ABSTRACTS

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ABSTRACTS
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Numbers 2262–2299

2262. How Inadequate Provision of Public Infrastructure and Services Affects Private Investment

Ritva Reinikka and Jakob Svensson
(December 1999)

Evidence from Uganda shows that poor public provision of infrastructure services — proxied by an unreliable and inadequate power supply — significantly reduces productive private investment.

Lack of private investment is a serious policy problem in many developing countries, especially in Africa. Despite recent structural reform and stabilization, the investment response to date has been mixed, even among the strongest reformers.

The role of poor infrastructure and deficient public services has received little attention in the economic literature, where the effect of public spending and investment on growth is shown to be at best ambiguous.

Reinikka and Svensson use unique microeconomic evidence to show the effects of poor infrastructure services on private investment in Uganda. They find that poor public capital, proxied by an unreliable and inadequate power supply, significantly reduces productive private investment.

Firms can substitute for inadequate provision of public capital by investing in it themselves. This comes at a cost, however: the installation of less productive capital.

These results have clear policy implications. Although macroeconomic reforms and stabilization are necessary conditions for sustained growth and private investment, without an accompanying improvement in the public sector's performance, the private supply response to macroeconomic policy reform is likely to remain limited.

This paper — a product of Public Economics and Macroeconomics and Growth, Development Research Group — is part of a larger effort in the group to study public service delivery and economic growth. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Hedy Sladovich, room MC2-609, telephone 202-473-7698, fax 202-522-1154, email address hsladovich@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The authors may be contacted at rreinikka@worldbank.org or jsvensson@worldbank.org. (26 pages)

2263. When Is Growth Pro-Poor? Evidence from the Diverse Experiences of India's States

Martin Ravallion and Gaurav Datt
(December 1999)

Nonfarm economic growth in India had very different effects on poverty in different states. Nonfarm growth was least effective at reducing poverty in states where initial conditions were poor in terms of rural development and human resources. Among initial conditions conducive to pro-poor growth, literacy plays a notably positive role.

Ravallion and Datt use 20 household surveys for India's 15 major states, spanning 1960–94, to study how initial conditions and the sectoral composition of economic growth interact to influence how much economic growth reduced poverty.

The elasticities of measured poverty to farm yields and development spending did not differ significantly across states.

But the elasticities of poverty to (urban and rural) nonfarm output varied appreciably, and the differences were quantitatively important to the overall rate of poverty reduction.

States with initially lower farm productivity, lower rural living standards relative to those in urban areas, and lower literacy experienced a less pro-poor growth process.

This paper — a joint product of Poverty and Human Resources, Development Research Group, and the Poverty Reduction and Economic Management Sector Unit, South Asia Region — is part of a larger effort in the Bank to better understand the conditions required for pro-poor growth. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Joseph Israel, room MC8-174, telephone 202-458-5117, fax 202-522-1557, email address jisrael@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The authors may be contacted at atmravallion@worldbank.org or gdatt@worldbank.org. (33 pages)

2264. Do More Unequal Countries Redistribute More? Does the Median Voter Hypothesis Hold?

Branko Milanovic
(December 1999)

The data strongly support the hypothesis that countries with more unequal distribution of factor income redistribute more in favor of the poor — even when the analysis controls for older people's share in total population (that is, for pension transfers). But the evidence on the median voter hypothesis is inconclusive even if middle-income groups gain more (or lose less) through redistribution in countries where initial (factor) income distribution is more unequal.

The median voter hypothesis is important to endogenous growth theories because it provides the political mechanism through which voters in more unequal countries redistribute a greater proportion of income and thus (it is argued), by blunting incentives, reduce the country's growth rate.

But the hypothesis was never properly tested because of lack of data on the distribution of (pre-tax and transfer) factor income across households, and hence on the exact amount of gain by the poorest quintile or poorest half.

Milanovic tests the hypothesis using 79 observations drawn from household budget surveys from 24 democracies. The data strongly support the hypothesis that countries with more unequal distribution of factor income redistribute more in favor of the poor — even when the analysis controls for the older people's share in total population (that is, for pension transfers).

The evidence on the median voter hypothesis is much weaker.

Milanovic does find that middle-income groups gain more (or lose less) through redistribution in countries where initial (factor) income distribution is more unequal. This regularity evaporates, however, when pensions are dropped from social transfers and the focus is strictly on the more redistributive social transfers.

This paper — a product of Poverty and Human Resources, Development Research Group — is part of a larger effort in the group to study the relationship between democracy and inequality. The study was funded in part by the Bank's Research Support Budget under the research project "Democracy, Redistribution, and Inequality" (RPO 683-01). Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Patricia Sader, room MC3-556, telephone 202-473-3902, fax 202-522-1153, email address psader@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The author may be contacted at bmilanovic@worldbank.org. (50 pages)

2265. The Political Economy of Distress in East Asian Financial Institutions

Paola Bongini, Stijn Claessens, and Giovanni Ferri
(January 2000)

In the East Asian crisis, "connections" — with industrial groups or influential families — increased the probability of distress for financial institutions. Connections also made closure more, not less, likely, suggesting that the closure processes themselves were transparent. But larger institutions, although more likely to be distressed, were less likely to be closed, suggesting a "too big to fail" policy.

Politics and regulatory capture can play an important role in financial institutions' distress. East Asia's financial crisis featured many distressed and closed financial intermediaries in an environment with many links between government, politicians, supervisors, and financial institutions. This makes the East Asian financial crisis a good event for studying how such connections affect the resolution of financial institutions' distress.

Bongini, Claessens, and Ferri investigate distress and closure decisions for 186 banks and 97 nonbank financial institutions in Indonesia, the Republic of Korea, Malaysia, the Philippines, and Thailand. They find that after July 1997, 42 percent of the institutions experienced distress (were closed, merged, or recapitalized, or had their operations temporarily suspended). By July 1999, 13 percent of all institutions in existence in July 1997 had been closed.

Using financial data for 1996, the authors find that:

• Traditional CAMEL-type variables — returns on assets, loan growth, and the ratio of loan loss reserves to capital, of net interest income to total income, and of loans to borrowings — help predict subsequent distress and closure.

• None of the foreign-controlled institutions was closed, and foreign portfolio ownership lowered an institution's probability of distress.

• "Connections" — with industrial groups or influential families — increased the probability of distress, suggesting that supervisors had granted forbearance from regulations. Connections also made closure more, not less, likely — suggesting that the closure processes themselves were transparent.

• But larger institutions, although more likely to be distressed, were less likely to be closed, while (smaller) nonbank financial institutions were more likely to be closed. This suggests a "too big to fail" policy.

• These policies, together with the fact that resolution processes were late and not necessarily comprehensive, may have added to the overall uncertainty and loss of confidence in the East Asian countries, aggravating the financial crisis.

This paper — a product of the Financial Sector Strategy and Policy Group, Financial Sector Vice Presidency — is part of a larger effort in the group to study the causes and resolution of financial distress. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Rose Vo, room MC9-624, telephone 202-473-3722, fax 202-522-2031, email address hvo1@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The authors may be contacted at pbongini@mi.unicatt.it, cclaessens@worldbank.org, or gferri@worldbank.org. (22 pages)

2266. The Impact of Adult Deaths on Children's Health in Northwestern Tanzania

Martha Ainsworth and Innocent Semali
(January 2000)

In Tanzania, a poor country experiencing a severe AIDS epidemic, the children whose health is hit hardest by the death of a parent or other adult are those in the poorest households, those with uneducated parents, and those with the least access to health care. Three important health interventions mitigate the impact of adult deaths: immunization against measles, oral rehydration salts, and access to health care.

