of increasing productivity. In the 1970s, the persistence of an economic crisis—stagflation, as inflation and unemployment persisted—handed the initiative to forces that argued the market demanded a correction. A corollary to their argument was that no bargaining was neces-

sary beyond the wage. The Thatcher-Reagan era consolidated this ideological shift in labor policy, accompanied by a conservative movement that favored deregulation, dismantled certain welfare programs, and promoted a smaller role for government. Union membership began its slow decline, from over one-third of the U.S. workforce to less than a quarter in 1979; 14 percent in 1998; and a mere 11.9 percent today, comprised primarily of public sector workers, according to the Bureau of Labor Statistics.

The evolution of labor institutions also has its roots in legal traditions. As early as the 12th century, common law and civil law emerged as two distinct legal traditions in Western Europe. Via conquest and colonization, these traditions were transplanted throughout most of the world and thus developed independently of any indigenous rationale. Common law, which stresses judicial discretion as opposed to codes, and emphasizes the use of markets and contracts, spread from England to colonies including Ireland, the United States, Canada, Australia, New Zealand, Pakistan, India, and many countries throughout Asia, East Africa, and the Caribbean. Civil law, characterized by the use of codes rather than judicial discretion, developed from Roman law and was incorporated into the Napoleonic codes in the 19th century. It spread through Spain, Portugal, Italy, Belgium, and the Netherlands, in addition to their colonies in Asia, North and West Africa, and Latin America. Today, civil law countries regulate markets more extensively, while common law countries rely on the freedom of contracts, with markets providing social insurance. As Juan Botero (2004) and his co-authors write, many former colonies were left with a set of rigid labor policies that failed to respond to local conditions. Given persisting institutional weaknesses, these rigid standards

are rarely enforced, and legally mandated benefits are often unfunded.

The controversy surrounding the Employing Workers indicator in the World Bank's *Doing Business* exercise (originally called "Hiring and Firing Workers") reflected these different legal traditions. Based on the notion that labor protection lowered the demand for labor, more procedures and costs meant lower rankings for countries. Social protection for part-time workers was counted as a "cost," and countries got no points for respecting the International Labour Organization (ILO)'s core labor standards. The "Employing Workers" indicator was severely criticized, even within the World Bank. It served as a lightning rod for criticism of the entire *Doing Business* ranking.¹

Focusing on the costs of rigidity,² the Employing Workers indicator saw flexibility as the answer. In the context of industrial organization, the idea of flexibility refers to employers' desire for labor inputs to change in accordance with changing production demands ("numerical" flexibility), or for workers' skills to adapt to various tasks ("functional" flexibility). The term may also be used to describe arrangements made in response to employees' desire for adaptable working conditions to suit private needs (such as part-time schedules or telecommuting).

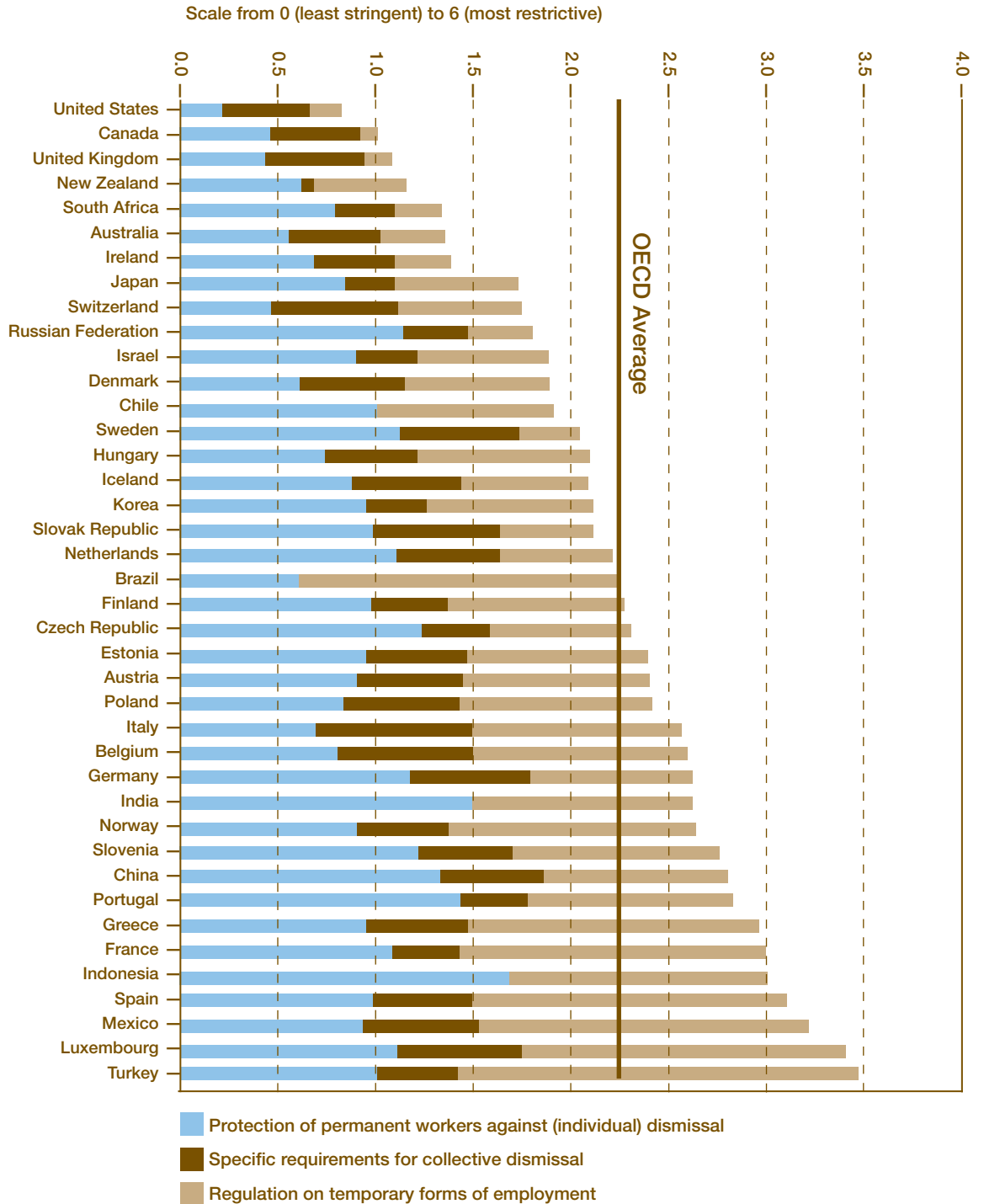
What do the data tell us?

Labor markets are rarely either "rigid" or "flexible," and countries find themselves on a policy continuum. The Organisation for Economic Co-operation and Development (OECD) employment protection index measures costs for dismissal of individuals with regular contracts, additional costs for collective dismissals, and

¹ An amendment to a 2009 appropriations bill in the U.S. Congress formally demanded that the World Bank drop the indicator. It is still measured, but it is not integrated with the others and so does not affect a country's overall ranking.

² More rigid markets often make use of employment protection legislation, including laws, regulations, court rulings, collective bargaining agreements, and customary practices designed to prevent rapid and uncompensated retrenchment.

TABLE 1. EMPLOYMENT PROTECTION IN 2008 IN OECD AND SELECTED NON-OECD COUNTRIES



Source: OECD Statistical Database

regulation of temporary contracts in 20 OECD countries and 10 emerging economies (see Table 1). The chart shows that the United States, Canada, and United Kingdom have the most flexible policies, while France, Spain, Mexico, and Turkey fall at the rigid end of the employment protection spectrum. Linking this information to unemployment data, we can see some general correlations between labor market policies and unemployment rates. Countries with higher protection experience higher unemployment rates, such as Turkey, France, and Spain. The United States, United Kingdom, and Canada, however, display unemployment rates near the OECD average, despite being on the low end of the protection spectrum. These observations suggest that rigid employment policies may be discouraging employment growth, but flexible policies are not necessarily sufficient to encourage such growth.³ Other factors, such as how these policies are implemented, also play a significant role in the protection-employment link.

More flexible labor markets may also be more vulnerable to shocks. Table 2 contrasts pre-crisis unemployment rates (2000 to 2007) with average unemployment rates for the Great Recession (2008 to 2011). Pre-crisis unemployment levels are lower than in the last four years, with notable exceptions including Russia, Germany, and Poland.

Economic theory suggests that both employment and wages will decrease in response to economic slumps, but that employment is likely to experience larger fluctuations than wages. Empirical evidence shows that these fluctuations in employment and wage rates vary substantially across countries in terms of size and strength of correlation. Countries whose institu-

tions allow for adjustments in hours and wage—such as Germany’s working-time accounts, or “pacts for employment and competitiveness,” in which employees accept lower wages and hours in exchange for guaranteed jobs and training—can react to negative shocks by reducing hours worked and incomes rather than jobs. Countries without these measures in place, or with lower levels of labor protection legislation, tend to weather the crisis through higher unemployment, writes János Köllő (2011).

