# **CURRICULUM VITAE**

#### **Nathan Sussman**

# 1. PERSONAL DETAILS:

Date of birth: December 7, 1959

Place of birth: Israel I.D no: 56074214

Nationality: Israeli, Canadian

Home address: 86/5 Hacaha'yl St. Jerusalem 91891

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Work address: Dept. of Economics, Hebrew University

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# 2. HIGHER EDUCATION:

Degree	Field	Institution	Year
B.A.	Economics (cum laude)	Hebrew University	1984
M.A.	Economics (cum laude)	Hebrew University	1986
Ph.D.	Economics	University of California, Berkeley	1990

# **DISSERTATION:**

Mints and Debasements: Monetary Policy in France During the Second Phase of the

Hundred Years War, 1400-1425 Advisor: Professor Carlo Cipolla

# 3. APPOINTMENTS AT HEBREW UNIVERSITY:

1984- 1986	Teaching Assistant, Department of Economics, Hebrew University
12/1993	Lecturer, Department of Economics, Hebrew University
10/1998	Senior Lecturer, Department of Economics, Hebrew University
10/2004	Associate Professor, Department of Economics, Hebrew University

# 4. ADDITIONAL FUNCTIONS AT HEBREW UNIVERSITY

1995-1998 Chair, Economics Department Alumni Organization

1999- Member, steering committee of PPE

2000-2003 Chairperson, Department of Economics, Hebrew University

1/2002 - Co-Director, Minerva Center, Dept of Economics, Hebrew University

## 5. SERVICE AT OTHER UNIVERSITIES AND RESEARCH INSTITUTIONS:

1982- 1986 Research Assistant, Research Department, Bank of Israel

Independent research on the Phillips curve in Israel and assisting in the

preparation of the Bank of Israel Annual Report.

1986- 1990 Research Assistant, Department of Economics, University of California,

Berkeley. Development of international economic statistics database with

Professor Ward

1986- 1988 Graduate Student Instructor, Department of Economics, University of

California, Berkeley

1991-1995 Assistant Professor, Department of Economics, The University of Western

Ontario

2000-2005 International Monetary Fund – visitor to the Research Department.

Visiting Associate Professor, Department of Economics, The University of

Western Ontario

## 6. OTHER:

1978-1981 IDF, Navy

1985- 1986 Aiesec Israel, Vice-President Exchange

1985 Aiesec Jerusalem, President

## **PUBLIC ACTIVITIES:**

1996-2000 Bank of Israel, Research Department, Advisor 2003- Bank of Israel, Financial Stability Team, Advisor

## **ACADEMIC HONORS AND AWARDS:**

1983 Dean's List, Hebrew University

1984-1986 M.A. Scholarship, Department of Economics, Hebrew University

1990 Wolfson Post-Doctoral Fellowship

1992-1995 Alon Fellowship, Hebrew University

1997 – 1998 University distinguished teacher award

## **EDITORIAL and REFEREEING:**

Journal of Economic History, Editorial Board 2003-

Economic History Association, Chair (2004), member (2000-2005), "Ranki Prize" committee.

Economic History Review

Explorations in Economic History

Journal of Economic History

Journal of European Economic History

Journal of International Economics

Journal of Theoretical and Institutional Economics

Quarterly Journal of Economics Research in Economic History

# REFEREEING OF DISSERTATIONS AND RESEARCH GRANTS

#### **Grants:**

2004- ISF Botticini and Eckstein – the economic history of the Jews

## **Dissertations:**

2003- Idit Yotav-Solberg, Tel Aviv University2005- Rudi Minzer, Bar Ilan University

# PROFESSIONAL ORGANIZATIONS:

American Economic Association Economic History Association Cliometric Society

## 7. RESEARCH GRANTS:

1989	Archival Research on French Mints, French Government	\$3,000
1989	Dissertation Funding, IBER, University of California, Berkeley	\$1,500
1991	Mint Bureaucracies in Medieval France,	\$7,000