The AIDS epidemic is dramatically increasing mortality of adults in many Sub-Saharan African countries, with potentially severe consequences for surviving family members. Until now, most of these impacts had not been quantified.

Ainsworth and Semali examine the impact of adult mortality in Tanzania on three measures of health among children under five: morbidity, height for age, and weight for height. The children hit hardest by the death of a parent or other adult are those in the poorest households, those with uneducated parents, and those with the least access to health care.

Ainsworth and Semali also show how much three important health interventions — immunization against measles, oral rehydration salts, and access to health care — can do to mitigate the impact of adult mortality. These programs disproportionately improve health outcomes among the poorest children and, within that group, among children affected by adult mortality.

In Tanzania there is so much poverty and child health indicators are so low that these interventions should be targeted as much as possible to the poorest households, where the children hit hardest by adult mortality are most likely to be found. (Conceivably, the targeting strategy for middle-income countries with severe AIDS epidemics, such as Thailand, or countries with less poverty and better child health indicators might be different.)

This paper — a product of Poverty and Human Resources, Development Research Group — is part of a larger research project on "The Economic Impact of Fatal Adult Illness due to AIDS and Other Causes in Sub-Saharan Africa" (RPO 675-71). The study was funded by the Bank's Research Support Budget. Copies of this paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Sheila Fallon, room MC3-558, telephone 202-473-8009, fax 202-522-1153, email address sfallon@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The authors may be contacted at mainsworth@worldbank.org or isemali@muchs.ac.tz. (35 pages)

2267. Do High Interest Rates Defend Currencies during Speculative Attacks?

Aart Kraay
(January 2000)

No — there is no systematic association between interest rates and the outcome of speculative attacks.

Drawing on evidence from a large sample of speculative attacks in industrial and developing countries, Kraay argues that high interest rates do not defend currencies against speculative attacks. In fact, there is a striking lack of any systematic association between interest rates and the outcome of speculative attacks.

The lack of clear empirical evidence on the effects of high interest rates during speculative attacks mirrors the theoretical ambiguities on this issue.

This paper — a product of Macroeconomics and Growth, Development Research Group — is part of a larger effort in the group to study the causes and consequences of financial crises. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Rina Bonfield, room MC3-354, telephone 202-473-1248, fax 202-522-3518, email address abonfield@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The author may be contacted at akraay@worldbank.org. (45 pages)

2268. The Structure of Social Disparities in Education: Gender and Wealth

Deon Filmer
(January 2000)

Wealth gaps in educational outcomes are large in many developing countries. And gender gaps, though absent in many societies, are large in some, particularly in South Asia and North, Western, and Central Africa. In some countries with a female disadvantage, household wealth interacts with gender to create an especially large gender gap among the poor.

Using internationally comparable household data sets (Demographic and Health Surveys), Filmer investigates how gender and wealth interact to generate within-country inequalities in educational enrollment and attainment. He carries out multivariate analysis to assess the partial relationship between educational outcomes and gender, wealth, household characteristics (including level of education of adults in the household), and community characteristics (including the presence of schools in the community). He finds that:

- Women are at a great educational disadvantage in countries in South Asia and North, Western, and Central Africa.
- Gender gaps are large in a subset of countries, but wealth gaps are large in almost all of the countries studied. Moreover, in some countries where there is a heavy female disadvantage in enrollment (Egypt, India, Morocco, Niger, and Pakistan), wealth interacts with gender to exacerbate the gap in educational outcomes. In India, for example, where there is a 2.5 percentage point difference between male and female enrollment for children from the richest households, the difference is 34 percentage points for children from the poorest households.
- The education level of adults in the household has a significant impact on the enrollment of children in all the countries studied, even after controlling for wealth. The effect of the education level of adult females is larger than that of the education level of adult males in some, but not all, of the countries studied.
- The presence of a primary and a secondary school in the community has a significant relationship with enrollment in some countries only (notably in Western and Central Africa). The relationship appears not to systematically differ by children's gender.

This paper — a product of Poverty and Human Resources, Development Research Group — was prepared as background to, and with support from, a World Bank Policy Research Report on gender and development. Part of the study was funded by the Bank's Research Support Budget under the research project "Educational Enrollment and Dropout" (RPO 682-11). Copies of this paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Sheila Fallon, room MC3-558, telephone 202-473-8009, fax 202-522-1153, email address sfallon@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The author may be contacted at dfilmer@worldbank.org. (42 pages)

2269. Context Is Everything: Measuring Institutional Change in Transition Economies

Nauro F. Campos
(January 2000)

What aspects of institution building most affect the transition to a market economy? In terms of effects on per capita income and school enrollment, the rule of law may be most important. In terms of life expectancy, the quality of the bureaucracy plays a more crucial role.

Campos presents measures with which to map institution building during the transition from centrally planned to market economies. Data collection and indicators are measured in terms of five institutional dimensions of governance:

- Accountability of the executive
- Quality of the bureaucracy
- Rule of law
- Character of policymaking process
- Strength of civil society.

Campos highlights the differences over time and between Central and Eastern European countries and those of the former Soviet Union.

In terms of effects on per capita income and school enrollment, Campos finds the rule of law to be the most important institutional dimension, both for the sample as a whole and for differences between the two regions.

In terms of life expectancy, however, the quality of the bureaucracy plays the most crucial role.

One important message Campos draws from the results is that institutions do change over time and are by no means as immutable as the literature has suggested. The range of feasible policy choices (for changing institutions) may be much wider than is often assumed.

This paper is a product of Development Policy, Development Economics Senior Vice Presidency. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Jason Victor, room MC4-362, telephone 202-473-6549, fax 202-522-1158, email address jvictor@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers.

The author may be contacted at nauro.campos@cerge.cuni.cz. (38 pages)

2270. The Optimal Income Tax When Poverty Is a Public "Bad"

Waly Wane
(January 20000)

Suppose that poverty is a negative externality affecting individuals' welfare. How does the introduction of concern about poverty affect the income tax policy of a social planner?

Wane considers poverty as an aggregate negative externality that affects people in different ways, depending on their aversion to poverty.

If society is on average averse to poverty, then the optimal income tax schedule displays negative marginal tax rates, at least for less skilled individuals. Negative marginal tax rates play the role of a Pigouvian earnings subsidy, fostering the supply of poor individuals to provide labor. The result of no distortion at the endpoints, which is therefore violated, can be restored once the focus is shifted from individual to social distortions.

This paper — a product of Public Economics, Development Research Group — is part of a larger effort in the group to better understand public policy and poverty. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Hedy Sladovich, room MC2-609, telephone 202-473-7698, fax 202-522-1154, email address hsladovich@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The author may be contacted at wwane@worldbank.org. (34 pages)

2271. Corporate Risk around the World

Stijn Claessens, Simeon Djankov, and Tatiana Nenova
(January 2000)

Corporate financing patterns around the world reflect countries' institutional environments.

Weaknesses in the corporate sector have increasingly been cited as important factors in financial crises in both emerging markets and industrial countries. Analysts have pointed to weak corporate performance and risky financing patterns as major causes of the East Asian financial crisis. And some have argued that company balance sheet problems may also have played a role, independent of macroeconomic or other weaknesses, including poor corporate sector performance. But little is known about the empirical importance of firm financing choices in predicting and explaining financial instability.

Firm financing patterns have long been studied by the corporate finance literature. Financing patterns have traditionally been analyzed in the Modigliani-Miller framework, expanded to incorporate taxes and bankruptcy costs. More recently, asymmetric information issues have drawn attention to agency costs and their impact on firm financing choices. There is also an important literature relating financing patterns to firm performance and governance.

Several recent studies have focused on identifying systematic cross-country differences in firm financing patterns — and the effects of these differences on financial sector development and economic growth. They have also examined the causes of different financing patterns, particularly countries' legal and institutional environments.

