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0521815193 - Economic Policy in the International Economy: Essays in Honor of Assaf Razin

Edited by Elhanan Helpman and Efraim Sadka

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## Introduction

This volume brings together fifteen essays from various fields of economics to which Assaf Razin has made major contributions in the last thirty years – international economics, economic growth, public economics, and political economy. They all share a common feature: close relevance to economic policy, something which is at the essence of all of Assaf’s contributions.

In “Crises: The Next Generation?” Paul Krugman reviews the evolution of the literature on currency and financial crises and suggests a direction to which this literature will turn in the future. The first-generation models were tailored to address a simple scenario. A government maintains a fixed exchange rate while running a budget deficit. The budget deficit is monetized, leading to a loss of foreign exchange reserves. As the level of reserves reaches a lower bound there is a run on the central bank that wipes out the remaining reserves. Unable to support the exchange rate, the government floats the currency. Under these circumstances the timing of the crisis is predictable, as are its consequences. It is an inevitable outcome of a set of inconsistent policies.

This description suited various episodes during the operation of the Bretton Woods system. With the advent of floating exchange rates, however, the nature of crises changed. This is particularly true of the 1992 episodes in Europe, which triggered the development of second-generation models. In these models the government is endowed with a reaction function; namely, its policy reacts to the economic environment. In particular, it is expected to abandon the defense of an exchange rate target in the face of a major speculative attack. As a result, a major speculative attack leads to a crisis, and the crisis is consistent with self-fulfilling

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expectations. Importantly, now a crisis can occur for no evident economic reason.

Third-generation models were developed after the Asian crisis of the late 1990s. These models paid particular attention to balance sheet effects and, in some cases, to the banking sector. Unlike the previous models, they allowed for a decline in output as part of a crisis.

The balance sheet effect operates when capital markets are imperfect. In such economies poor balance sheet positions restrict the borrowing opportunities of enterprises and limit their investment levels. Companies that are exposed to foreign currency risks as a result of past foreign-currency-denominated borrowing suffer a deterioration of their net worth as a result of a currency depreciation. In response they cut back investment projects, bringing about a decline in aggregate demand. As a result there can be multiple self-fulfilling expectations equilibria, some with a strong currency and a high level of economic activity, others with a weak currency and a low level of economic activity. Under these circumstances an economy that operates in a good equilibrium – with a strong currency and a high level of economic activity – can suddenly shift to a bad equilibrium – with a weak currency and a low level of economic activity – because traders change their expectations about the value of the currency.

While the balance sheet effect that works through the liability side has been emphasized by third-generation models, Krugman suggests that one can take a broader view of such effects. In particular, on the asset side of the balance sheet the value of the assets depends on asset prices and those are related to expectations. As a result, a decline in confidence can lead to a decline in asset prices which leads in turn to a decline in investment that validates the decline in asset prices. This channel produces a positive feedback that allows pessimism to feed on itself.

Importantly, the policy implications depend on the mechanism that has caused a crisis and whether the economy is in a liquidity trap. These ideas are examined with the help of simple models that illustrate their explanatory potential.

Chi-Wa Yuen examines alternative ways to defend a fixed exchange rate. In “Solutions (?) to the ‘Devaluation Bias’: Some Preventive Measures to Defend Fixed Exchange Rates against Self-Fulfilling Attacks” he draws an analogy between a “devaluation bias” and an “inflation bias.” He then shows how the conclusions from the “inflation bias” literature can be used to shed light on the design of policies for the defense of an

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exchange rate. This defense is designed to prevent an expectations-based self-fulfilling currency crisis of the second-generation type.

As in the literature on monetary policy and central banking, in this case too an exit penalty helps. Namely, the likelihood of a crisis is reduced when the policymaker pays a price for abandoning the fixed exchange rate. And if this price is high enough no speculative attack takes place. The appointment of a conservative central banker, who places high weight on the exchange rate target, is also helpful. But such a central banker cannot secure a first best outcome as long as his weight on the exchange rate target is not infinite. On the other hand, there exists a contract that induces the central banker to credibly defend the exchange rate.