In the case of the United States, a closer look at the sequence of events shows job losses first in finance and related sectors, followed by mass layoffs in construction, housing-related sectors, and manufacturing. Later, as state and local budgets were pinched, government-related industries began to drop off as well. Ireland’s government responded with fiscal consolidation. The Irish economy, many argue, suffered under these austerity measures, which saw the collapse of construction and related sectors, the squeezing of credit markets, and an increased savings rate. The subsequent decline in domestic demand exacerbated the unemployment

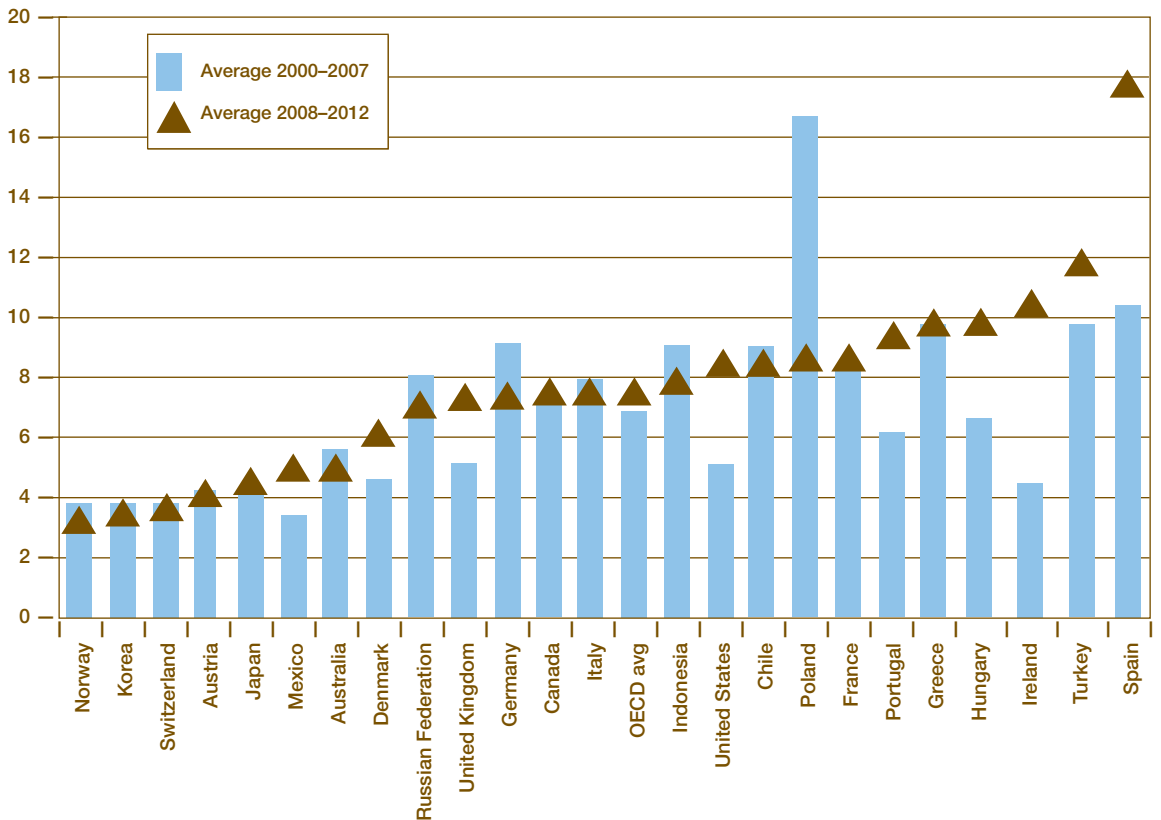
Unintended Effects

In Spain, about one-third of the workforce is employed in temporary jobs. Spain’s temporary contracts have recently contributed to the disproportionately high rate of youth unemployment there, as flexible contracts were introduced for new entrants to the workforce but not for those already working.

This makes it easier to fire the younger, temporary workers disproportionately as firms downsize, and from 2007 to 2011 youth unemployment in Spain rocketed from 17.6 percent to a monstrous 44 percent, according to data from the ILO.

³ However, a recent International Monetary Fund paper found positive effects of increased flexibility on employment, and even stronger positive effects on youth employment, specifically related to the relaxing of hiring and firing rigidities (Bernal-Verdugo, Furceri, and Guillaume 2012).

TABLE 2. TOTAL UNEMPLOYMENT (%), OECD COUNTRIES*



* Indonesia and Russian Federation are the two non-OECD countries.

Source: OECD Statistical Database

problem and disproportionately affected the retail and hospitality sectors. Ireland's relatively weak employment protection (see Table 1) enabled massive layoffs.

Hungary's economic slowdown had its roots in its difficult transition to a market economy in the 1990s. A heavy debt burden meant tight budgets, which constrained crisis management. As domestic demand tanked and credit tightened, companies—mostly in manufacturing—resorted to mass layoffs and deferred hiring. The public sector responded with wage cuts. The low capacity of Hungary's public unemployment service to place job seekers in the face of mass layoffs compounded the problem. Hungary is at the low end of the employment

protection spectrum, especially for requirements for collective dismissal. With low firing costs, and in the absence of alternative institutional arrangements such as Germany's working-time accounts, Hungary's unemployment rate suffered.

The benefits of flexibility

A number of OECD countries have sought to weather the economic crisis through flexible work arrangements to enable workers to stay connected to the workforce even in the face of high rates of unemployment. Such arrangements often lack an explicit or implicit contract for long-term employment and may entail a reduction in working hours, but they can prevent

Wedging Out

Some observers see the “tax wedge” as one of the remaining impediments to job creation. This tax wedge has traditionally been defined as the total of all taxes on earned (labor) income. But it may also include the costs of employment protection. Basically, higher taxes mean that labor is getting relatively more expensive. The OECD in particular has been concerned with the effects of the tax wedge on employment.

In a 2010 study, DAI’s Mark Gallagher used data for 70 countries, including both OECD and emerging economies, to examine the effects of the tax wedge on unemployment. He defined the tax wedge as the difference between taxes on labor versus taxes on capital. The analysis confirmed the expectation that a higher tax wedge increases unemployment rates.

Do these findings mean we can lower unemployment by shifting the emphasis of taxation from labor to capital? The answer is, as always for economists, it depends. There are certainly other factors involved. Raising taxes on capital may shift demand, but the adjustment mechanisms are complex. Some authors, such as Petrucci and Phelps (2005), have developed models that seek to trace these effects (in their case focusing on subsidies, rather than taxes). In reality, changing the relative tax wedge is unlikely to matter much in an economic slump.

the continuous work detachment that threatens long-term employment prospects. As noted, Germany has successfully implemented such policies in the form of work time reductions. Affected workers are eligible for wage subsidies.⁴

Part-time work is another flexible option. Countries with high rates of part-time workers include the Netherlands, Switzerland, Australia, the United Kingdom, and Germany, all with part-time workers as a share of total workers above 25 percent in 2008, according to a 2010 study by Booz & Co. (Shediach, Haddad, and Klouche 2010: 10). Prevalence of part-time work generally correlates with lower rates of unemployment.

A hybrid model contends that flexibility and security are not contradictory goals but can be pursued simultaneously with mutually supportive results. The “flexicurity” model combines the generous social security benefits typical of Scandinavian countries with a high degree of labor market flexibility. In Denmark, flexicurity is depicted by the “golden triangle” of liberal job protection legislation (high job mobility), generous income security (social safety nets), and active labor market programs. Its success in keeping long-term unemployment levels low has attracted global attention. A number of Asian countries have implemented similar schemes.

Singapore faces the opposite of a “youth bulge”—growing numbers of aging workers. To address worker health and mobility issues and make it easier to attract women into the workforce, the government has pursued an aggressive policy of flexible workplace incentives. The programs encourage telecommuting, flexible hours, and other customized work arrangements. They offer grant funds to companies to hire work-life consultants, pay for training workshops, and buy laptops for staff who telecommute. A recent government study affirmed that for every \$1 invested in a work-life program, \$1.68 flows back into the company in the form of higher productivity and reduced turnover. It

⁴ These policies were estimated to cost firms €5 billion and the Federal Labor Agency €6 billion, in contrast to the estimated €22 billion it would cost for redundancy payments and hiring skilled workers after the recession (International Labour Office 2010: 58).

is interesting that Singapore was able to defy long-held cultural norms associated with office “face time,” moving toward a new definition of performance—linked to results.