The literature has devoted little attention to corporate sector risk characteristics, however, aside from leverage and debt maturity considerations. Even these measures have been the subject of few empirical investigations, mainly because of a paucity of data on corporate sectors around the world.

Building on data that have recently become available, Claessens, Djankov, and Nenova try to fill this gap in the literature and shed light on the risk characteristics of corporate sectors around the world. They investigate how corporate sectors' financial and operating structures relate to the institutional environment in which they operate, using data for more than 11,000 firms in 46 countries. They show that:

- The origins of a country's laws, the strength of its equity and creditor rights, and the nature of its financial system can account for the degree of corporate risk-taking.
- In particular, corporations in common law countries and market-based financial systems have less risky financing patterns.
- Stronger protection of equity and creditor rights is also associated with less financial risk.

This paper — a product of the Financial Sector Strategy and Policy Group, Financial Sector Vice Presidency — is part of a larger effort in the Bank to study the determinants of the riskiness of countries' corporate and financial systems. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Rose Vo, room MC9-624, telephone 202-473-3722, fax 202-522-2031, email address hvo1@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The authors may be contacted at cclaessens@worldbank.org, sdjankov@worldbank.org, or tnenova@worldbank.org. (52 pages)

2272. Ownership versus Environment: Disentangling the Sources of Public Sector Inefficiency

Ann P. Bartel and Ann E. Harrison
(January 2000)

Is public sector inefficiency due primarily to agency-type problems ("ownership") or to the environment in which public enterprises operate (as measured by soft budget constraints or barriers to competition)? Both.

Bartel and Harrison compare the performance of public and private sector manufacturing firms in Indonesia for 1981–95. They analyze whether public sector inefficiency is due primarily to agency-type problems ("ownership") or to the business environment in which public enterprises operate, as measured by soft budget constraints or barriers to competition.

They nest the two alternatives in a production function framework.

The results, obtained from fixed-effects specifications, provide support for both models.

The business environment matters. *Only* public enterprises that received loans from state banks or those shielded from import competition performed worse than private enterprises.

Ownership matters. For a given level of import competition or soft loans, public enterprises perform worse than their counterparts in the private sector.

Eliminating soft loans to Indonesia's public enterprises would raise total factor productivity by 6 percentage points; the same result could be achieved by increasing import penetration by 15 percentage points.

Bartel and Harrison show that these findings are not due to selection effects for either privatization or the receipt of soft loans.

This paper — a product of Poverty and Human Resources, Development Research Group — was part of a study funded by the Bank's Research Support Budget under the research project "The Impact of Labor Market Policies and Institutions on Economic Performance" (RPO 680-96). Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Sheila Fallon, room MC3-558, telephone 202-473-8009, fax 202-522-1153, email address sfallon@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. Ann Harrison may be contacted at aharriso@research.gsb.columbia.edu. (45 pages)

2273. The Value of Preventing Malaria in Tembien, Ethiopia

Maureen L. Cropper, Mitiku Haile,
Julian A. Lampietti, Christine Poulos,
and Dale Whittington
(January 2000)

Despite the great benefits from preventing malaria, the fact that vaccine demand is price inelastic suggests that it will be difficult to achieve significant market penetration unless the vaccine is subsidized. The results are similar for bed nets treated with insecticide.

Cropper, Haile, Lampietti, Poulos, and Whittington measure the monetary value households place on preventing malaria in Tembien, Tigray Region, Ethiopia. They estimate a household demand function for a hypothetical malaria vaccine and compute the value of preventing malaria as the household's maximum willingness to pay to provide vaccines for all family members. They contrast willingness to pay with the traditional costs of illness (medical costs and time lost because of malaria).

Their results indicate that the value of preventing malaria with vaccines is about US$36 a household a year, or about 15 percent of imputed annual household income. This is, on average, about two or three times the expected household cost of illness.

Despite the great benefits from preventing malaria, the fact that vaccine demand is price inelastic suggests that it will be difficult to achieve significant market penetration unless the vaccine is subsidized.

The authors obtain similar results for insecticide-treated bed nets. Their estimates of household demand functions for bed nets suggest that at a price that might permit cost recovery (US$6 a bed net), only a third of the population of a 200-person village would sleep under bed nets.

This paper — a product of Infrastructure and Environment, Development Research Group — is part of a larger effort in the group to promote efficient resource allocation within the health sector. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Tourya Tourougui, room MC2-521, telephone 202-458-7431, fax 202-522-3230, email address ttourougui@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The authors may be contacted at mcropper@worldbank.org, jlampietti@worldbank.org, cpoulos@email.unc.edu, or dwhittin @imap.unc.edu. (75 pages)

2274. How Access to Urban Potable Water and Sewerage Connections Affects Child Mortality

Anqing Shi
(January 2000)

Lower child mortality is associated with improved access to urban potable water and sewerage connections, government involvement in the provision of local water services, and private or parastatal participation in the provision of sewerage connections.

Using a city-level database of Global Urban Indicators, Shi finds that:

- Improved access to urban potable water and sewerage connections is consistently associated with low child mortality.
- Government involvement in providing water services, especially locally, significantly reduces child mortality.
- Private or parastatal participation in providing sewerage connections is associated with low child mortality.
- Rapid urban growth and high levels of poverty within the city are correlated with high child mortality.

This paper — a product of Finance, Development Research Group — is part of a larger effort in the group to study the relationship between finance and poverty reduction. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Paulina Sintim-Aboagye, room MC3-422, telephone 202-473-7644, fax 202-522-1155, email address psintimaboagye@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The author may be contacted at ashi@worldbank.org. (31 pages)

2275. Who Gained from Vietnam's Boom in the 1990s? An Analysis of Poverty and Inequality Trends

Paul Glewwe, Michele Gragnolati,
and Hassan Zaman
(January 2000)

Vietnam's gains in poverty reduction between 1992 and 1998 were striking, and the country's impressive growth has been fairly broad-based. Households that have benefited most are well-educated, urban, white-collar households, while agricultural workers, ethnic minorities, and those residing in poorer regions have progressed least.

Glewwe, Gragnolati, and Zaman assess the extent to which Vietnam's rapid economic growth in the 1990s was accompanied by reductions in poverty. They also investigate factors that contribute to certain households benefiting more than others.

Using information from two household surveys, the Vietnam Living Standards Surveys (VNLSS) for 1992–93 and 1997–98, they show that Vietnam's gains in poverty reduction were striking during this period and that the country's impressive growth has been fairly broad-based.

After discussing descriptive statistics for both years, the authors examine factors contributing to poverty reduction using both simple decomposition analysis and a multinomial logit model. The results show that:

• Returns to education increased significantly during this period, particularly for higher levels of education.

• Location significantly affected a household's probability of escaping poverty during this period. Urban households enjoyed a greater reduction in poverty than did rural households, and households residing in the Red River Delta and the southeast were also better able to take advantage of new opportunities.

• White-collar households benefited most, and agricultural laborers the least.

However, Vietnam cannot afford to be complacent, as nearly half its rural population lives below the poverty line, poverty rates among ethnic minorities remain very high, and natural calamities are a serious impediment to poverty reduction.

This paper — a product of Poverty and Human Resources, Development Research Group — is part of a larger effort in the group to understand the dynamics of poverty. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Patricia Sader, room MC3-556, telephone 202-473-3902, fax 202-522-1153, email address psader@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The authors may be contacted at pglewwe@dept.agecon.umn.edu, mgragnolati@worldbank.org, or hzaman@worldbank.org. (55 pages)

2276. Evaluating the Case for Export Subsidies

Arvind Panagariya
(January 2000)

With import-substitution policies discredited, many have argued for interventions on behalf of export interests. But aren't arguments for export subsidies as flawed as arguments for import substitution?