1992-1995	Economics of Debasements, SSHRC, Publications (7,10)	\$28,000
1994	Peace Economics - Economic History Perspective, Sapir Forum, Israel (publication, 4).	\$7,000
1999-2003	Israeli Science Foundation (inequality in the heyday of the correvolution – Paris 1292-1313), Publications(37)	ommercial \$80,000
2002-2004	Israeli Science Foundation (with Y. Yafeh) Publications: (1,9,12)	\$78,000
2005-2006	Falk institute for economic research in Israel	\$19,000

## 8. TEACHING AT HEBREW UNIVERSITY

#### **CURRENT PhD. SUPERVISION**

PhD. Committee, chair: Karine Gabay, Economics Department, Hebrew University

Jacques Sadik, Economics Department, Hebrew University Haggay Etkes, Economics department, Hebrew University

PhD. Steering Committee, member: Daniel Strum, Dept. of History of the Jewish People,

Hebrew University

Orit Gal, Dept. of International Relations.

#### **COURSES TAUGHT AT HEBREW UNIVERSITY:**

Integrative course for PPE, B.A Advanced reading course in economics for PPE, B.A. Economic History Workshop for M.A. Economic History, B.A. Seminar in medieval economic history, History dept., B.A Introduction to Economics, B.A

#### LIST OF PUBLICATIONS:

#### 1. **DISSERTATION:**

Mints and Debasements: Monetary Policy in France During the Second Phase of the Hundred Years War, 1400-1425, Advisor: Professor Carlo Cipolla

## 2. BOOKS:

1) Paolo Mauro, **Nathan Sussman\*** and Yishay Yafeh, *Globalization and Emerging Markets in the Nineteenth Century: Sovereign Debt and Institutions in the Golden Era of Globalization*, Oxford University Press, March 2006.

#### 3. BOOKS EDITED:

## 4. CHATERS IN COLLECTIONS:

- 2) Sussman, Nathan. "Mints and Debasements: Monetary Policy in France During the Second Phase of the Hundred Years War: 1400-1425." In: Recent Doctoral Research in Economic History edited by P. Subacchi. Milan, Italy: Università Bocconi, 1994. pp. 45-51. [Proceedings of Eleventh International Economic History Congress, Volume D-Sessions; Summary of Dissertation].
- 3) **Sussman, Nathan**. "Mints and Debasements: Monetary Policy in France During the Second Phase of the Hundred Years War: 1400-1425." *The Journal of Economic History: Proceedings of the Fifty-First Annual Meeting of the Economic History Association* 52,2 (1992): 452-454. [Summary of Dissertation].
- 4) **Sussman, Nathan**. "Minting Trends in France and the Bullion Famine Hypothesis: Regional Evidence (1384-1415)." In: *Fra Spazio E Tempo: Studi In Onore Di Luigi De Rosa* edited by Ilaria Zilli. Napoli, Italy: Edizioni Scienfifiche Italiane s.p.a., 1994.
- 5) **Sussman Nathan** and Yishay Yafeh, "The Gold Standard and Capital Market Integration: Evidence from Japanese Sovereign Debt in the Nineteenth Century" in M. Flandreau (editor), A Century of International Financial Architecture, *Economie Internationale*, Vol. 78, No. 2, 1999 (in French).
- 6) Lavi Yaakov and **Sussman Nathan**. "The Phillips Curve in Israel and its Induced Policy Shifts" in *Inflation and Disinflation in Israel*, Bank of Israel, conference proceedings, 1999.
- 7) **Sussman Nathan** and Yishay Yafeh, "Contagion and Capital Market Integration in Asia: Historical and Contemporary Evidence" in *Structural Adjustments after the Asian Financial Crisis*. A special volume of the *Seoul Journal of Economics*, Vol. 12, No. 4, Winter 1999, pp. 391–417.
- 8) Eichengreen Barry and **Nathan Sussman**, "The International Monetary System in the Very Long Run" *World Economic Outlook*, (April 2000).
- 9) Liviatan Nissan and **Nathan Sussman**\*, "Disinflation Process in Israel in the Past Decade." In, Ben-Bassat, Avi, Ed. *The Israeli Economy*, 1985–1998: From Government Intervention to Market Economics, Hebrew: Am Oved Publishers, Tel Aviv, 2001.
- 10) Liviatan Nissan and **Nathan Sussman**\*, "Disinflation Process in Israel in the Past Decade." In, Ben-Bassat, Avi, Ed. *The Israeli Economy*, 1985–1998: From Government Intervention to Market Economics, MIT Press, 2002, pp. 129-56.
- 11) **Nathan Sussman**\*, "The Effect of Surprises on Real Wages and Unemployment in a Disinflationary Process", *The Economic Quarterly*, September 2002, pp. 441-8. (in Hebrew).