Where there are no rules

What does flexibility mean in countries where rules are ignored or don’t apply? Many workers in developing countries have never seen a contract, received benefits, or joined a union. The ILO estimated in 2011 that in Africa nine out of 10 rural and urban workers have informal jobs, which are also disproportionately held by women and youth. Despite its drawbacks, the informal sector in many economies—Mexico, Chile, Colombia, Indonesia—serves as a de facto safety net, expanding to absorb extra workers in times of crisis, according to the ILO’s World of Work Report (2011b). A 1996 ILO Home Work Convention adopted recommendations for national policies to promote the equal treatment of homeworkers in such areas as remuneration, the right to organize, health and safety, social security, and training, for a workforce that still eludes administrative control and is growing in both developing and developed countries.

India saw the creation of the Self Employed Women’s Association (SEWA) in 1972, an initiative led by Ela Bhatt. The association was originally rejected as a union by the Indian Labour Department because *the members were not seen as workers*, since they were self-employed. Bhatt argued against this narrow view of work, pointing out that formal jobs constituted only 7 percent of the Indian economy. Today, Edward Webster writes, SEWA has grown to a membership of 1 million women (2011: 8).

The number of outsourcing and subcontracting arrangements is growing, often relying on small- and medium-sized enterprises (SMEs) to provide additional capacity upon demand. These arrangements mean an expansion of informal activities in some value chains, as well as a shedding of jobs in the formal economy. This

trend toward more flexible production systems has posed particular challenges for organizations like the ILO or national ministries of labor in identifying worker status and in establishing the very definition of employers and employees. Many institutions have not caught up with the changing landscape of labor arrangements. In developing countries, labor laws often prohibit or discourage the types of flexible arrangements that might benefit women and youth, help businesses adapt more quickly to changes in the market, and allow for experimentation with progressive workplace programming. For example:

- Many countries do not provide for seasonal work, thus making hiring and dropping workers for seasonal work projects—such as harvesting or the holiday season—expensive and unduly complex;
- Labor law “protections” for women often reduce their flexibility, making them undesirable to hire; many countries bar women from night work or “dangerous work,” or they give women maternity leave while denying parental leave for fathers; and
- Piecemeal work is also a tricky notion that tends to fall through the cracks of labor law and regulation; because it is often considered illegal, it generally takes place informally, which means it can often be abusive.

Redefining benefits

To address the global unemployment crisis, interventions will be needed not just at the policy level, but at the practical “let’s experiment together” level. Certainly it seems time for some out-of-the-box thinking, beginning with basic definitions. Given that there are not enough jobs and those who do work do not have enough time, is there a more intelligent way to allocate professional tasks, using market mechanisms accompanied by targeted social spending? In resource-constrained markets, the best solutions to the unemployment crisis are small, practical adjustments, made in the community, in the workplace, and in educational institutions.

Following are examples, some already implemented and others in the idea stage. Such an approach could arguably help countries such as Egypt, Jordan, Morocco, and Tunisia re-engage their disenfranchised youth, offer models for African and Latin American countries to draw the informal sector into the formal sphere, and—in OECD countries—reduce long-term unemployment.

Jordan has one of the lowest labor force participation rates in the world, with 60 percent of youth and 85 percent of women not economically active. Granted, there are economic factors, and social and gender roles, that influence this rate. But, asked what it would take to get them to work, what did low-income women suggest? A series of eminently practical, doable things: part-time hours, safe transport, reliable childcare, lunch options (as it is not considered appropriate for women to eat alone in restaurants). An old-fashioned labor regime does not encourage solutions to these problems. Despite reform efforts, it is still illegal in Jordan to operate a business in one's home—something that has stymied a number of entrepreneurs in the high-growth information and communications technology (ICT) sector, as well as prohibited women from formalizing the age-old combination of income generation with household duties.

Education for Employment (EFE) is an organization that works with private sector partners to precommit jobs and then provides customized training to youth who might not otherwise have access to those jobs. In places where traditional jobs are not readily available, such as post-Arab Spring Egypt and Yemen, EFE has been creative in identifying other options for young people—in civil society organizations, for example, or in trades such as carpentry or midwifery. The matching role has its limitations, however, even when formal jobs are available. Experience has shown that simply placing people in jobs is not sufficient to keep them there. Follow-up sup-

port is needed to ensure retention and longer-term professional growth, in particular when the employers are SMEs.

Why haven't civil society organizations or concerned governments organized SMEs together in places such as Cairo and Amman to see how they might offer their workers (male and female) shared benefits such as transport, childcare, health, and education services? This approach is perhaps the only way SMEs can compete for qualified individuals who have traditionally preferred to work in government. The difference is that, unlike government growth, SME growth is healthy for the economy. Such "progressive workplace programming" could include:

- Addressing obstacles to women's participation such as lack of childcare options, lack of affordable and safe transportation options, and the length and core hours of the working day;
- Offering workplace services such as healthy, low-cost meals, and literacy and health training;

Engaged Employees Create Jobs

In *The Coming Jobs War*, Jim Clifton (2011) summarizes "the biggest body of behavioral economic data in the world on workplaces," from a 2010 Gallup study on productivity. The key finding is a statistical correlation between employees' perceptions of their condition and the business' future growth, including job creation. Gallup does not evaluate benefits and compensation, but measures how employees perceive their interaction with the workplace ("I have the opportunity to do my best. My opinions count. There is someone at work who encourages my development. I have had opportunities to learn and grow"). It should be no surprise that miserable employees create miserable customers, and are associated with theft, accidents, and general enterprise decline. On the other hand, a noteworthy conclusion is that the percentage of "engaged," or motivated, employees is a predictor of their employer's future job creation rate.

- Combining internships, on-the-job training, mentorship and career counseling, and intern alumni associations in such a way that the maximum number of youth possible remain connected to the workplace and to a career path; and
- Blurring the boundaries between classroom and business—apprenticeships being the best-known mechanisms—but also experimenting with programs where vocational training centers offer motivated students extra credit courses, which involve actually filling orders or performing services for local businesses.

Such measures are typically viable only if a company has a need for a large number of workers (500 to 5,000). Progressive workplace programming would create a benefit pool to spread the cost of these services across smaller companies, lowering the risk and cost of their development and implementation. Firms gain by retaining workers and increasing productivity, which would justify the costs. If the measures are specifically designed to target the poor, women, and youth, it may be justifiable to provide subsidies for progressive workplace benefits. Such an approach would be more sensible and affordable than paying people not to work or training people for jobs that do not exist.

Large, developed-country employers have discovered the link between flexibility, progressive benefits, and productivity. When they can afford it, they go beyond legally mandated workplace benefits to offer all sorts of perks. The World Bank and Inter-American Development Bank, two choice employers, both offer on-site childcare.⁵ And these organizations are behind the times when compared with their Californian counterparts. Years ago, sports retailer Patagonia made waves by opening an organic

cafeteria and on-site gym, and now a “way beyond the basics” benefits concept has taken hold, with companies such as Google offering upscale dining facilities, gyms, laundry rooms, massage rooms, haircuts, carwashes, dry cleaning, and commuting buses.

Smart employers will ensure that flexibility and creative benefits deliver cost savings. Across the United States, even more traditional professions are offering ease and convenience to attract and retain talent. Global accounting and consulting firms offer flexible work options including job sharing, telecommuting, and a compressed work week, and more than 18 percent of U.S. law firms have started offering job-sharing arrangements that allow flexibility for working mothers.⁶ Organizations like Freelancer Union offer group health insurance plans, disability insurance, retirement plans, and other benefits to self-employed professionals.

Creating incentives for employers to invest in worker skills is another idea that merits exploration. Flexible working arrangements, in order to offset unemployment risk, will need to incorporate learning and professional development into a “beyond the basics” benefit package. As highlighted in other articles in this journal on workplace skills and education, companies will benefit from workers’ acquisition of narrow technical skills, but also from their ability to think critically, analyze, and solve problems. Policies should encourage, rather than restrict, the options for linkages between educational institutions of all types and places of employment.

It is unlikely that piecemeal reforms to labor laws or regulations will achieve the kind of flexibility that is needed. Governments may want to look at offering an “opt-out” clause for sections

⁵ Demand far outstrips the number of spots, but based on seniority, siblings, and a long wait list, staff can enroll their children in “BIDKids” (at the Inter-American Development Bank) or the World Bank Children’s Center.

⁶ See: <http://www.attorneyretention.org/BestPractices/BestPracticeJobShare.shtml>

of the labor code that restrict employers' and workers' abilities to negotiate conditions that deliver benefits to both. True to the original definition of the word, an approach to labor practices predicated on flexibility must consider the needs of workers in a specific context—there should not be a “model contract” for flexibility but rather a series of options. Instead of a set of unquestionable “minimum” conditions defined by a body representing all workers, we may want to come up with a set of principles and processes that allow workers to prioritize which types of flexibility they prefer—and perhaps cost-savings and cost-plus flexibility features should be paired. Developing such an approach will be complicated. Experimentation is needed, and lessons should be documented for all to share.

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TRAINING FOR THE WORLD OF WORK: A VALUE CHAIN APPROACH

by Louise D. Williams

A value chain perspective on workforce development

There is substantial evidence that high-quality education contributes to economic development and social well-being in developed and developing countries. Leveraging that education is a key element of any national competitiveness strategy.