After discussing how practical these solutions may be, Yuen compares a fixed exchange rate that is defended by monetary policy with a fixed exchange rate that is defended by a currency board. Drawing on the experience of Hong Kong around the times of the Asian financial crisis, he argues why these solutions may not work to exclude the speculative attacks of the “double market play” type and discusses the usefulness of “convertibility insurance” as an alternative defensive measure.

Aaron Tornell argues in “Growth-Enhancing Effects of Bailout Guarantees” that the fact that such guarantees can lead to a financial crisis does not make them necessarily undesirable, and moreover, that a crisis of this sort is not intimately linked to a fixed exchange rate regime. In economies with severe credit constraints, financial liberalization often leads to faster growth. This is because financial liberalization eases borrowing constraints and thereby encourages investment. At the same time financial liberalization may generate political pressure to extend bailout guarantees, at least on the transition path. Clearly not every bailout guarantee works equally well. For example, unconditional bailouts introduce well-known moral hazard problems that can cause severe damage of their own. But systemic bailouts, argues Tornell, can in fact play a useful role. In this context a systemic bailout is a bailout that takes place in case of broad-based failures only. Namely, a company cannot count on being saved from its own action or an idiosyncratic shock. It can expect to be saved, however, when many other companies fail.

To make these points Tornell develops a model economy with traded and nontraded goods in which firms face borrowing constraints in the nontraded sector. The introduction of bailout guarantees into such an economy provides an implicit subsidy that eases borrowing constraints and might lead to higher growth. However, the guarantees induce firms

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to borrow in foreign currency. This makes the financial system vulnerable to a self-fulfilling crisis in which balance sheet effects play an important role. Such sunspot equilibria exist only if crisis is a rare event. Importantly, a crisis is more likely to happen toward the end of an economic boom. This feature is in line with the evidence that crises of the new kind are preceded by lending booms, as well as by the evidence that many lending booms have not ended in a crisis.

Maurice Obstfeld and Kenneth Rogoff founded the “new open economy macroeconomics.” This school of thought uses monopolistic competition to describe product markets and some form of nominal staggering in prices or wages. Importantly, consumer demand is derived from well-specified utility functions, which are then used to evaluate alternative policies and exchange rate regimes.

In “Risk and Exchange Rates” Obstfeld and Rogoff develop a detailed model of international macroeconomic fluctuations in which wages are flexible, while monopolistically competitive firms set prices while facing uncertainty about the state of the economy. These prices are frequently adjusted, but always before the resolution of uncertainty about the demand level. As a result shifts in demand affect output.

Using assumptions about the distributions of the underlying shocks, they solve explicitly for the equilibrium first and second moments of key variables. This enables them to shed light on a host of important issues. They show, for example, that home-currency denominated assets can serve as a useful hedge against consumption risk whenever home monetary volatility is an important source of uncertainty. They also show circumstances in which, in a two-country world, the two countries rank similarly alternative exchange rate regimes. And they show how their model can be used to calculate the value of reduced volatility that results from the adoption of a fixed exchange rate. Evidently, the model is suitable for addressing major macroeconomic questions.

Economic integration has many facets, and debates about the desirability of integration have proceeded along several lines. An important set of arguments concerns the comovement of output levels. Output can fluctuate for various reasons, and the framework developed in “Economic Integration, Industrial Specialization, and the Asymmetry of Macroeconomic Fluctuations” is suitable for dealing with most of them.

Sebnem Kalemli-Ozcan, Bent Sørensen, and Oved Yosha propose a two-way decomposition of output fluctuations: One component – which depends on the sectoral composition of the economy – is sensitive to sector-specific shocks, while the other component is sensitive to

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economy-wide shocks. Unlike previous studies, which have focused on the latter component, the authors examine the importance of the sectoral composition. Countries or regions that differ in sectoral structure will experience different output fluctuations. In particular, countries or regions that are more specialized at the sectoral level are expected to experience larger output volatility.