- 12) **Nathan Sussman**\*, "Inflation Tax," in Mokyr, Joel (ed.), *The Oxford Encyclopedia of Economic History*, Forthcoming, Oxford University Press, June, 2003.
- 13) Marc Flandreau and **Nathan Sussman**\*, "Old sins: Exchange Clauses and European Foreign Lending in the 19th Century" in Eichengreen Barry and Ricardo Hausman (eds.), *Other People's Money: Other People's Money, Debt Denomination and Financial Instability in Emerging Market Economies* Chicago University Press, 2004 pp. 154-189.
- 14) **Nathan Sussman\***, "Monetary policy in Israel: 1986-2000: Estimating the central bank's reaction function," in Nissan Liviathan (ed.) *The History of the Bank of Israel*. 2005, in Hebrew.

#### **5. ARTICLES IN REFEREED JOURNALS:**

- 15) **Sussman, Nathan**. "The Phillips Curve Revisited Israel, 1960-1987." <u>Bank of Israel:</u> <u>The Economic Review</u> 64 (January 1990):83-101.
- 16) **Sussman, Nathan**. "Missing Bullion or Missing Documents: A Revision and Reappraisal of French Minting Statistics: 1385-1415." *The Journal of European Economic History*19, 1 (1990): 147-162.
- 17) **Sussman, Nathan**. "Debasements, Royal Revenues, and Inflation in France During the Hundred Years' War, 1415-1422." *The Journal of Economic History* 53, 1 (1993): 44-70.
- 18) **Sussman, Nathan**. "Trade Agreement as a Part of Peace Agreements A Historical Perspective" (original in Hebrew). *The Economic Quarterly* 41, 4 (1994): 630-653.
- 19) **Sussman, Nathan**. "William Huskisson and the Bullion Controversy--1810." *European Journal of the History of Economic Thought*, July, 1997 pp. 237-257.
- 20) Gandal Neil and **Sussman Nathan**. "Asymmetric Information and Commodity Money: Tickling the Tolerance in Medieval France," *Journal of Money Credit and Banking*, November 1997, pp 440-458.
- 21) **Sussman, Nathan**. "The Bullion Famine Reconsidered -- A Monetary Approach to the Balance of Payments Analysis: Evidence from France 1360-1415." *Journal of Economic History*, March 1998, pp. 126-155.
- 22) Sussman Nathan and Yishay Yafeh, "Institutions, Economic Growth and Country Risk: Evidence from Japanese Government Debt in the Meiji Period" <u>Journal of Economic</u> <u>History</u>, June 2000, pp. 442-467
- 23) Mauro Paolo, **Sussman Nathan\*** and Yishay Yafeh "Emerging Market Spreads: Then versus Now", *Quarterly Journal of Economics*, May 2002, pp. 695-733.

- 24) **Sussman Nathan\*** and Joseph Zeira, "Commodity Money Inflation: Theory and Evidence from France in 1350-1430" *Journal of Monetary Economics*, November 2003, pp 1979- 1693.
- 25) Lavi Yaakov and **Nathan Sussman\***, "The Determination of Real Wages in the Long and their Change in Short Run the Case of Israel," <u>Bank of Israel Review</u>, January 2005, pp. 43-76 in Hebrew.