Now that import-substitution policies have failed and been discredited, there has been a shift in favor of interventions on behalf of export interests. Panagariya argues that close scrutiny reveals these arguments to be as flawed as the old arguments for import substitution. Among other things, Panagariya concludes that:

• Under perfect competition, a country trying to retaliate against a trading partner's export subsidies by instituting its own export subsidies will only hurt itself.

• The argument that export subsidies may be useful for neutralizing import tariffs is spurious. In most practical situations, this is not possible. Removal of tariffs is a far superior policy.

• In principle a case can be made for protecting infant export industries in the presence of externalities. But the empirical relevance of externalities remains as illusory for export industries as it was for import-substituting industries.

• Adverse selection and moral hazard can lead to the thinning of the market for credit insurance but that is not a case for government intervention.

• India's experience shows export subsidies to have little impact on exports. Brazil and Mexico's experience shows export subsidies to be a costly instrument of export diversification.

• Those who argue that pro-export interventions were important in East Asia have not provided convincing evidence of a causal relationship between the interventions and growth.

This paper — a product of Trade, Development Research Group — is part of a larger effort in the group to explore conceptual and practical issues in the export policies of developing countries. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Lili Tabada, room MC3-333, telephone 202-473-6896, fax 202-522-1159, email address ltabada@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The author may be contacted at panagari@econ.umd.edu. (30 pages)

2277. Determinants of Bulgarian Brady Bond Prices: An Empirical Assessment

Nina Budina and Tzvetan Mantchev
(January 2000)

Macroeconomic variables and changes in foreign reserves affect the secondary market price of Brady bonds in Bulgaria. So do changes in the external environment, including crises in other parts of the world.

To analyze the main determinants of secondary market prices of Bulgarian Brady bonds, Budina and Mantchev investigate to what extent fluctuations in domestic fundamentals affect the bonds' secondary market price.

They also assess the extent to which external shocks affect the bonds' prices. They estimate the long-term relationship between domestic fundamentals and market prices of the bonds, using cointegration techniques.

In the long run, they find that gross foreign reserves and exports had a positive effect on bond prices and the real exchange rate and Mexico's nominal exchange rate depreciation had a negative effect.

In the short run, the Asian crisis had a negative impact, and Bulgaria's change in political regime and introduction of a currency board had a positive impact.

Mexico's economic crisis in 1995 had contagion effects.

The authors' empirical results confirm the view that the so-called fundamentals approach should be used to supplement the analysis of spillover effects for Bulgarian Brady bonds.

This paper — a product of Macroeconomics and Growth, Development Research Group — is part of a larger effort in the group to study transition economies. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Nina Budina, room MC3-353, telephone 202-458-2045, fax 202-522-3518, email address nbudina@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. Tzvetan Mantchev may be contacted at tmantchev@hotmail.com. (30 pages)

2278. Liquidity Constraints and Investment in Transition Economies: The Case of Bulgaria

Nina Budina, Harry Garretsen, and Eelke de Jong
(January 2000)

In Bulgaria and other transition economies, liquidity constraints and hence access to external funds must be seen in the context of soft budget constraints and the financial system's failure to enforce the efficient allocation of funds. Liquidity con-

straints in Bulgaria may be seen as a sign of financial weakness.

Budina, Garretsen, and de Jong use firm level data on Bulgaria to investigate the impact of liquidity constraints on firms' investment performance.

Internal funds are an important determinant of investment in most industrial economies. The authors use a simple accelerator model of investment to test whether liquidity constraints are relevant in Bulgaria's case. Their estimates are based on data for 1993–95, before Bulgaria's financial crisis of 1996–97.

It turns out that Bulgarian firms are liquidity-constrained and that firms' size and financial structure help to distinguish between firms that are more and less liquidity-constrained.

In the authors' view, liquidity constraints in transition economies should be interpreted in different ways than those in industrial economies. In Bulgaria, liquidity constraints and hence access to external funds should be seen in the context of soft budget constraints and the financial system's failure to enforce the efficient allocation of funds.

The relationship between liquidity constraints and firm characteristics may actually be the opposite of what is normally the case in industrial countries. In Bulgaria, lack of liquidity constraints may be a sign of financial weakness.

This paper — a product of Macroeconomics and Growth, Development Research Group — is part of a larger effort in the group to study transition economies. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Nina Budina, room MC3-353, telephone 202-458-2045, fax 202-522-3518, email address nbudina @worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The other authors may be contacted at h.garretsen@bw.kun.nl or e.dejong@bw.kun.nl. (28 pages)

2279. Broad Roads in a Thin Country: Infrastructure Concessions in Chile

Andrés Gómez-Lobo and Sergio Hinojosa
(January 2000)

Lessons learned from Chile's highly successful experience in introducing private capital into the transport infrastructure sector.

To increase investment in infrastructure, in the early 1990s Chile's government introduced private capital into the transport infrastructure sector, covering roads and highways, bridges, tunnels, and airports. The chosen mechanism: a concession scheme through which private firms would finance and build a given project and then operate the infrastructure for a set number of years, recovering their investment by collecting tolls from users.

Among lessons learned from the experience:

- As much as possible, avoid concessioning roads for which there are convenient alternative freeways nearby.
- Choose the right variable for awarding a concession. Avoid mechanisms that (by promoting large payments to the state or short-term concession periods) encourage high tolls, and if you choose to award a concession to the firm charging the lowest tolls, place a floor and ceiling on possible bids. The floor is to guarantee the concession's financial viability; the ceiling is to prevent inefficient traffic diversions. Ties at either end should be resolved by a second variable, such as the level of transfers between the state and the firm.
- Allow downward toll flexibility so that the concessionaire can react to unexpectedly low traffic flows, especially for certain types of vehicles.
- Pay special attention to the tendering mechanism and to the general incentive structure. There are limits to the pure least-present-value-of-revenue (LPVR) auction, but income guarantees do enhance liquidity. In fact, a minimum-income guarantee through an LPVR auction is an instrument for credit enhancement, not income support. Alternatively, some form of financial innovation should be encouraged to make debt service commitments more flexible.
- If concessions are tendered by traditional methods and income guarantees will be given, cover only a fraction of the concessionaire's expected income stream, to reduce the state's financial exposure and to improve the incentives to the concessionaire.
- Make the contracts as complete as possible but allow for later modifications or renegotiations, and include a well-designed dispute resolution mechanism.

This paper — a product of Governance, Regulation, and Finance, World Bank Institute — is part of a larger effort in the institute to increase understanding of infrastructure regulation. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Gabriela Chenet-Smith, room J3-147, telephone 202-473-6370, fax 202-676-9874, email address gchenet@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. Andrés Gómez-Lobo may be contacted at agomezlo@decon.facea.uchile.cl. (51 pages)

2280. Willingness to Pay for Air Quality Improvements in Sofia, Bulgaria

Hua Wang and Dale Whittington
(January 2000)

People in Sofia are willing to pay 4.2 percent of their income or more for a program to improve air quality.

Through a survey, Wang and Whittington study willingness to pay for improvements in air quality in Sofia, Bulgaria.

Using a stochastic payment card approach — asking respondents the likelihood that they would agree to pay a series of prices — they estimate the distribution of willingness to pay various prices.

They find that people in Sofia are willing to pay up to about 4.2 percent of their income for a program to improve air quality. The income elasticity of willingness to pay for air quality improvements is about 27 percent.

For comparison, they also used the referendum contingent valuation approach. Results from that approach yielded a higher estimate of willingness to pay.