Rather than using simple measures of volatility, as is common in much of the literature, the authors develop a novel measure that is based on the theory of risk bearing. This measure equals the percentage increase in base consumption that provides the same gain in the expected present value of utility as the substitution from consuming one's own GDP to consuming a fixed fraction of the aggregate GDP that will obtain under perfect risk sharing (here aggregate output refers to the aggregation across all countries or regions). With the help of standard assumptions about the stochastic properties of the economies, they derive a closed-form solution for this measure.

After developing indexes of sectoral specialization patterns, they show with the aid of data from OECD countries and the United States that regions with more specialized sectoral structures experience more asymmetric output fluctuations. This central result is robust to estimation methods (IV versus OLS) and alternative specifications. The instrumental variables estimation also lends support to the hypothesis that the effect runs from sectoral specialization to asymmetry of output fluctuations. The authors then discuss the implications of this finding for debates about the desirability of economic integration.

Uncovered interest parity plays a prominent role in the theory of international finance. As an example, the use of an interest rate policy in defence of currency values is effective only in the absence of uncovered interest parity. In various periods preceding the 1990s the uncovered interest parity hypothesis was rejected, however. In "Uncovered Interest Parity in Crisis: The Interest Rate Defense in the 1990s" Robert Flood and Andrew Rose suggest that the 1990s may provide a better testing ground for this relationship, because during that decade a number of countries experienced financial crises as a result of which those data exhibit large cross-country variations.

After explaining the basic theory, Flood and Rose test for uncovered interest parity in a sample of twenty-three countries. The sample includes developed and developing countries. In every group some countries experienced a financial crises in the 1990s and others did not. Unlike previous studies, they find some support for the uncovered interest parity

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hypothesis. But one of the most striking results is the large heterogeneity of the estimated coefficients across countries.

In the last part of the chapter they examine the efficacy of an interest rate policy in defending an exchange rate. The results are mixed. Although the data do not reject the efficacy of such policies outright, they also do not support it.

The gains-from-trade literature suggests that the “invisible hand” is present also in the international arena. Trade openness and international capital flows are conducive to growth and well-being. However, whereas there are ample empirical studies to support the hypothesis of a positive effect of trade in goods and especially inward foreign direct investment on economic growth, the empirical evidence on the effect of financial capital flows (that is, capital account liberalization) is less convincing. Carlos Arteta, Barry Eichengreen, and Charles Wyplosz provide a fresh look and new interpretations on the latter evidence. They allude to the second-best theory: When there are many imperfections and distortions in the domestic financial markets and macroeconomic imbalances (such as persistent large public deficits), capital account liberalization may actually depress rather than enhance economic growth and well-being. Thus, high-income countries which are usually characterized by more efficient financial markets and institutions and by the absence of macroeconomic imbalances may benefit from capital market liberalization more than low-income countries with less-developed financial systems and often with macroeconomic imbalances. Arteta, Eichengreen, and Wyplosz emphasize the importance of the sequencing of economic reforms: First, an efficient financial system should be developed, trade openness promoted, black-market foreign exchange premia (reflecting macroeconomic imbalances) eliminated and only then the capital account liberalized.

Not surprisingly, Prakash Loungani and Phillip Swagel find macroeconomic imbalances to be significant in “Sources of Inflation in Developing Countries.” In fact, the fiscal deficit is the key source of inflation in “large deficit” (over five percent of GDP) countries. But “small deficits” were found to have little impact on inflation. The sources of inflation are also found to vary from fixed exchange rate regimes (as in most of the countries in Africa and Asia) to floating exchange rate regimes (as in most of the countries in South America). In the first group of countries, past realizations of inflation and inertial forces play a dominant role; oil and non-oil commodity prices have also a statistically significant effect on inflation in these countries; money growth plays a lesser though statistically significant role. In the second group of countries, the dominant role is

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played by macroeconomic variables such as money growth and exchange rate shocks.