# COMMUNICATIONS IN REFEREED JOURNALS, EDITED VOLUMES AND BOOK REVIEWS:

- 26) **Sussman, Nathan**. "Missing Bullion or Missing Documents: A Revision and Reappraisal of French Minting Statistics: 1385-1415: A Reply." *The Journal of European Economic History* 20, 3 (1991): 677-682.
- 27) **Sussman, Nathan**. "Review of *Elusive Stability, Essays in the History of International Finance, 1919-1939* by Barry Eichengreen" (original in Hebrew). *The Quarterly Review*.
- 28) **Sussman, Nathan**. "Once More Unto the Breach: A Reply." *The Journal of European Economic History* 23, 2 (1994): 389-396.
- 29) **Sussman, Nathan**. "Discussion of 'Will Government Policy Magnify Capital Flow Volatility?" by Giuseppe Bertola and Allan Drazen." In: *Capital Mobility: the Impact on Consumption, Investment and Growth* edited by Leonardo Leiderman and Assaf Razin. Cambridge, UK: Cambridge University Press, 1994. pp. 283-286.
- 30) **Sussman, Nathan**. "Review of *Private Money and Public Currencies: The 16th Century Challenge* by Marie-Therese Boyer-Xambeu, Ghislan Delaplace and Lucien Gillard; translated by Azizeh Azodi." *Journal of Economic History* 55, 2 (1995): 415-416.
- 31) **Sussman, Nathan**. "Review of Monnaies et Marches au Moyen Age [Money and Markets in the Middle Ages] by John Day." *Journal of Economic History*, 56, 2 (1996): 502-503.
- 32) **Sussman, Nathan**. "Review of Money and Government in the Roman Empire by Richard Duncan-Jones." *Journal of Economic History*, 56, 3 (1996): 501-502.
- 33) **Sussman, Nathan**. "Review of A History of Money from AD 800 by John F. Chown." Journal of Economic History, 59, 1 (1999): 261-262.

- January 2000 One week visit to IMF research department. Paper presented:
   Eichengreen Barry and Nathan Sussman, "The International Monetary System in the Very Long Run"
- April 2001 All-UC conference at Berkeley. Paper presented: "Emerging Market Spreads: Then versus Now"
- September 2001, Rutgers University, paper presented "Emerging Market Spreads: Then versus Now"
- September 2001, Yale University, paper presented: "Emerging Market Spreads: Then versus Now"
- July 2002, Kennedy School of Government, Harvard University, paper presented: "Old sins: Exchange Clauses and European Foreign Lending in the 19th Century"
- October 2002, LACEA annual conference, Madrid, paper presented: "Old sins: Exchange Clauses and European Foreign Lending in the 19th Century"
- November 2002, Original Sin conference, Inter- American Bank for Development,
   Washington, DC. Paper presented: "Old sins: Exchange Clauses and European Foreign
   Lending in the 19th Century."
- May 2003, Minerva international conference, From Stagnation to Growth, Schloss Wartensee, Switzerland. Co-organizer. Papers presented: Binyamin Bardugo, Jaques Sadik and Nathan Sussman, "Delays in Technology Adoption, Appropriate Human Capital, Natural Resources and Growth,"
- July 2003 2 week visit to IMF research department. Paper presented: Nathan Sussman and Yishay Yafeh, "Constitutions and Commitment: Evidence on the Relation between Institutions and the Cost of Capital"; Nathan Sussman and Yishay Yafeh, "Constitutions and Commitment: Evidence on the Relation between Institutions and the Cost of Capital"