This paper — a product of Infrastructure and Environment, Development Research Group — is part of a larger effort in the group to understand the economics of pollution control in developing countries. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Roula Yazigi, room MC2-533, telephone 202-473-7176, fax 202-522-3230, email address ryazigi@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. Hua Wang may be contacted at hwang1@worldbank.org. (27 pages)

2281. External Sustainability: A Stock Equilibrium Perspective

César Calderón, Norman Loayza, and Luis Servén
(January 2000)

The 1994 crisis in Mexico, developments in East Asia, and persistent turmoil in world financial markets have dramatized the role of external imbalances in macroeconomic crises. Some believe that the current account should be kept from rising beyond a "sustainable" level, some that a current account surplus is the only solid external position. Can those rules of thumb be justified analytically?

Calderón, Loayza, and Servén consider external sustainability from the perspective of equilibrium in net foreign asset positions. Under their approach, an external situation is sustainable if it is consistent with international and domestic investors' achieving their desired portfolio allocation across countries.

They develop a reduced-form model of net foreign asset positions whose long-run equilibrium condition expresses the ratio of net foreign assets to the total wealth of domestic residents as a negative function of investment returns in the country relative to the rest of the world, a positive function of investment risk, and an inverse function of the ratio of foreign-owned to domestically owned wealth.

To estimate this equilibrium condition, the authors use a newly constructed data set of foreign asset and liability stocks for a large group of industrial and developing countries, from the 1960s to the present. They also develop summary measures of country returns and risks.

Their econometric methodology is an application of the Pooled Mean Group estimator recently developed by Pesaran, Shin, and Smith (1999), which allows for unrestricted cross-country heterogeneity in short-term dynamics while imposing a common long-run specification. The estimation results lend considerable support to the model, especially when applied to countries with low capital controls or high or upper-middle income. The results for countries with high capital controls and, especially, lower-income countries are less supportive of the stock equilibrium model.

As a by-product of the model's estimation, the authors obtain estimates of the long-run equilibrium ratios of net foreign assets to wealth, conditional on the observed values of the country's relative returns, risks, and wealth. Then, for a selected group of industrial and developing countries, they evaluate the extent to which actual ratios diverge from their long-run counterparts — and hence the sustainability of current net foreign asset positions.

This paper — a product of the Poverty Reduction and Economic Management Unit, Latin America and the Caribbean Region — is part of a larger effort to assess the sustainability of the external accounts of the major countries in the region. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Hazel Vargas, room I8-138, telephone 202-473-8546, fax 202-522-2119, email address hvargas@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The authors may be contacted at nloayza@condor.bcentral.cl or lserven@worldbank.org. (43 pages)

2282. Managing Fiscal Risk in Bulgaria

Hana Polackova Brixi, Sergei Shatalov, and Leila Zlaoui
(January 2000)

Governments need to manage their contingent liabilities and other off-budget sources of fiscal risk — through policy, the budgetary process, and an integrated asset and liability management strategy.

To understand the fiscal position of a country, contingent liabilities and other sources of fiscal risk need to be considered. Brixi, Shatalov, and Zlaoui develop a framework to assess and manage fiscal risk in Bulgaria.

Bulgaria's Currency Board Arrangement has effectively imposed fiscal discipline, but leaves only limited room to accommodate potential fiscal shocks. Through risks embedded in the portfolio of government contingent and direct liabilities, significant fiscal pressures could arise in the future. Major sources of risk include environmental liabilities and investment requirements, collection capacities of the social protection institutions, and further engagement in off-budget programs, such as government guarantees.

To limit the government's exposure to risks, yet accommodate investment needs crucial to growth and development, Bulgaria must find an optimal strategy for liability management, fiscal reserves, and risk mitigation. Priorities for dealing with existing risks and limiting further accumulation of risks include:

- Mitigating currency and interest rate risks in the government liability structure.
- Implementing proposed institutional and finance reform of the country's pension and health care systems.
- Building adequate contingency reserves.
- Introducing risk-sharing arrangements.
- Prioritizing and placing strict limits on the amounts of new guaranteed obligations.
- Developing government capacity to analyze and manage risks.
- Fully integrating fiscal risk management with other policy considerations in fiscal management, as part of an integrated asset and liability management strategy.

This paper — a product of the Poverty Reduction and Economic Management Sector Unit, Europe and Central Asia Region — is part of a larger effort in the Bank to study the quality of fiscal adjustment in its client countries. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Leila Zlaoui, room H4-317, telephone 202-473-3100, fax 202-522-2754, email address lzlaoui@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The other authors may be contacted at hpolackova@worldbank.org or sshatalov@worldbank.org. (46 pages)

2283. New Tools and New Tests in Comparative Political Economy: The Database of Political Institutions

Thorsten Beck, George Clarke, Alberto Groff, Philip Keefer, and Patrick Walsh
(February 2000)

Some say that democracy is more likely to survive under parliamentary governments. That result is not robust to the use of different variables from the Database of Political Institutions, a large new *cross-country database that may illuminate many other issues affecting and affected by political institutions.*

This paper introduces a large new cross-country database on political institutions: the Database on Political Institutions (DPI).

Beck, Clarke, Groff, Keefer, and Walsh summarize key variables (many of them new), compare this data set with others, and explore the range of issues for which the data should prove invaluable.

Among the novel variables they introduce:

- Several measures of tenure, stability, and checks and balances.
- Identification of parties with the government coalition or the opposition.
- Fragmentation of opposition and government parties in legislatures.

The authors illustrate the application of DPI variables to several problems in political economy.

Stepan and Skach, for example, find that democracy is more likely to survive under parliamentary governments than presidential systems. But this result is not robust to the use of different variables from the DPI, which raises puzzles for future research.

Similarly, Roubini and Sachs find that divided governments in the OECD run higher budget deficits after fiscal shocks. Replication of their work using DPI indicators of divided government indicates otherwise, again suggesting issues for future research.

Among questions in political science and economics that this database may illuminate: the determinants of democratic consolidation, the political conditions for economic reform, the political and institutional roots of corruption, and the elements of appropriate and institutionally sensitive design of economic policy.

This paper — a product of Regulation and Competition Policy, Development Research Group — is part of a larger effort in the group to understand the institutional bases of poverty alleviation and economic reform. The study was funded by the Bank's Research Support Budget under the research project "Database on Institutions for Government Decision-making" (RPO 682-79). Copies of this paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Paulina Sintim-Aboagye, room MC3-422, telephone 202-473-8526, fax 202-522-1155, email address psintimaboagye@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The authors may be contacted at tbeck@worldbank.org, gclarke@worldbank.org, pkeefer@worldbank.org, or pwalsh@worldbank.org. (46 pages)

2284. The Use of Asset Management Companies in the Resolution of Banking Crises: Cross-Country Experience

Daniela Klingebiel
(February 2000)

Asset management companies have been used to address the overhang of bad debt in a country's financial system — by expediting corporate restructuring or rapidly disposing of corporate assets. A study of seven cases suggests that such companies tend to be ineffective at corporate restructuring and are good at disposing of assets only when they're used to meet fairly narrow objectives in the presence of certain factors: an easily liquefiable asset (such as real estate), mostly professional management, political independence, adequate bankruptcy and foreclosure laws, skilled resources, appropriate funding, good information and management systems, and transparent operations and processes.

Asset management companies have been used to address the overhang of bad debt in the financial system. There are two main types of asset management company: those set up to expedite corporate restructuring and those established for rapid disposal of assets.

A review of seven asset management companies reveals a mixed record. In two of three cases, asset management companies for corporate restructuring did not achieve their narrow goal of expediting bank or corporate restructuring, suggesting that they are not good vehicles for expediting corporate restructuring.

Only a Swedish asset management company successfully managed its portfolio, acting sometimes as lead agent in restructuring — and helped by the fact that the assets acquired had mostly to do with real estate, not manufacturing, which is harder to restructure, and represented a small fraction of the banking system's assets, which made it easier for the company to remain independent of political pressures and to sell assets back to the private sector.