Successful development policies work with and augment functioning markets in a developing country. Such policies demand a solid understanding of both market interactions and value chains—the technical processes in the production of goods and services—which differ widely across end-markets and sectors. The growing emphasis on value chain analysis in the development arena is linked to the quest for more effective policies. Mapping the value chain from the initial conception of a product or service through the different phases of production and refinement to the end-markets and, finally, to the disposal of products has proven to be an effective method for targeting opportunities to raise local, industry-wide, and national competitiveness, according to studies done by the U.S. Agency for International Development (USAID). Value chains include a wide array of actors engaged in workforce development, such as educators, trainers, researchers, and managers. Gary Gereffi and his colleagues have argued persuasively that value chain analysis can yield insights into the key junctures where upgrading workforce capacities may improve overall com-

petitiveness and, ultimately, increase economic growth and reduce poverty (Gereffi, Fernandez-Stark, and Psilos 2011).

In recent years, policy makers have emphasized systematic “matching” of workers with particular, available jobs in a given environment.¹ Developing practical skills that relate directly to the local jobs market seems a sensible short-term approach to putting people to work. However, it overlooks the complexities of value chains that may require different skills—such as the “softer” skills of problem-solving, critical thinking, management, or relationship building—at different stages of the chain. Focusing only on responses to existing requirements may also leave workers vulnerable to long-term industry changes that could render them unemployed and incapable of transferring into other jobs. Sound workforce development must strike a balance between enabling workers to engage in lifelong learning and critical thinking, and nurturing more narrowly defined “practical skills” to match existing needs.

This article examines an emerging model for workforce development that places an analytical “overlay” upon a value chain map to identify opportunities for workforce development (see Figure 2). The value chain approach illustrates how both lifelong learning and critical thinking, on the one hand, and “relevance” and “practical skills,” on the other, are necessary to help developing economies respond to the demands of an increasingly sophisticated global economy.

¹ That practice actually goes back to the relatively short-lived fascination with “manpower planning” in the 1960s. For an example, see Organisation for Economic Co-operation and Development, *Mathematical Models in Educational Planning* (1967).

Background: Value chain analysis

Value chain analysis starts with the selection of promising value chains that leverage a country's latent comparative advantages vis-à-vis end-market opportunities. The selection of lead value chains is a major challenge for development policy. Policy makers and economic reformers must understand where these comparative advantages lie, and which value chains offer the strongest potential for meaningful interventions and greater impacts on large numbers of poor or less-educated people.

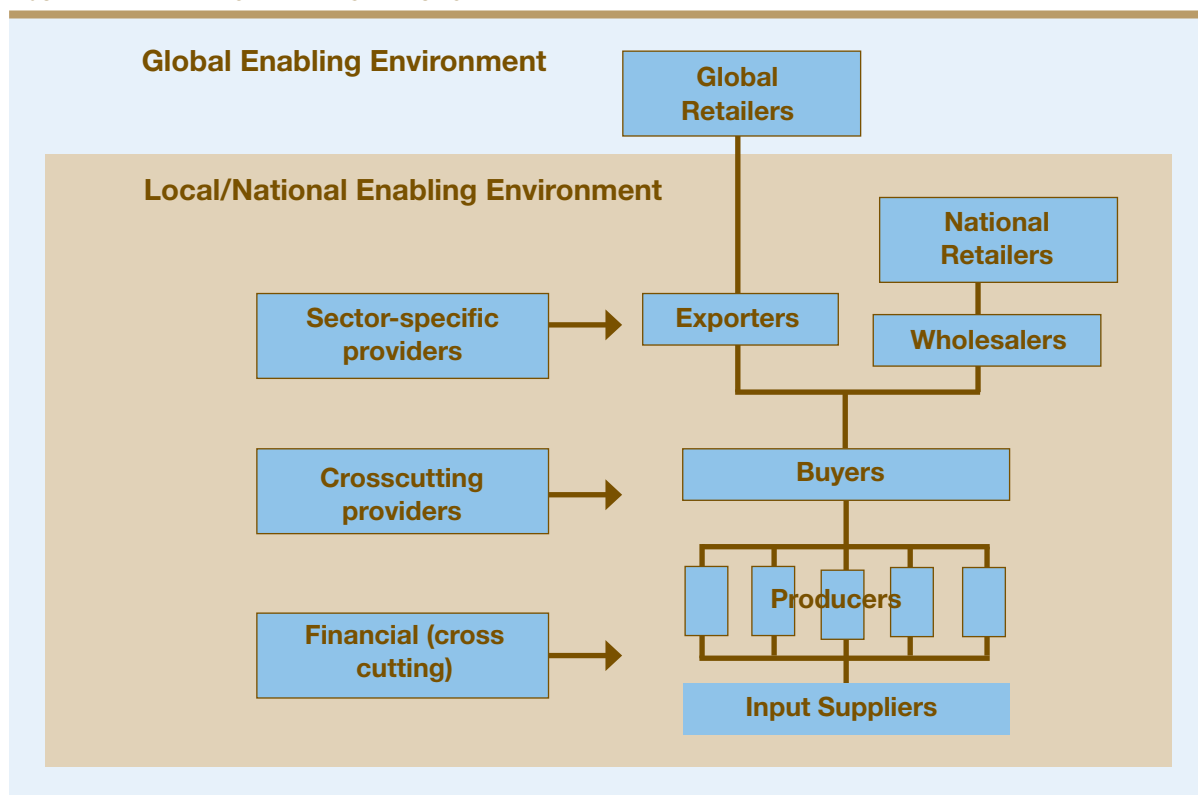
Value chain mapping defines the various stages of design, input provision, production, marketing, and disposal. Figure 1 sketches the basic elements of a generic value chain map. It provides the structure for a competitiveness diagnostic that determines the elements that fall

short on standard productivity measures and the opportunities to improve competitiveness.

The governance structure within a value chain defines the market relationships within it—is it fully integrated, for example, or are the stages linked through market mechanisms with different degrees of market power? Since almost every value chain includes upstream services, such as infrastructure, as well as market intermediaries, full integration tends to be unlikely. Perhaps only isolated projects, such as mining operations, meet that standard. Market transactions among value chain stages create opportunities for designing policies that are likely to contribute to upgrading.

Although value chain analysis has been used to target reform opportunities in business-enabling environments, end-market competitiveness, interfirm cooperation, firm-level upgrading, and

FIGURE 1. THE FRAMEWORK: WHAT IS A VALUE CHAIN?



other arenas, it has been virtually overlooked, until recently, as a tool for workforce development.² The typical approach has been to assess the overall demand for jobs in localized clusters of commerce and to design educational and training efforts to match skills with existing needs.³

This approach, though practical and oriented in the short term to the important goal of poverty alleviation, may ultimately neglect the important “long game” that is necessary for a country to position itself in the global economy. As value chains extend across borders, and expectations for trade in goods and services increasingly become standardized, “specific skills that are regulated by global rather than local actors” become all the more important (Gereffi and Fernandez-Stark 2011). Applying a workforce development overlay to a value chain map identifies needed skills sets for the value chain (that is, jobs required) and their respective formal and technical education or vocational training requirements from the beginning of the chain to the end. The overlay also indicates where existing workers can expect opportunities to improve their job opportunities through specific skills upgrades.

Relevance versus “higher order”: A false choice in workforce development?

Educational and training systems tend to respond to the demands of the consumers of educational and training services, which, in turn, tend to emphasize content (more readily

identified, memorized, and tested) over process (the analytic, critical thinking skills needed to solve problems and innovate).⁴ There does not yet appear to be consensus about the best way forward. Practitioners have tended to assume an “either-or” posture between learning approaches that encourage worker flexibility and lifelong learning, the “higher order” approach, versus the more popular skills-building tailored to immediate employer demands.

Desmond Bermingham, Director of the Save the Children Global Initiative, recently articulated the higher order approach in a letter to Nancy Birdsall of the Center for Global Development:

We need a reorientation of education systems to place greater emphasis on the complex thinking and information-processing skills that young people need to make the most of the wealth of knowledge that will become available to them. We also need to think about the role of teachers so that they will become facilitators of learning rather than transmitters of knowledge.

... Perhaps most important of all, new technologies must encourage new ways of thinking about education. We must shift the focus onto learning rather than teaching. This opens up possibilities for self-directed lifelong education that is not limited by the boundaries of the school

² The CIBER (Competitiveness Impacts of Business Environment Reform) approach, developed by DAI for the U.S. Agency for International Development (USAID), has been applied to situations in Brazil, Cambodia, Moldova, the Palestinian Territories, Tanzania, and Zimbabwe to encourage effective advocacy campaigns for addressing regulatory constraints on the competitiveness of value chains. For more on the tool, visit: <http://dai.tc/MbEW67>

³ See, for example, USAID, “Tackling the Skills Deficit,” *Frontlines* (Sept.–Oct. 2011) (online extra); see also USAID, “Talent Broker: USAID Links Youth to Skills and Jobs, Providing a Lifeline in El Salvador,” *Frontlines* (Sept.–Oct. 2011). Both of these recent examples illustrate USAID’s current emphasis on promoting “hard,” practical skills in local and regional employment environments.