- September 2003 Economic History Association meetings in Nashville, Nathan Sussman and Yishay Yafeh, "Constitutions and Commitment: Evidence on the Relation between Institutions and the Cost of Capital"
- September 2003, University of Toronto , Nathan Sussman and Yishay Yafeh, "Constitutions and Commitment: Evidence on the Relation between Institutions and the Cost of Capital"
- September 2003, Queens University, Nathan Sussman and Yishay Yafeh, "Constitutions and Commitment: Evidence on the Relation between Institutions and the Cost of Capital"
- September 2003, University of Western Ontario, Nathan Sussman and Yishay Yafeh, "Constitutions and Commitment: Evidence on the Relation between Institutions and the Cost of Capital"
- December 2003, NBER, Marc Flandreau and Nathan Sussman, "Old sins :Exchange Clauses and European Foreign Lending in the 19<sup>Th</sup> Century"
- April 2004, Stanford University, Nathan Sussman and Yishay Yafeh, "Constitutions and Commitment: Evidence on the Relation between Institutions and the Cost of Capital"
- April 2004, University of California Berkeley, Nathan Sussman and Yishay Yafeh, "Constitutions and Commitment: Evidence on the Relation between Institutions and the Cost of Capital"
- April 2004, All UC economic History conference, UCLA, Income inequality in historical perspective, evidence from the Parisian Taille 1290-1315.
- November 2004, Northwestern University, Income inequality in historical perspective, evidence from the Parisian Taille 1290-1315.

- January 2005, Delta (paris) Income inequality in historical perspective, evidence from the Parisian Taille 1290-1315.
- November, 2005 co-organizer of a conference: Medieval Global Economies, held at University of Western Ontario, November 11-13, 2005.

#### **SCIENTIFIC BIOGRAPHY:**

- I. Research in medieval French economic history with emphasis on monetary issues and inequality.
- II. Research centered around the 19<sup>th</sup> century London financial markets with emphasis on emerging markets, the cost of capital, the relationship between institutions and global finance and their relationship to growth in emerging market economies.
- III. Policy oriented work on Israeli macro-economic issues mainly monetary policy and unemployment.
- IV. Work with graduate students, members of the center, on theoretical issues related to growth.
- I. Medieval French economic history:
- A. Monetary issues:
- 1. In continuation of my previous work, starting in 1990, I embarked on a new study of the phenomenon of debasements in France during the Hundred Years war. After collecting archival data and in collaboration with Joseph Zeira of the Hebrew University, I completed a more general paper on debasements. It includes a model and econometric tests that take advantage of the large data set I assembled. The paper was recently published in the *journal of monetary* economics. It's contribution is to show, for the first time, the differences and similarities between commodity money regimes and modern fiat money. My contribution was the idea of the paper, data and data analysis. I plan to extend this research to include inflation under commodity money regimes by studying the effects of inflation on accounting practices, wage indexation, legal arbitration and the attempts made by contemporaries to understand this phenomenon. 2 The "bullion famine hypothesis" of the Renaissance. The textbook view of the period 1350-1450 is one of recession (depression) brought on by severe monetary contraction. I question the validity of this widespread theory by presenting new data, uncovered by my research, on French minting of coinage from that period. I employ the monetary approach to the balance of payments to cast doubt on the theoretical possibility of a prolonged disequilibrium in the bullion market. Since I published my preliminary results in the *Journal of European Economic History* in 1990 I have engaged in several exchanges of opinion in the Journal of European Economic History with Harry Miskimin of Yale, who was the main advocate of the bullion famine hypothesis. More recently in the Journal of Economic History I present additional data and a model which refutes the bullion famine hypothesis for France. I plan to submit an additional paper that further substantiates my claims by statistically analyzing coin hoarding data from that period. I believe the fruits of this line of research will prompt a reassessment of the currently prevailing account of European economic history during the Renaissance.
- 3. The third line of research relating to medieval commodity money is the study of institutional aspects of the emergence of national currencies in early modern Europe. I argue that in order to take hold, national currencies had to establish a reputation, by controlling and monitoring coin production and the prosecution of counterfeiters. This was no easy task in medieval Europe, and rulers resorted to different solutions. Taking a microeconomic approach, I first analyze in a paper that appeared in the *Journal of Money Credit and Banking* (together with Neil Gandal of Tel-Aviv University), the issue of the quality control of coins produced in a decentralized monetary system (in France) and the transmission of incentives regarding coin quality to mint masters. My contribution, was the idea, data and data analysis. I started collecting data from additional countries (England, the Burgundian Low Countries and Florence) with a view to a comparative study of how providing a reputation for currency in Europe evolved.