Asset management companies used to dispose of assets rapidly fared somewhat better. Two of four agencies (in Spain and the United States) achieved their objectives, suggesting that asset management companies can be used effectively for narrowly defined purposes of resolving insolvent and inviable financial institutions and selling off their assets. Achieving these objectives required an easily liquefiable asset — real estate — mostly professional management, political independence, adequate bankruptcy and foreclosure laws, appropriate funding, skilled resources, good information and management systems, and transparent operations and processes.

The other two agencies (in Mexico and the Philippines) were doomed from the start, as governments transferred to them politically motivated loans or fraudulent assets, which were difficult for a government agency susceptible to political pressure and lacking independence to resolve or sell off.

This paper — a product of the Financial Sector Strategy and Policy Group — is part of a larger effort in the group to study the management of banking crises. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Rose Vo, room MC9-624, telephone 202-473-3722, fax 202-522-2031, email address hvo1@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The author may be contacted at dklingebiel@worldbank.org. (52 pages)

2285. Industrial Environmental Performance in China: The Impact of Inspections

Susmita Dasgupta, Benoît Laplante, Nlandu Mamingi, and Hua Wang
(February 2000)

Inspections have a statistically significant impact on firms' environmental performance in the Chinese city of Zhenjiang, and citizens' complaints have a significant impact on inspections. So stronger information and education campaigns may improve social welfare in the city.

Little empirical research has been done on monitoring and enforcement issues in environmental economics, especially to analyze the impact of monitoring and enforcement on polluters' environmental performance. No studies have been done in developing economies.

Dasgupta, Laplante, Mamingi, and Wang explore the impact of inspections, and the potential impact of pollution charges and citizens' complaints, on the environmental performance of polluters in China.

Their analysis of plant-level data from the city of Zhenjiang shows that:

- Inspections have a statistically significant impact on firms' environmental performance.
- Pollution charges do not have a statistically significant effect on firms' performance — although the lack of variation in pollution charges in Zhenjiang precludes effectively capturing their impact.
- Complaints have a significant impact on inspections and therefore on pollution control.

Currently available data do not allow analysis of whether the cost of additional inspections is justified, but it is reasonable to speculate that additional inspections would improve social welfare in Zhenjiang and that information and education campaigns are probably a good way to encourage citizen complaints.

This paper — a product of Infrastructure and Environment, Development Research Group — is part of a larger effort in the group to study environmental regulation in developing countries. The study was funded by the Bank's Research Support Budget under the research project "Pollution Control in China: The Role and Impact of Inspection and Complaints" (RPO 682-44). Copies of this paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Yasmin D'Souza, room MC2-622, telephone 202-473-1449, fax 202-522-3230, email address ydsouza@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The authors may be contacted at sdasgupta@worldbank.org, blaplante@worldbank.org, or hwang1@worldbank.org. (25 pages)

2286. Transparency, Liberalization, and Banking Crises

Gil Mehrez and Daniel Kaufmann
(February 2000)

Lack of transparency increases the probability of a banking crisis following financial liberalization. In a country where government policy is not transparent, banks may tend to increase credit above the optimal level.

Mehrez and Kaufmann investigate how transparency affects the probability of a financial crisis.

They construct a model in which banks cannot distinguish between aggregate shocks and government policy, on the one hand, and firms' quality, on the other. Banks may therefore overestimate firms' returns and increase credit above the level that would be optimal given the firms' returns.

Once banks discover their large exposure, they are likely to roll over loans rather than declare their losses. This delays the crisis but increases its magnitude.

The empirical evidence, based on data for 56 countries in 1977–97, supports this theoretical model. The authors find that lack of transparency increases the probability of a crisis following financial liberalization. This implies that countries should focus on increasing transparency of economic activity and government policy, as well as increasing transparency in the financial sector, particularly during a period of transition such as financial liberalization.

This paper — a product of Governance, Regulation, and Finance, World Bank Institute — is part of a larger effort in the institute to research governance and transparency and apply the findings in learning and operational programs. (For details, visit www.worldbank.org/wbi/gac.) Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Diane Bouvet, room J3-273, telephone 202-473-5818, fax 202-334-8350, email address dbouvet@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The authors may be contacted at gmehrez@worldbank.org or dkaufmann@worldbank.org. (33 pages)

2287. The Vicious Circles of Control: Regional Governments and Insiders in Privatized Russian Enterprises

Raj M. Desai and Itzhak Goldberg
(February 2000)

In Russia and other transition economies that have implemented voucher privatization programs, how can one account for the puzzling behavior of insider-managers who, in stripping assets from the very firms they own, appear to be stealing from one pocket to fill the other?

How can one account for the puzzling behavior of insider-managers who, in stripping assets from the very firms they own, appear to be stealing from one pocket to fill the other?

Desai and Goldberg suggest that such asset-stripping and failure to restructure are the consequences of interactions between insiders (manager-owners) and regional governments in a particular property rights regime. In this regime, the ability to realize value is limited by uncertainty and illiquidity, so managers have little incentive to increase value. As the central institutions that rule Russia have ceded their powers to the regions, regional governments have imposed various distortions on enterprises to protect local employment.

Prospective outsider-investors doubt they can acquire the control rights they need for restructuring firms and doubt they can avoid the distortions regional governments impose on the firms in which they might invest. The result: little restructuring and little new investment. And regional governments, knowing the firms' taxable cash flows will have been reduced through cash flow diversion, have responded by collecting revenues in kind.

To disentangle these vicious circles of control, Desai and Goldberg propose a pilot for transforming ownership in insider-dominated firms through a system of simultaneous tax-debt-for-equity conversion and resale through competitive auctions.

The objective: to show regional governments, by example, that a more sustainable way to protect employment is to give managers incentives to increase enterprises' value by transferring effective control to investors.

The proposed mechanism would provide cash benefits to insiders who agree to sell control to outside investors. The increased cash revenue (rather than in-kind or money surrogates) would enable regional governments to finance safety nets for the unemployed and to promote other regional initiatives.

This paper — a product of the Private and Financial Sectors Development Unit, Europe and Central Asia Region — is part of a larger effort in the region to address growth, governance, and poverty in the former Soviet Union. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Sophia Cox, room H6-033, telephone 202-473-6633, fax 202-522-0078, email address scox@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The authors may be contacted at desair@gunet.georgetown.edu or igoldberg@worldbank.org. (23 pages)

2288. Ten Years of Transformation: Macroeconomic Lessons

Charles Wyplosz
(February 2000)

Transition was never going to be easy, even with the highly promising long-run outlook. Not only was the process itself a major theoretical and policy challenge, but politics and economics were bound to interfere. And yet, with some spectacular exceptions, most countries are now on the right track.

After surveying the facts and distilling the voluminous literature on the transition to market economies, Wyplosz arrives at several conclusions:

With hindsight, the old debate — Big Bang versus gradualism — was really a problem of feasibility, although many of the arguments in favor of the Big Bang have now been proven right.

Once more, inflation has been found to be incompatible with growth and the importance of a good microeconomic structure — especially an effective banking system — has been confirmed.

The decline of the state in transition economies is both spectacular and puzzling — combining features that are both desirable and dangerous.