Like Kalemli-Ozcan et al., Gadi Barlevy also deals with the importance of fluctuations, but from a very different perspective. Robert Lucas in his book on business cycles presented an important argument about the welfare costs of consumption fluctuations. Fitting a model of consumption growth to data from the United States economy, he estimated the average rate of growth of aggregate consumption as well as its volatility around this trend. He then estimated the fraction of initial consumption that the consumer would be willing to sacrifice in order to eliminate the volatility of consumption around its growth path. This fraction turned out to be extremely small, less than one-tenth of one percent. It has been interpreted as a measure of gains from the elimination of business cycles, the implication being that business cycles are not very costly. At the same time, Lucas argued, a one percentage point increase in the rate of growth of consumption would be valued at 20% of its initial level, suggesting that growth is much more important than fluctuations.

In “Growth Effects and the Cost of Business Cycles” Barlevy revisits this issue, suggesting that the cost of business cycles can be much larger if fluctuations affect the average rate of growth. In order to demonstrate a link between fluctuations and growth, he develops a neoclassical model of economic growth in which capital accumulation does not depress the marginal productivity of capital. As a result, capital accumulation can sustain long-run growth.

In Barlevy’s economy the rate of growth depends on the level of investment, which depends in turn on the level of economic activity. Under the circumstances the stabilization of output shocks around their mean affects the rate of growth through two distinct channels. First, it changes the average rate of investment and higher investment stimulates faster growth. Second, it changes the *volatility* of investment, which affects average growth.

Using estimates of the link between average growth and the volatility of output or investment, Barlevy suggests that the effect of investment volatility has a substantial influence on the rate of growth; its elimination would increase the rate of growth by one-half of one percent. Based on Lucas’ estimate of the value of growth rates, this is valued at 10% of initial consumption. Evidently, this is much larger than the less than one-tenth of one percent value of the reduction in consumption fluctuations.

Barlevy’s estimates assume a constant average investment level. Therefore they provide a lower bound on welfare gains, because the optimal

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response to the elimination of shocks includes a change in average investment. He then goes on to examine a variety of other issues that need to be addressed in order to obtain a reliable estimate of such welfare gains. The bottom line is, however, that once growth rates are linked to volatility, the elimination of fluctuations can produce large welfare gains.

Yair Mundlak examines economic growth from a different perspective in his chapter “Explaining Economic Growth.” Recognizing the importance of technological change, he proposes to distinguish between *available technology* and *implemented technology*. Evidently, as knowledge accumulates in the world economy it improves the available technology, but not every country benefits from these improvements to the same degree. Some countries are able to implement larger fractions of the available technology than others. As a result income per capita differs between countries not only because of differences in, say, capital–labor ratios, but also as a result of differences in implemented technology. The fraction of the available technology that is implemented depends in turn on a country’s economic environment, which consists of resource constraints, restrictions on their mobility, and incentives. This approach can be used to interpret the evidence in a somewhat different way and it has implications for the empirical methodology.

After reviewing the evidence on the sources of economic growth, Mundlak illustrates an empirical application of these ideas to agricultural production functions, using a sample of 37 countries over the period 1970–91. The pooled data are used to fit regressions between countries, based on country means; between time, based on annual means; and within time–country, based on deviations of the observations from country means and annual means. Under the neoclassical framework of growth analysis, the estimates obtained from these alternative regressions should be the same, but they are not. Importantly, the elasticity of output with respect to capital differs across these regressions, and in particular, the elasticity of the between-time regression is about three times as large as the other two. Mundlak discusses the interpretation of the findings in the context of growth analysis that aims at explaining the diversity in the growth experience across countries and over time.

David Altig, Alan Auerbach, Laurence Kotlikoff, Kent Smetters, and Jan Walliser simulate tax reform in “Simulating Fundamental Tax Reform in the United States.” They employ a detailed general equilibrium microeconomic model with perfect foresight and with intragenerational heterogeneity with respect to earnings ability, bequest preferences, and other features. Output is produced by capital and labor according to a