⁴ These points were examined through the USAID/Global Labor Sector Analytic Initiative (GLaSAI), which focused between 2007 and 2010 on labor sector and U.S. assistance goals in eight countries, reviewing the legal foundations for labor relationships, key labor-related institutions, and the strengths and weaknesses of labor markets. Most GLaSAI reports discuss workforce development priorities and initiatives in Bangladesh, Cambodia, Georgia, Honduras, Mexico, Nigeria, South Africa, and Ukraine. See <http://glasai.com/index.htm>.

walls. Technology will not replace traditional schooling—even the most advanced computer cannot replace an effective teacher. But, as access to new technologies in the developing world grows, what happens in those schools will change. The key challenge now is to inject a new culture of innovation, risk-taking, and learning from what works—as well as what has not.

USAID strategy

The higher-order approach is not necessarily incompatible with skills training, including vocational education and other training programs. It certainly does not preclude programs aimed at the mastery of a limited number of “hard” skills. The *USAID Education Strategy 2011–2015* (USAID 2011) reflects a more multidimensional view. It establishes three primary goals for future interventions: 1) improved reading skills for 100 million children in primary grades by 2015⁵; 2) improved ability of tertiary (post-secondary) and workforce development programs to produce a workforce with relevant skills to support country development goals by 2015; and 3) increased equitable access to education in crises-affected and conflict environments for 15 million learners by 2015.

The strategy’s second goal stresses “employability skills relevant to market needs ... skill standards ... and demand-driven curricula.” USAID explains the “difficult tradeoff” in its decision to discontinue over time funding for “general, upper-secondary education investments” except as they pertain to crises-affected environments or “where vocational or workforce development training is delivered in secondary settings.” In so doing, USAID acknowledges that other donors will have comparative advantage

in funding secondary education, which provides the foundation not only for higher education programs but also for future mid-level employees in banking, marketing, government, tourism, and other fields that do not necessarily require a college degree.

The role of learning standards

Learning standards in education systems establish and communicate what students need to know, by subject, and when they should know it, by grade. When standards are clearly and publicly articulated, curricula and textbook developers, teachers, parents, and students know what is expected to be taught and learned. If the content standards (what students should know and be able to do, in terms of skills, knowledge, and concepts) and the process standards (cognitive processes, such as reasoning and problem solving) reflect the knowledge and skills that are needed to effectively engage in the economy and society—and if the education system helps students acquire these attributes—then that system may be considered responsive both to demand and to requirements for quality.

Some examples

In Kenya, about 75 percent of children attend primary school and 41 percent attend secondary school, but fewer than 5 percent of secondary school graduates ultimately attend public or private university, according to United Nations Children’s Fund data (2010). Against this backdrop, a USAID-sponsored business environment diagnostic noted that rapidly growing access to broadband services, as a result of a new under-sea fiber optic cable in East Africa, presented new opportunities for the workforce. Victor Gathara (2009) expects that improved access

⁵ “Assessment data of early-grade literacy in low-income countries, although still limited, reveal that ... in some countries a majority of students at the end of grade 2 are unable to read a single word of a simple paragraph in the language in which they are being taught” (Amber Gove and Peter Cvelich, quoted in Gove and Wetterberg 2011: 2).

will create jobs in the business process outsourcing value chain—including customer interaction services, back-office operation services, data and content integration, and animation. The transformation in the cost and speed of the internet also suggested new work nationally and regionally for website developers, marketers, and entrepreneurs (14).

Accordingly, the tens of thousands of secondary school graduates in Kenya who find tertiary opportunities inaccessible—along with others like them throughout East Africa—may be especially poised to assume the mid-level and entrepreneurial opportunities presented by technological change. For some of these students, vocational education or skill-specific training may be the best option, so long as it is relevant to specific demands of the private sector. For others, however, a more generalized understanding of how—given Kenya’s evolving conditions and without a university degree—they could maximize their communications and problem-solving skills and undertake a process of lifelong learning might be the better curricular choice.

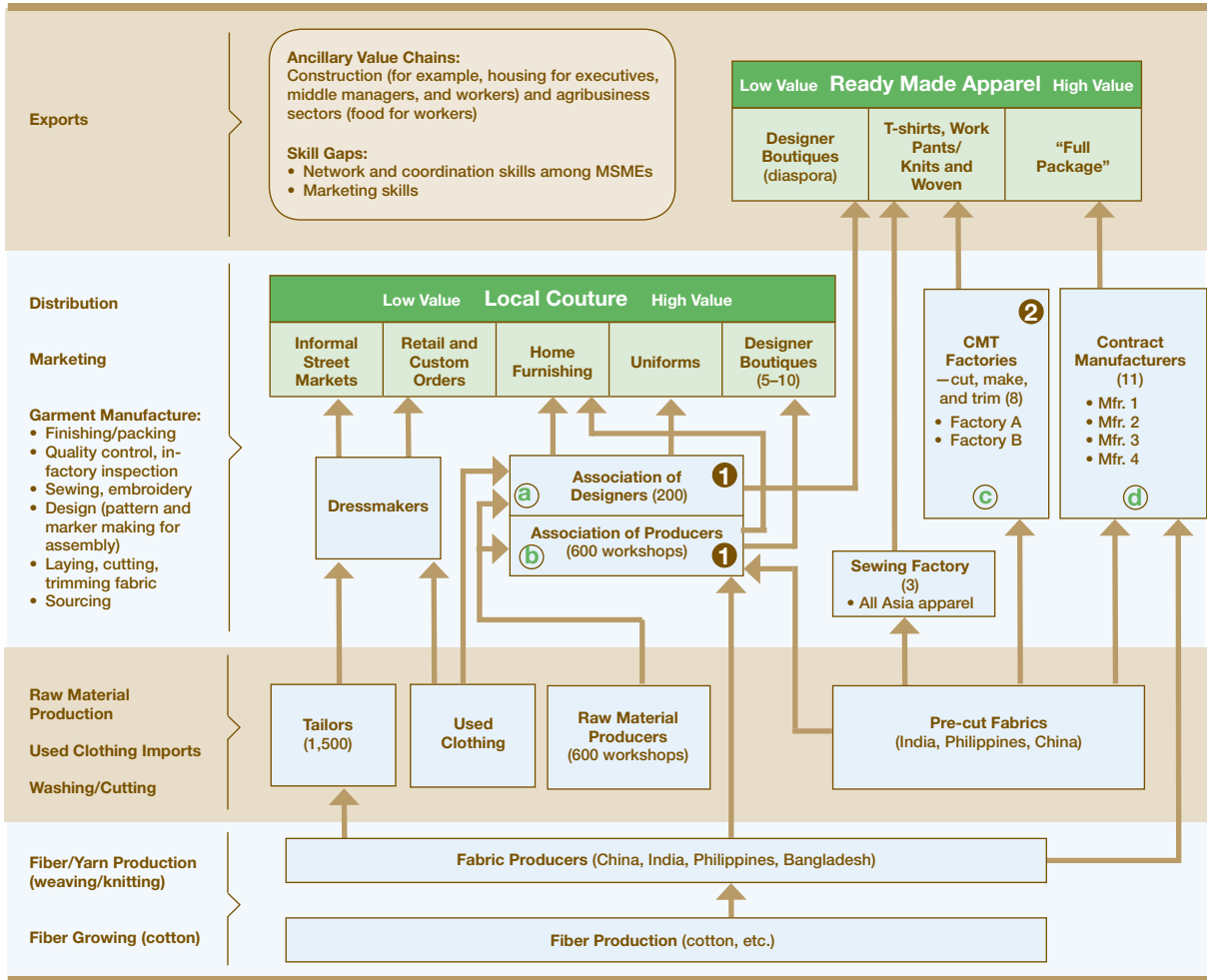
The same point can be taken from the various value chains in Ghana’s agriculture sector, which accounts for 35 percent of the country’s gross domestic product (GDP). At least 55 percent of Ghana’s working population derives its living from agriculture, most often as small farmers. In addition to the country’s three traditional exports—cocoa, timber, and gold—there is increasing potential to upgrade the country’s competitiveness in such export-oriented value chains as shea nuts, palm oil, and exotic fruits, as revealed by USAID’s analysis (2008). Currently, however, workforce capacity restricts the sector’s ability to move beyond its subsistence-level orientation toward a more efficient, commercialized regime. The USAID report underscores the need for enhanced knowledge, and use of knowledge-based tools, across the entire agricultural sector, with respect to the following capacities:

- Quality of seed and fertilizer, and proper use of irrigation;
- Ability of farmers to enter the formal sector as cooperatives or processing enterprises;
- Ability of agriculture enterprises, including farmer-based organizations, to obtain credit and outside investment, as well as to observe and respect written supply contracts;
- Management of post-harvest loss;
- Compliance with quality standards that represent key conditions for export;
- Transport of products to markets;
- Efficiency of border operations pertaining to agricultural goods; and
- Prompt and effective resolution of disputes that arise along the value chain.