# B. Inequality in medieval Paris

My new research-project explores the issues of income and wealth inequality of a growing urban economy in a historical perspective, using hitherto unexploited rich and unique data sources from late medieval and early modern Paris. Its aim is to draw a detailed and comprehensive picture of the interaction between economy and society in the capital of France during the Commercial Revolution.

The study is based on a statistical analysis of the economic, professional and residence characteristics of some 20,000 individuals recorded in the Parisian tax-rolls of 1292, 1296, 1297 and 1313, and compared with similar records of the 15<sup>th</sup> century. The extensive database constructed will allow for an in-depth analysis of the distribution of income and wealth and inequality in a period of economic growth (late 13<sup>th</sup> century) and economic decline (mid-15<sup>th</sup> century), as well as for comparison with other early modern and modern data sets. Analysis of the data will also provide ample information on social mobility, urban professional structure, labor dynamics and the effects of work unions (guilds) on the urban economy; it will also provide for a comparison of inequality between indigenous, immigrant, minority groups and women. Panel regressions and pooled time-series regressions will allow us to parametrically test for the various effects of occupation, residence, sex, ethnic origin, experience, schooling, skill and parental endowment on individuals' wealth or income. Currently, a working paper was completed and presented in several seminars and a conference.

II. Studies in financial history – the London capital market.

A. Institutions and the cost of foreign capital.

1. In recent work with Yishai Yafeh of the economics department of the Hebrew University, published by the Journal of Economic History, we analyze the impact of institutional reform on economic growth from the cost of foreign capital angle. We explore the case of Japan of the Meijie restoration as a case study of the celebrated North and Weingast hypothesis. Our analysis demonstrates that institutional reform in Japan had less impact on foreign investors than did more visible signals such as the establishment of the gold standard and victory in the War with Russia. The novelty of our approach lies in the utilization of government bond prices, traded in London of the late 19<sup>th</sup> century, obtained from the London Times, to construct a profile of the information and beliefs regarding the economic development of foreign countries: which countries were deemed more risky and why. My contribution: idea and data analysis. We then turned to directly challenges the North and Weingast (1989) view that institutional reforms and better protection of property rights lead to economic growth through a reduction in interest rates, and that a mechanism of this type accounted for Britain's ascendancy to economic supremacy. We constructed measures of the cost of borrowing for the British Government prior to the issue of the Consols and contrasted it with an equivalent measure form Holland. We show that, in contrast with North and Weingast, the risk premium on British sovereign debt remained high and even increased in the decades following the Glorious Revolution, and that during much of the eighteenth century interest rates in Britain fluctuated considerably in response to wars and political instability. For emerging markets today, this result implies that the immediate *financial* rewards for internal stability and peace are likely to exceed the short-term financial benefits from institutional reforms, which are rewarded only in the long run. The paper is currently under review in the *Journal of Economic History*, the working paper version of the paper is already used in many graduate courses in economic history and is also cited by economists, political scientists and legal historians. My contribution: idea, data and data analysis.