Among useful lessons learned:

- It has paid to start early and move fast. The Big Bang is highly desirable but impractical, and gradualism is unavoidable but ought to be compressed as much as possible. The countries that bit the bullet early and hard have done better over the past decade.
- Stabilize first; grow next. Macroeconomic stabilization is a prerequisite for growth. The budget deficit need not be eliminated, but the link between deficits and money growth must be severed.
- Structural reform is important, and microeconomic policies, often overlooked, should be started as soon as possible. This means establishing property rights, hardening budget constraints, building a healthy banking system, and ensuring true domestic competition.
- The choice of an exchange rate regime, another early controversy, is apparently less important than adherence to a strict monetary policy. The floaters have tightly managed their exchange rates, while the fixers have repeatedly devalued and have often ended up floating. Some form of monetary targeting is needed, but it matters little which target is chosen so long as it is adhered to.
- Creating irreversibilities early on allows governments to change without seriously affecting the transition. The less stable the economy, the more politics matters. A shaky economic basis is fertile ground for policy reversals that set the clock back several years (Bulgaria, Romania, Russia).

This paper — a product of the Research Advisory Staff — was presented at the Annual Bank Conference on Development Economics, April 28–30, 1999. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Mani Jandu, room MC4-386, telephone 202-473-3103, fax 202-522-0304, email address mjandu@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The author may be contacted at wyplosz@hei.unige.ch. (56 pages)

2289. Exchange Rate Overvaluation and Trade Protection: Lessons from Experience

Howard J. Shatz and David G. Tarr
(February 2000)

Lessons from world experience about the consequences of exchange rate overvaluation (the frequent cause of trade crises), the consequences of trying to defend an overvalued exchange rate, and the most appropriate policies for resolving an overvaluation.

Despite a trend toward more flexible exchange rates, more than half the world's countries maintain fixed or managed exchange rates. In the 1980s and 1990s, developing countries as a group progressively liberalized their trade regimes, but some governments defend their exchange rate in actions that run counter to long-run plans for liberalization.

Without discussing the relative merits of fixed and flexible exchange rate systems, Shatz and Tarr note that exchange rate management in many countries has resulted in overvaluation of the real exchange rate. Roughly 25 percent of the countries for which data are available have overvalued exchange rates, with black market premiums from 10 percent to more than 100 percent.

After surveying the literature, the authors present lessons from experience about what has worked (or not) in response to crises involving external shocks and external trade deficits — and why.

Trying to defend an overvalued exchange rate with protectionist trade policies is a classic pattern, but experience shows such protection to significantly retard the country's growth and delay its integration into the world trading community. In fact, an overvalued exchange rate is often the root cause of protection, preventing the country from returning to more liberal trade policies that allow growth and integration into the world community without exchange rate adjustment.

Most developing countries have downward price and wage rigidities and, with an external trade deficit, require some form of nominal exchange rate adjustment to restore external equilibrium.

Shatz and Tarr present cross-country econometric and case study evidence — citing examples from Argentina, Chile, Ghana, the Republic of Korea, Malaysia, Turkey, Uruguay, and Sub-Saharan Africa (including the CFA zone) — that overvalued exchange rates reduce economic growth.

Defending the exchange rate, they show, has no medium-term benefits, since falling reserves will eventually force devaluation. Better to have devaluation occur without further debilitating losses in reserves and lost productivity because of import controls. After devaluation the exchange rate will reach a new equilibrium, strongly influenced by government and central bank policies.

This paper — a product of Trade, Development Research Group — is part of a larger effort in the group to assess the consequences of trade liberalization in developing countries. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Lili Tabada, room MC3-333, telephone 202-473-6896, fax 202-522-1159, email address ltabada @worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/ workingpapers. David Tarr may be contacted at dtarr@worldbank.org. (27 pages)

2290. Decentralization and Corruption: Evidence across Countries

Raymond Fisman and Roberta Gatti
(February 2000)

Empirical estimates suggest that fiscal decentralization in government spending is associated with lower government corruption.

The relationship between decentralization of government activities and the extent of rent extraction by private parties is an important element in the recent debate on institutional design. The theoretical literature makes ambiguous predictions about this relationship, and it has remained virtually unexamined by empiricists.

Fisman and Gatti make a first attempt at examining the issue empirically, by looking at the cross-country relationship between fiscal decentralization and corruption as measured by a number of different indices.

Their estimates suggest that fiscal decentralization in government spending is significantly associated with lower corruption.

Moreover, they find that the origin of a country's legal system — for example, civil versus common legal code — performs extremely well as an instrument for decentralization. The estimated relationship between decentralization, when so instrumented, and corruption is even stronger.

The evidence suggests a number of interesting areas for future work, including investigating whether there are specific services for which decentralized provision has a particularly strong impact on political rent extraction, and understanding the channels through which decentralization succeeds in keeping corruption in check.

This paper — a product of Macroeconomics and Growth, Development Research Group — is part of a larger effort in the group to study the determinants of corruption. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Emily Khine, room MC3-341, telephone 202-473-7471, fax 202-522-3518, email address kkhine@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research workingpapers. The authors may be contacted at rf250 @columbia.edu or rgatti@worldbank.org. (18 pages)

2291. Incentives for Pollution Control: Regulation *and* Public Disclosure

Jérôme Foulon, Paul Lanoie, and Benoît Laplante
(February 2000)

Both regulation and public disclosure belong in the environmental regulators' arsenal. Strong, clear standards combined with a significant, credible penalty system send the right signals to the regulated community, which responds by lowering pollution emissions. The public disclosure of environmental performance also provides strong additional incentives to control pollution.

An increasing number of regulators have adopted public disclosure programs to create incentives for pollution control. Previous empirical analyses of monitoring and enforcement issues have focused strictly on the impact of such traditional practices as monitoring (inspections) and enforcement (fines and penalties) on polluters' environmental performance. Other analyses have separately focused on the impact of public disclosure programs.

But can these programs create incentives in addition to the normal incentives of fines and penalties?

Foulon, Lanoie, and Laplante study the impact of both traditional enforcement and information strategies in the context of a single program, to gain insights into the relative impact of traditional (fines and penalties) and emerging (public disclosure) enforcement strategies.

Their results suggest that the public disclosure strategy adopted by the province of British Columbia, Canada, has a greater impact on both emission levels and compliance status than do orders, fines, and penalties traditionally imposed by the courts and the Ministry of the Environment.

But their results also demonstrate that adopting stricter standards and higher penalties also significantly affected emission levels.

Policymakers, take note:

- The presence of strong, clear standards together with a significant, credible penalty system sends appropriate signals to the regulated community, which responds by lowering pollution emissions.
- The public disclosure of environmental performance creates strong additional incentives to control pollution.

This paper — a product of Infrastructure and Environment, Development Research Group — is part of a larger effort in the group to understand the determinants of environmental performance. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Yasmin D'Souza, room MC2-635, telephone 202-473-1449, fax 202-522-3230, email address ydsouza@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. Benoît Laplante may be contacted at blaplante @worldbank.org. (31 pages)

2292. Dividing the Spoils: Pensions, Privatization, and Reform in Russia's Transition

Ethan B. Kapstein and Branko Milanovic
(March 2000)

The gains from the transition in post-communist Russia were captured by the new managerial class, which won rents from the state in the form of privatized enterprises, state subsidies, credits, and opportunities for tax evasion. Those rents reduced state revenues that could have supported social policy — including pension reform, which in turn could have fueled industrial restructuring. With neither pension reform nor industrial restructuring, Russia's economy has continued to shrink.

Kapstein and Milanovic present a political economy model in which policy is the outcome of an interaction between three actors: government (G), managers and workers (W), and transfer recipients (P).

The government's objective is to stay in power, for which it needs the support of either P or W. It can choose slow privatization with little asset stripping and significant taxation, thus protecting the fiscal base out of which it pays pensioners relatively well (as in Poland). Or it can give away assets and tax exemptions to managers and workers, who then bankroll it and deliver the vote, but it thereby loses taxes and pays little to pensioners (as in Russia).