Some of the skills listed here are vocational, and strengthening those directly relevant and practical capacities—such as planting, fertilization, and irrigation—among lower-skilled workers may upgrade their competitiveness at the base of their respective value chains. But several of the other demands for skills call for a more flexible, “higher-order” approach to learning. That approach involves teaching not only the key requirements of certain jobs, but also methods for anticipating and resolving problems that may arise along the way. Such a broader perspective is desirable in secondary school traditional programs, vocational education programs, and adult training initiatives.

The need for pedagogic flexibility and responsiveness involves not only education and training institutions directly engaged in the value chain, but also those that support critical supporting institutions. For example, lending and investment in Ghana’s agriculture sector are reportedly constrained by mid-level service providers and professionals who lack sufficient knowledge to manage agricultural risk, and who therefore avoid the sector. As USAID noted in its AgCLIR report on reform needs in the sector, “perceived risks are routinely cited as reasons

FIGURE 2. GARMENT INDUSTRY VALUE CHAIN WITH WORKFORCE OVERLAY (ILLUSTRATION)



WORKFORCE OVERLAY: SKILLS GAPS

- (a)**
- Design and fashion
 - Machine use and mass production
 - Finishing
 - Marketing/advertising
- (b)**
- Quality control
 - Financial accounting training
 - Soft skills, leadership
- (c)**
- Training in time and motion
 - Mechanics, maintenance of machine
 - Middle management skills
 - HR processes
 - Occupational safety, vendor and code of conduct compliance
- (d)**
- Pattern making and design
 - Communications with suppliers and customers
 - Purchasing skills
 - Management capability
 - Landed Duty Paid service capabilities

WORKFORCE OVERLAY: ENTRY POINT FOR NEXT JOB OPPORTUNITY

- 1** Persons possessing design skills at this level can move to ready-made apparel and boutiques.
- 2** This business creates new opportunities for ancillary business (construction, agribusiness, etc.)

for not going forward with loans, investments, or enterprise growth plans, even though, as one agriculture economist said, ‘Risks of agriculture can be over-exaggerated’ and, particularly among people who understand the sector, ‘they can be managed and minimized’” (USAID 2008: 13). Furthermore, law schools teach few courses that directly address legal issues affecting the agricultural sector, and bankers rarely are trained in agriculture-specific products or risk-minimizing tools. Rather, these professions are taught against a presumed backdrop of greater industrialization and urbanization than actually exists in Ghana. Revising the learning standards for education programs to address these challenges, and updating the curricula to meet the revised standards, can provide graduates with the knowledge and analytic skills needed to find opportunities and solutions in the prevailing conditions, rather than simply avoiding the apparent risks presented by them.

Applying these lessons in practice: Ready-made garments

In the local couture and ready-made garment example depicted in Figure 2, the value chain/workforce overlay analysis addresses not only the jobs of today but, more importantly, next-generation opportunities. Additionally, this tool enables service providers to train workers for specific entry points and future movement along the value chain. Micro-entrepreneurs will need basic technical training to become more productive, for example, in sewing machine use and maintenance, time and motion management, and safety skills. Small and medium-sized workshops (those with 10–15 employees) need more sophisticated technical skills—such as design, pattern making, cutting, and finishing—to serve the domestic uniform and tourist clothing markets.

Small assembly factories (50 employees) require improved management skills. Managers can also be taught how to source fabric directly and manage the delivery process, and how to

meet basic standards for vendor compliance. Investing in technical skills to improve assembly worker productivity through time and motion training will only lead to incremental increased competitiveness today. Investing in soft skills through a sector-based leadership program, however, will enable factory workers to better understand the industry they work in and identify trends so they can transition to other jobs in similar or ancillary value chains.

The broader workforce development objectives of a value chain upgrading strategy form the framework for both short- and medium-term education and training program development. Developing such an initiative involves examining various sources of education and training in a given environment: primary and secondary schools, technical and vocational schools, universities and professional schools, adult training centers, private sources of instruction, on-the-job training, supplier training, nongovernmental organizations, donors, and so forth. The learning standards for each education and training program should reflect the knowledge, skills, and attitudes expected of the graduates and guide what is taught. For example, international buyers can be sought out to help train their suppliers’ staffs in international export product standards. International institutions, such as the World Tourism Organization, represent an important source of support for educators and trainers. In addition, the legal and regulatory requirements for export to robust markets should be addressed in post-secondary public administration and law programs.

A single pedagogic approach to education and training, however well-intentioned or popular, is usually insufficient to bolster the overall competitiveness of a value chain. A comprehensive vision is needed. By considering all traditional and nontraditional training opportunities across the value chain, and the learning standards guiding each program, stakeholders can ensure the greatest return on their workforce development resources.

Conclusion

“Hard” skills and relevance in education are critical. Most countries are well advised to match their supply of practical skills more effectively to the demands of the local job market. However, there is good reason, depending on the particular needs of employers and consumers, to stress training in more complex thinking and information-processing skills. By focusing primarily on the immediate priority of relevance, reformers risk sending the message of, “Don’t think—work!” Ongoing economic growth initiatives present the opportunity to integrate education and training opportunities with actual work projected to exist along the key value chains. In most cases, this includes both highly defined job categories and skills and work that requires more independent, flexible, solutions-oriented thinking.

When seeking to apply a value chain analysis, workforce development practitioners across the developing world will rarely have to start from scratch. In most countries that have committed to market-based economic development, key value chains have been identified and mapped. The opportunity now is to incorporate the many lessons learned from value chain analysis, and reflect in the learning standards for education and training programs the knowledge and skills necessary for a robust economy. In the long run, workers will benefit from education and training programs that are properly leveraged and appropriate for the needs of the value chain, and that truly support the preparedness of workers to engage, now and in the future.

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TRANSFORMING HIGHER EDUCATION FOR ECONOMIC COMPETITIVENESS

by Manuk Hergnyan and Howard Williams

More than any other branch of the educational system, higher education competes globally as a sector. It also contributes to the competitiveness of other parts of countries' economies. This dual role poses special problems.

Joining the higher education sector in a collaborative partnership with the private sector—with government support—can improve the relevance and quality of higher education programs. Consultation with the private sector is already a common technique when it comes to confirming priorities for technical and vocational education and training (TVET). Active involvement by the private sector is essential to identify knowledge and skill standards for jobs in industries with the greatest potential to contribute to economic growth. This kind of engagement can provide the information to extend the contributions of TVET and higher education beyond employment to economic competitiveness.

Government leadership provides the necessary authority and legitimacy for academic and curricula reform and for setting regulatory parameters for innovation. The academic community must conduct research—including case studies and real-world applications—and reflect that knowledge in its teaching so that graduates will have both relevant knowledge and process skills to contribute to their chosen careers. The higher education-private sector partnerships can facilitate learning through internships, apprenticeships, career centers, and recognition by employers of the relevance and quality of graduates' knowledge and skills.

As Philip Altbach and his colleagues point out, post-secondary or tertiary education is especially important “in developing regions where

emerging economies require both specialists trained for science and technical professions as well as strong leaders with generalist knowledge who are creative, adaptable, and able to give broad ethical consideration to social advances” (Altbach, Reisberg, and Rumbley 2009: viii). In such regions, higher education needs to be transformed, especially when research and regular exchanges between practitioners and academicians are not commonplace and traditional education becomes outdated. Innovation in competitive products and production processes can easily outpace academics' ability to update their coursework. More importantly, many undergraduate and graduate programs do not provide opportunities to develop the process skills so urgently needed in today's evolving economies and dynamic societies. The mismatch between what higher education provides and what is needed to grow economies lies in part in outdated *content*, but the wider and more telling gap is in mastering the *process skills*—such as reasoning, problem solving, team work, effective communication, creativity, and risk-taking—necessary to effectively lead economic growth.

Both the public and private sectors need well-trained leaders, managers, analysts, and technologists (among, of course, other supporting professions) to help their economies become competitive and their societies become more healthy and stable. Supporting higher education reform that responds to these needs will require a portfolio of investments, both public and private, especially in emerging economies where higher education is expected to play its role as an “economic driver.”

There are two distinctive strategic options for higher education reform in most countries. A differentiated transformation strategy—the “targeted intervention” approach—focuses on high-impact changes most needed to support economic growth and development, an approach that is less likely to trigger initial resistance, allowing reform and new standards to gain traction. An undifferentiated strategy—the “comprehensive reform” approach—focuses on establishing and meeting higher standards for higher education across an entire system. A realistic strategy depends on country context, resources, and conditions. To achieve nearer-term results and longer-term sustainability, a higher education reform strategy is likely to combine elements from both approaches.