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Cobb–Douglas or some other constant-elasticity-of-substitution production function. The stock of physical capital adjusts slowly, because there are Tobin-type adjustment costs. Altig et al. study five tax reforms that are all fundamental in the sense that they eliminate all specific tax preferences and tax all sources of capital and labor income at the same flat rate, with very few exceptions, such as personal exemptions, full capital expensing, and a higher tax rate on high-wage earners. The reforms are a proportional income tax, a proportional consumption tax, a flat tax, a flat tax with transition relief, and the X tax. A flat tax differs from a proportional consumption tax mainly by allowing a standard deduction. The X tax is essentially a flat tax with a surcharge on high-wage income. All reforms are revenue neutral. The simulations clearly illustrate the uneasy trade-offs among the various tax reforms that policymakers face. The higher the long-run output gain of a reform, the heavier usually is the burden imposed on the initial middle-aged and the elderly or the poorest members of society. As an example, the proportional consumption tax raises long-run output by over nine percent, the highest gain among all five reforms. But it inflicts losses on the initial middle-aged and elderly, and the poorest members of society. In contrast, a flat tax with transition relief that alleviates these losses raises long-run output by less than two percent.

In contrast to the closed-economy model of Altig et al., Enrique Mendoza simulates tax reform in an open economy in “The International Macroeconomics of Taxation and the Case against European Tax Harmonization.” Unlike Altig et al., Mendoza’s agents are infinitely-lived and identical in all respects (age, preferences, initial endowments, earnings ability). There are two countries (the United Kingdom and Continental Europe, which consists of France, Germany and Italy); one immobile factor (labor) and one mobile factor (capital) that can accumulate only gradually because of adjustment costs; international lending and borrowing, but no cross-border ownership of firms (or physical capital); time-invariant taxes on labor income, on consumption, and on income from physical capital; and balanced fiscal budgets (in present value terms). Mendoza emphasizes three channels through which a tax reform in any one country affects welfare. A change in the capital income tax in one country affects factor prices in both countries (wages and interest rates), the total stock of capital and its distribution between the two countries, and the tax base in every country. It therefore necessitates a revenue-compensating change in some other taxes (specifically, the labor income tax, but not the consumption tax, by assumption). Mendoza simulates the effects of harmonizing the capital income tax in Continental Europe and

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the United Kingdom. Currently, the effective capital income tax is 47% in the United Kingdom, but only 28% in continental Europe. If these rates were harmonized at their average level of 37.5%, then capital would flow from Continental Europe to the United Kingdom, enlarging the capital income tax base in the latter and shrinking it in the former. This would enable the United Kingdom to lower its labor income tax by 1.8 percentage points. Revenues from the capital income tax in Continental Europe would not rise as a result of the tax hike (because capital would flow out), and therefore the labor tax rate would remain unchanged. All in all, the United Kingdom would record a welfare gain equivalent to a 2% permanent increase in consumption, whereas Continental Europe would suffer a 2.7% welfare loss.

Taxation of capital income in the integrated world economy is the primary focus of Roger Gordon and Vitor Gaspar in “Home Bias in Portfolio and Taxation of Asset Income.” Empirical evidence suggests that there is a strong home bias in equity investment. This is often used to explain the so-called Feldstein–Horioka puzzle: The strong positive correlation between national saving and domestic investment, despite the fact that an open economy can channel its national saving into foreign investment. Gordon and Gaspar begin by constructing a simple model of the world economy with price and exchange rate fluctuations in which investors can hedge against random domestic prices by purchasing domestic stocks. Therefore, when the monetary policy focuses on stabilizing the exchange rate and leaves domestic prices to fluctuate randomly, a home bias in equity investment arises. On the other hand, when the monetary policy stabilizes domestic prices the home bias disappears. Nevertheless, Gordon and Gaspar find that under both monetary policy regimes domestic investment responds strongly and positively to an increase in national saving.

They then proceed to examine the implications of their model to the taxation of risky capital income. The existing literature on international taxation often argues that the case for capital income taxation in the open economy is significantly weakened, because of either enforcement or efficiency considerations. Yet Gordon and Gaspar conclude that it is efficient to levy a tax on capital income when the monetary policy stabilizes domestic prices and the home bias vanishes. And the case for taxing capital income becomes particularly weak when monetary policy stabilizes the exchange rate, allowing domestic prices to fluctuate.

Hans-Werner Sinn examines in “Social Dumping in the Transition Process” the normative and positive aspects of labor market regulations along the transformation path of an (initially) less developed economy that