- 2. Our research into emerging markets' bond finance in the late 19<sup>th</sup> century, with Paulo Mauro, included an investigation into the question of contagion in international financial markets. Motivated by episodes of contagion in the 1990s we turned to ask whether the previous era of global finance of the 19<sup>th</sup> century also resulted contagion. Using a hand collected data set we employ a similar methodology to the one we used in our earlier work to analyze the issue of convergence and contagion around the turn of century. Our results published in the *Quarterly Journal of Economics* suggest that while, as today, there was significant co-movement of bonds from different countries there was nevertheless little contagion in the 19<sup>th</sup> century. These results suggest that the structure of capital markets, different institutional setup of the investment houses or different investors (behavior) may account for this difference. My contribution: to the idea and data collection and analysis.
- 3. We extended our work to investigate the determinants of capital cost for emerging markets in the pervious golden era of global capital markets compared with today. The fruits of this research will appear in a forthcoming book (March 2006) published by Oxford University Press. We created a new data set which includes sovereign bond spreads then and now and the available information available to investors at the time. We collected macro economic data published in the financial press of the time and news articles from the London Times (then) and the Financial Times (now) and classified them according to categories: good economic news, bad economic news, wars and internal strife, institutional change and political news. Our econometric analysis shows that spreads were largely affected by economic fundamentals (exports' earning), macroeconomic policy (the gold standard), wars and instability. We found little evidence for the effect of institutional reforms. A finding which corroborated our earlier findings on England and Japan that capital markets do not immediately reward institutional reforms. We also looked at debt default resolution mechanisms in the past namely the Corporation of Foreign Bondholders and found a mixed record in their ability to make defaulting countries pay.
- 4. My investigation into 19<sup>th</sup> century capital markets also included an attempt to answer the question why do countries borrow in foreign currencies. In joint work with Marc Flandreau we address the origins of 'original sin'. In paper published in an edited volume: "Other People's Money: (Chicago University Press) we challenges a popular explanation for 'original sin' – the default prone borrowing of long term debt in foreign exchange by emerging markets – that emphasizes the lack of credibility and commitment of governments, that prevents them from borrowing in their own currency. Basing our account on the history of emerging market borrowing in the nineteenth century, we offer an explanation based on historical path dependence. My contribution - part of research idea and data collection and analysis. 5. In a study of British capital markets the early 19<sup>th</sup> century Yona Rubinstein and I use British data for 1790-1850 to resolve the Gibson Paradox (the positive relationship between the price level and interest rates). For the purpose of this paper I assembled hitherto unearthed monthly data on the money supply in Britain for the period 1797-1815 from the Bank of England. We show that this relationship is derived from a standard money market equilibrium relationship and prevails in any monetary regime. We show that the omission of the money supply and output from that relationship is responsible for the finding of the Gibson relationship only during the Gold Standard. My contribution: idea and data collection.
- III. Policy oriented work on Israeli macro-economic issues mainly monetary policy and unemployment.

- 1. In a series of papers I investigate monetary policy in Israel during the disinflation era (1986-2002). In a paper with Nissan Leviathan published in *The Israeli Economy, 1985–1998: From Government Intervention to Market Economics*, MIT Press 2002, we investigate the disinflationary process in Israel, focusing on why it took so long to achieve single digit inflation rates and the potential cost to the Israeli economy from this protracted process. In a sequel paper published in the *Quarterly Review* (Hebrew), I attempted to provide some quantitative measures of the cost of the monetary policy pursued during the disinflation period in terms of unemployment. I show that these costs were mot negligible.
- 2.In joint work with Yaacov lavi from the Bank of Israel Research Department (published in the Bank of Israel Review Hebrew) we estimate the determinants of wages in Israel in the short run. Our main contribution is to show that in the long run, wages in Israel, are determined according to the marginal product of labor. In the short run, we document the effect of monetary surprises, unemployment benefits, minimum wages and other supply and demand factors on the deviation of real wages from their long run levels.
- 3. In a paper published in the Bank of Israel Jubilee volume (English version to published by MIT press), I investigate the Bank of Israel response function. The main finding, which was reported by the Israeli daily press, was that the bank of Israel consistently strove to achieve inflation rates bellow those set by the government. In particular a zero inflation rate target policy can not be rejected. This generated some real costs mainly in terms of unemployment due a large gaps between actual and expected inflation. I also show that the Bank of Israel, since 1995, practically abandoned countercyclical policies, concentrating on securing low inflation. Finally I show two policy errors in 1998 and 2002 deviations from the response function, which resulted in significant effects on the exchange rate.
- IV. Work with graduate students 1. Joint work with Berdugo and Zadik on delays in technology adoption. This theoretical work highlights a channel by which resource or commercially rich countries fail to adopt technologies due to a market failure in the human capital market. Namely, high income parents do not realize the potential gains, to their children from future adoption of technology. Faced with high individual opportunity cost, they rather work then invest in their children's education. This externality can be resolved by a government which can coordinate human capital acquisition necessary for growth. In most standard cases, market failure in the human capital market is due to low income or inability to access capital markets. In our story, even rich countries may fail to industrialize unless the externality is internalized. This paper is in a process of being revised and resubmitted to a field journal.