Higher education as an economic driver

A growing number of countries have adopted strategies that feature improvements in higher education as a core element in the quest for accelerated development. For example, starting in the late 1970s, Singapore sought to transform its economy toward higher value-added industries with a major focus on the high-technology sector, with the National University of Singapore as a main locomotive. The strategy aimed to promote promising specializations and disciplines in order to attract foreign research talent and encourage the international mobility of students. The government viewed higher education as an export industry, focusing on specializations such as marine engineering and the biomedical and financial industries. Singapore recently contributed \$10 million for the establishment of a new medical school by Duke University, scheduled to start operations this year.

Elsewhere in Asia, the Asian Institute of Management (AIM) has also been successful, developing into a multidisciplinary institute tackling issues of economic growth and development. Begun in 1968 by a consortium of Philippine universities, with grant support from

the Ford Foundation and technical assistance from Harvard University, AIM’s original focus was on business administration. It has since added master’s degrees in management and development management, short-term executive development programs, an executive MBA program in Malaysia, and centers of excellence in banking and finance, policy, human resources, corporate social responsibility, leadership, tourism, and business transformation. According to its website, AIM has produced 38,000 leaders and managers in its 34 years.

India relied to a large extent on external assistance and international collaboration in building its network of Indian Institutes of Technology (IIT), which have played a key role in the economic transformation of the Indian economy. The network’s early expansion—by the 1960s, India had four IITs—laid the foundations for excellence in mathematics, engineering, and science. As India’s economy became more open, the investment in these skills and expertise enabled Indian businesses to seize opportunities in markets for advanced technologies.

More recently, several richer countries, such as the United Arab Emirates and Qatar, have imported high-quality education to create “higher education hubs” by building degree-awarding branch campuses of world-class universities. The Qatar Foundation initiated and funded the opening of full, professional-focused, branch campuses in Hamad bin Khalifa University (previously named Education City), including Carnegie Mellon, Cornell, Texas A&M, Virginia Commonwealth, and Georgetown universities. By 2009, Qatar had nine such branch campuses. The branch campus model in the United Arab Emirates was more decentralized and grew to 40 branches by 2009. The higher education profile in United Arab Emirates accordingly is much broader than Qatar’s, including New York University and the Sorbonne as well as south-to-south relationships with universities in the Philippines, Chile, and Iran, among others (Jaschik 2009, 2011).

Hong Kong succeeded in creating a world-class university within a decade. The Hong Kong University of Science and Technology has emerged as one of Asia's top 10 research universities and ranks high in international university assessments. Other examples of higher education reform include Kazakhstan's efforts to develop a top university in Astana, the "Knowledge Village" launched by Dubai as the core of a high-technology cluster, and Russia's agreement with the Massachusetts Institute of Technology to develop a science university (Kapur and Crowley 2008).

Many European countries are undertaking broad-based reforms through the Bologna Process in order to join the European Higher Education Area. These reforms provide a common framework for degrees and qualifications across participating countries. The process is expected to raise the competitiveness of those higher education systems, increase recognition of degrees across borders, and boost their contributions to economic competitiveness for graduates and their respective economies.

Elements of the higher education reform strategy

The following assumptions or imperatives can strengthen a strategy for either systemic or targeted reform of the higher education sector:

- 1) A strong tertiary education sector is essential to drive economic transformation. Advancing toward an economic system in which knowledge and talent drive growth and development requires recasting the knowledge and process skills that leaders, managers, analysts, and innovators can glean from education. A knowledge-based economy is rooted in excellent local institutions of higher education and a solid educational base that promotes high-quality learning standards.
- 2) Higher education needs to lead and become a critical element in the emergence of internationally competitive clusters—such as information technology and engineering services, pharmaceuticals, tourism, health care, or food processing—in which a country can readily establish a competitive advantage.
- 3) Integrating institutes of higher education with a regional learning environment can be critical. The Bologna Process, for example, guides the creation of a European Higher Education Region, providing quality standards for competitive higher education in participating countries. Beyond meeting their own national needs for talent, countries apply regional standards to position themselves as providers of high-quality educational services in the global marketplace and set themselves up to continually improve.
- 4) Higher education is a global industry, so a given country's higher education must take on an international orientation. The higher education system cannot advance without articulating and participating in an intensive exchange of content, students, faculty, research, teaching, or governance practices with institutions worldwide. Having an "open" system will ensure timely awareness, response, and adoption of sector trends and best practices. Once a country improves its higher education system, it also will be able to attract talented people from the region or its diaspora to the country, effectively reversing "brain drain." More diverse and international talent and skills will accelerate quality improvements and technological innovation.
- 5) Higher education needs to integrate research with teaching. Engaging more fully in research will improve teaching quality and relevance. In addition, the integration of research with teaching is critical for creating and enhancing the linkages among industry, scientific research, and higher education which, in turn, promotes innovation throughout the economy and, in particular, within high-priority sectors and value chains.

Obstacles to reform

Reforming higher education to support a competitive economy is a complex task. The challenges include a lack of incentives for upgrading curricula, conducting research, or improving teaching methods; a demand-supply mismatch; inordinately high administrative to teaching staff ratios; and inadequate facilities and financing.

Faculty may lack the qualifications or experience to integrate research with teaching in order to advance their discipline. Teaching methods are frequently outmoded. Rote learning is common in developing countries, with instructors doing little more in the classroom than copying their notes onto a blackboard. Pay is commonly pegged to length of service, rather than success in teaching or in publishing research. Many institutions in developing countries do not track their performance by international rankings, citation indices, statistics on the career development of the graduates, or other comparative indicators that typically drive competition among universities. Students often face additional challenges, such as overcrowded classrooms; inadequate library, laboratory, and technology facilities; distracting living conditions; and few, if any, support services.

Many educational services in the developing world are largely disconnected from the labor market. Rather than responding to market demand, universities offer education in specializations for which there is funding. For example, many systems turn out large numbers of teachers, although teachers may make up a significant proportion of the unemployed. Meanwhile, surveys of employers reveal significant gaps between industry requirements and the quality of labor-seeking graduates. By 2008, 30 percent of firms considered education and skills to be a major or severe constraint to growth, and that number is significantly higher in some countries (Sondergaard et al. 2012).

The range of the public/private funding ratios for higher education among countries is wide. In Organisation for Economic Co-operation and Development (OECD) countries, around 40 percent of higher education is funded by those countries' governments. In some richer countries, such as Germany and Finland, the governments finance almost 100 percent of higher education. Some poorer countries, however, still maintain a tradition of free university education even though they are inadequately funded and additional resources are clearly needed for quality improvements.

Strategic options for a competitive upgrade

Context and choices

A fundamental transformation of higher education systems will require carefully crafted strategies championed by the public sector and supported by business, research, and professional communities as well as students and their families seeking greater economic returns on their investments in higher education.

As previously mentioned, there are two distinctive strategic reform options for most countries. The differentiated transformation strategy—the “targeted intervention” approach—focuses on high-impact changes most needed to support economic growth and development, and unlikely to trigger initial resistance to reform. The undifferentiated strategy—“comprehensive reform”—focuses on establishing and meeting higher standards for higher education across an entire system.

The targeted intervention strategy

This strategy rests on the idea that a focused approach, targeting specific issues and opportunities, is more likely to achieve a breakthrough. Two options deserve particular attention—establishing a flagship university and promoting centers of excellence at selected universities.

Building a flagship university

A number of countries—such as China, India, Russia, Singapore, and South Korea—are pursuing strategies similar to Hong Kong’s with its flagship university. Their experience shows it is possible to break into the ranks of the world’s elite universities in less than a generation, sometimes within a decade (Altbach and Salmi 2011; Salmi 2009).

A leading university attracts top faculty and students and enhances the country’s ability to compete in international education markets. It becomes an engine of economic competitiveness at home. The emergence of a world-class university creates strong competitive pressures for other universities to meet higher standards. A flagship university can enhance the quality of an entire sector by leading by example, enhancing competition, accumulating talent, and spreading good practices.

To create such an institution, the options include transforming an existing university, merging universities, or building a flagship university from scratch. Within each scenario, the reformers might focus either on selected specialties or across-the-board excellence for the university as a whole.

Establishing such a university requires significant resources, from public and private sources. Diaspora resources, especially scholar and teaching resources, can make a significant contribution, as the experience of Hong Kong has demonstrated.

Promoting centers of excellence

Promoting centers of excellence serves to address high-priority needs of the economy and society and high-potential targets of opportunity. The additional leverage provided to these centers is likely to have a multiplier effect on standards of teaching and research. Selection criteria for the centers may be diverse, but the selection process should be competitive.

The German Excellence Initiative exemplifies this approach through its support to graduate schools and collaborative research initiatives in leading German universities (Kehm and Pasternack: 113).

Variations of this approach are possible. For example, centers can be defined broadly—to encompass entire universities or their partnerships—or narrowly, to focus on a chair in a university or a group of researchers. The Philippines’ Asian Institute of Management, the Indian Institutes of Technology, and Qatar’s Hamad bin Khalifa University had success under the center-of-excellence approach. Various requirements can be mandated for eligibility, including international collaboration, curriculum upgrade, faculty enhancement, and research output. The creation of a central resource or support center may be appropriate.

Comprehensive reform

This strategy emphasizes interconnected interventions across the entire system of higher education. By directly engaging most stakeholders, it aims to induce change across the board. And it typically involves both working on the supply side of the education industry and strengthening effective demand.

Strengthening the supply side

Many countries are undertaking reforms to subscribe to a common framework for academic programs and qualifications that raise quality and matriculation for programs as well as recognition of degrees. For example, the Bologna Process provides guidance for reform in countries such as Armenia and Georgia to enable them to join the European Higher Education Area. This approach relies on government leadership and financing to influence quantitative and qualitative factors related to the supply of educational services. Four policy actions are critical to this approach:

- **Setting curricula standards (competencies)** that reflect what students need to know to

be employed and contribute to the economy and society after graduation. The revised standards should be set by diverse stakeholders in the higher education system and in reference to the international framework and the labor market, not just by the faculty who historically have been incentivized to annually replicate last year's content and teaching methods.

- **Promoting quality assurance and capacity building.** A strict and strictly enforced quality assurance policy will encourage the implementation of higher standards. The United Nations Educational, Scientific and Cultural Organization and the World Bank have created the Quality Initiative to Quality Assurance Capacity to integrate and coordinate these efforts nationally, regionally, and globally (Altbach, Reisberg, and Rumbley 2009).
- **Emphasizing research in institutions of higher education.** The role of research in universities will necessarily become more prominent. Achieving that objective requires a better physical infrastructure, efforts to attract and encourage scholars and teachers with appropriate incentives and rewards, and a curriculum that features research.
- **Restructuring public educational and research institutions.** Improving the supply side of higher education requires initiatives to achieve efficiencies in content provision and scale, and to enable research resources to be better allocated. Given the sensitivity and difficulty of this issue, such nuances need to be addressed if the supply of education is to be streamlined.

Under this approach, the government and private sector often combine forces, through appropriate public-private partnerships (PPPs), to strengthen higher education through the application of clearly formulated standards and labor competency requirements for graduates. Allocating state funding on the basis of performance metrics that reflect results or outputs rather than inputs is one lever to manage reform.

Extending such funding to private universities that can demonstrate the adoption and achievement of higher standards should be considered as well. The collection of such metrics can be used to stimulate desired change—research orientation, internationalization, or collaboration with the private sector.

The Higher Engineering Education Alliance Program (HEEAP) exemplifies the PPP approach. With support from the U.S. Agency for International Development, a university-industry consortium led by Arizona State University and Portland State University and including Intel, Siemens, and others, has partnered with the government of Vietnam for a three-year project to reform engineering and technical and vocational programs in that country. According to heeap.org, instruction will be changed from a theory-based curriculum to one that is applied and hands-on, so that graduates will be “work ready” with technical, communication, and other “soft skills” needed for employment within the high-tech electronics sector, a significant economic driver for Vietnam.

Financing the quality improvements that higher education will need to become an economic contributor and driver will require a portfolio of investments, both public and private, especially in emerging economies. There also is a growing emphasis on cost-recovery schemes through tuition, charges for boarding, and university-industry links to fund higher education reform and improvement (Altbach, Reisberg, and Rumbley 2009). The University of Nairobi, for instance, broke the tradition of free admission to its business school by transitioning to a tuition-driven system. Paying students have subsequently provided the resource base for substantial improvements (America 2003).

Georgetown University professor Richard America is supporting a network of business schools in the Southern Africa Development Community that do not have resources for systemic reform but that nevertheless are striving to

meet, through their own initiatives, the demand for better-educated leaders and managers in the private and public sectors. The network serves as a convener and professional resource to help members share ideas and experiences in quality improvement and reform, focusing on those changes that contribute to economic competitiveness and sound governance (2003).

Prospects

A transformed higher education system must include updated content and the active development of process skills to train the leaders, managers, analysts, technicians, and innovators who can contribute to the economic competitiveness of their countries. The urgency to create effective drivers of economic growth suggests that targeted interventions are warranted to generate an effective labor force in professions for nearer-term results, supported by comprehensive reform across the higher education sector for longer-term, sustainable results.

The leadership to initiate partnerships among governments, the private sector, and the academic community can come from any sector but requires active participation and collaboration of all three. Funding may well come from all three partners; for example, government subsidies, private sector investment for research and endowments, and cost-recovery schemes and income generation from patents and consulting by institutions of higher education. If we are to realize the potential of the higher education sector as an economic driver, policy dialogue between these three communities is critical.

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AUTHORS

Ulrich Ernst is a development economist specializing in structural policy, regulatory reforms, and economic competitiveness. He served as DAI's Chief Economist and editor of several earlier issues of *Developing Alternatives*. His current focus is on developing new approaches to guide structural reforms to improve competitiveness of targeted value chains, in particular through the Competitiveness Impacts of Business Environment Reforms (CIBER) process. He is an independent consultant.

Lara Goldmark has led DAI's work in private sector development since January 2011. Prior to that she served as director of a regulatory reform program in Morocco, working with public and private counterparts to institute a policy reform process, which works to reduce barriers to trade and investment. Formerly, she led a series of research initiatives focusing on value chains and impact assessment for enterprise development programs, managed a microfinance institutional development program for the Brazilian National Development Bank, and worked for the Inter-American Development Bank's Microenterprise Unit, designing grant and loan packages for private sector organizations in Brazil, El Salvador, Haiti, and Honduras.

Manuk Hergnyan is the founding chairman of the Economy and Values (EV) Research Center and the managing partner of EV Consulting, a management consulting company in Armenia. He has consulting experience with Setrakian Financial Group, Arlex International, KPMG Consulting-Barents Group, and Global Investment Union. At Yerevan State University, he teaches strategic management and the Harvard Business School course on the microeconomics of competitiveness. The lead author of National Competitiveness Reports of Armenia, he is a member of The Competitiveness Institute, an international association of competitiveness professionals, and of the Industrial Council and Scientific Technical Council of Armenia.

Marina Krivoshlykova is a senior development specialist at DAI specializing in private sector development and competitiveness. She joined DAI in 2002 and focuses on value chain strengthening and industry strategy development. She has managed projects, led field assignments, and developed tools focusing on design, implementation, and impact evaluation of private sector development projects in Southeast Asia, Africa, Eastern Europe, the Middle East, and the former Soviet Union.

Karen Miller is the Stabilization Director for DAI's Stabilization in Key Areas (SIKA) program in Mazar-e-Sharif, Afghanistan. She works with local government entities to build their capacity to better serve their communities and meet the needs of

the population. Before joining SIKA, she worked on DAI's private sector development team, researching unemployment trends and policies, and contributing to workforce development programs. Previously, she worked in Ghana for a local nongovernmental organization on small enterprise development, connecting women-owned businesses with seed capital and business skills training.

Bryanna Millis earned her master's degree in law and diplomacy in development economics and trade from The Fletcher School at Tufts University, where she worked as a quantitative economist at the Global Development and Environment Institute. Today, she serves as DAI's business environment reform team lead, developing and field-testing tools and providing technical support to governments and private sector actors to build domestic market share, prioritize and measure the competitiveness impacts of constraints, and coordinate reforms. In addition to Latin America, she has worked extensively in Asia, Sub-Saharan Africa, and the Middle East, spending 2010 in Palestine and Jordan.

Edward Sayre is associate professor of economics at University of Southern Mississippi, non-Resident Fellow at the Brookings Institution, and Research Director at FIKRA, a Qatar-based consultancy. He has written over two dozen articles, book chapters, and research monographs on economics and economic policy in the Middle East. Before taking his current position, he was a visiting research associate at the Palestine Economic Policy Research Institute (MAS) in Jerusalem and taught at Kenyon College and Agnes Scott College.

Howard Williams, a principal development specialist at DAI, has more than 25 years of experience in designing, developing, and evaluating national and local education, training, and workforce development programs in Africa, Asia, the Middle East, Eastern Europe, Central America, and the United States. His experience includes capacity building for national and local agencies and organizations, development of university exchanges and partnerships, and volunteer assistance.

Louise Williams is an attorney who has worked with public and private sector clients on issues of collective bargaining, equal employment opportunity, and wage and hour law. Since 1997, she has worked as a consultant in international development, advising the U.S. Agency for International Development (USAID), host-country governments, and private sector actors about opportunities in economic growth and business environment reform, with an emphasis on employing workers. She currently serves as Policy, Legal and Regulatory Advisor to the USAID/ASEAN Regional Agricultural Trade Environment activity.