The authors apply this model to Russia for the period 1992–96. An empirical analysis of electoral behavior in the 1996 presidential election shows that the likelihood of someone voting for Yeltsin did not depend on that person's socioeconomic group per se.

Those who tended to vote for Yeltsin were richer, younger, and better educated and had more favorable expectations of the future. Entrepreneurs, who had more of these characteristics, tended to vote for Yeltsin as a result, while pensioners, who had almost none, tended to vote against Yeltsin.

Unlike Poland, Russia failed to create pluralist politics in the early years of the transition, so no effective counterbalance emerged to offset managerial rent-seeking and the state was easily captured by well-organized industrial interests. The political elite were reelected because industrial interests bankrolled their campaign in return for promises that government largesse would continue to flow.

Russia shows vividly how political economy affects policymaking, because of how openly and flagrantly government granted favors in return for electoral support. But special interests, venal bureaucrats, and the exchange of favors tend to be the rule, not the exception, elsewhere as well.

This paper — a product of Poverty and Human Resources, Development Research Group — is part of a larger effort in the group to study the political economy of reform in transition countries. This study was funded by the Bank's Research Support Budget under the research project "The Political Economy of Fiscal Policy in Transition Countries" (RPO 682-52). Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Patricia Sader, room MC3-556, telephone 202-473-3902, fax 202-522-1153, email address psader@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The authors may be contacted at ekapstein@hhh.umn.edu and bmilanovic@worldbank.org. (29 pages)

2293. Should Capital Flows Be Regulated? A Look at the Issues and Policies

Roumeen Islam
(March 2000)

What policies can emerging markets use to improve risk management in open, liberalized markets?

Islam argues that externalities in financial markets, implicit and explicit guarantees on financial transactions, and information asymmetries in financial markets that may exacerbate contagion provide a rationale for a government role in managing the risk associated with cross-border capital flows. Governments can complement private sector risk management with measures that help deal with the volatility of capital flows. These measures include those that control the type and volume of capital flows and those that help investors make better investment decisions and that may reduce herding behavior, such as better information provision.

The main instruments that have been tried or recommended since the onset of the recent financial crises can be grouped in several categories.

Debt management

The composition, maturity structure, and level of external debt have played an important role in financial crises. High short-term debt relative to liquid assets has been found to be consistently correlated with financial crises in recent times. Governments can affect the level of debt (including private debt) and its composition, though the mix of policies they use will vary. Prudential regulation in the financial sector, corporate sector regulation, and restrictions on capital movements have all been used with varying success to change the level and composition of external debt.

Other macroeconomic policies

Most countries that have suffered macroeconomic crises have had fixed exchange rate systems; some have not. But whether or not a country has a fixed exchange rate is not the relevant question. The question is instead whether there is reason to expect a significant weakening of the currency, possibly as a result of a change in policy stance. Large real exchange rate appreciations have been among the main reasons for runs on currency; macroeconomic policy needs to be aimed at managing these. With a fixed exchange rate regime, flexibility must be maintained elsewhere in the economy. Policymakers may need to make tradeoffs between price and output stability once market jitters have set in. There is no single right answer to the question of which to emphasize more at a given time; it depends on a country's circumstances.

Risk management in the financial sector

The health of the financial sector is related to the government's fiscal position, its macroeconomic policies, and financial crises. The regulatory and supervisory frameworks in developing countries need to be adapted to the special features of these markets. Many developing countries are subject to frequent trade and capital account shocks while lacking the means to deal with these shocks, such as adequate insurance markets. This situation may call for policies that not only affect the incentives of lenders but also help manage risk more directly. Examples of such policies include maturity and liquidity requirements.

Information and transparency

More disclosure of information and improvements in the quality of that information could reduce the volatility that arises from herding behavior. Ex ante, they may also have a beneficial effect on the allocation of capital.

This paper — a product of the Office of the Senior Vice President and Chief Economist, Development Economics — is part of a larger effort in the Bank to disseminate knowledge. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Roumeen Islam, room MC4-327, telephone 202-473-2628, fax 202-522-1158, email address rislam@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. (35 pages)

2294. Reforming the Urban Water System in Santiago, Chile

Mary M. Shirley, L. Colin Xu, and Ana Maria Zuluaga
(March 2000)

Why did reform in Santiago improve water system performance, when similar re-

form attempts under public management in other countries failed?

In the late 1980s, Chile planned to privatize Santiago's sanitary works enterprise (EMOS) but instead reformed it under public ownership. It did so through a regulatory framework that mimicked the design of a concession with a private utility, setting tariffs that ensured at least a 7 percent return on assets, creating a neutral regulator independent of ministry intervention, and giving EMOS the right to appeal the regulator's tariff decisions.

This reform of Santiago's water system is often cited as a case of successful reform under public management. Comparing a comprehensive measure of welfare with a counterfactual example, Shirley, Xu, and Zuluaga show surprisingly large gains from Santiago's reform, given the relatively good initial conditions. (The gains accrued largely to government and employees, but consumers benefited from improved service and coverage.)

Why did reform in Santiago improve water system performance, when similar reform attempts under public management in other countries failed?

- Chile has a long tradition of private water rights, shaped by early recognition that water is a scarce and tradable private good.
- The reformed regulatory framework was designed to attract private investors to the water system and to motivate them to operate efficiently and expand the system.
- Chile's unique electoral institutions sustained this framework under state operation after democracy was restored.
- Chile's strong bureaucratic norms and institutions (permitting little corruption), combined with Santiago's relatively low-cost water system, permitted prices that effectively increased quasi-rents for investing in the system while minimizing the risk of inefficiency or monopoly rents.

The authors also address the question of why EMOS was reformed but not privatized, and what the costs of not privatizing were. The system was privatized in 1999, but the changes from privatization are likely to be less significant than those introduced in 1989–90.

This paper — a product of Regulation and Competition Policy, Development Research Group — is part of a larger effort in the group to draw lessons from regulatory reform and understand political and institutional change. This study was funded by the Bank's Research Support Budget under the research project "Competition and Privatization in Urban Water Supply" (RPO 682-64). Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Paulina Sintim-Aboagye, room MC3-422, telephone 202-473-8526, fax 202-522-1155, email address psintimaboagye@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. Mary Shirley may be contacted at mshirley@worldbank.org. (71 pages)

2295. Resolving Bank Failures in Argentina: Recent Developments and Issues

Augusto de la Torre
(March 2000)

When the international financial community finally develops core principles and minimum standards for resolving bank failures, Argentina's experience should serve as an important reference in identifying best practices.

Policies and procedures to resolve bank failures have evolved significantly in Argentina since the introduction of currency convertibility in 1991 and particularly in reaction to the 1995 "tequila" crisis, which exposed the inadequacy of the bank exit framework in place then. De la Torre reviews the institutional changes introduced in Argentina in 1995 to handle bank failures more effectively, particularly the creation of the deposit guarantee scheme and the procedural framework for resolving bank failures, embedded in Article 35 of the Financial Institutions Law.

This framework enables the Central Bank to carve out the assets and "privileged" liabilities of the failing bank and transfer them to sound banks, thereby sending only a "residual" balance sheet to judicial liquidation. Subsequent refinements in the application of Article 35 procedures eventually led to current Argentine practice. The author examines this practice in detail by considering the handling of the recent failure of Banco Almafuerte.

The author assesses a number of issues that arise from the Argentine model of bank failure resolution, taking into account both country-specific circumstances and more general concepts and concerns. He emphasizes the potential tradeoffs between reducing contagion risk, limiting moral hazard, and avoiding unnecessary destruction of asset value; the implications of priority-of-claims rules and least-cost criteria; the pros and cons of alternative organizational and institutional arrangements; and the need for legal security. Finally, he outlines two prototypical approaches to striking a balance between rules and discretion, an issue underlying much of the ongoing policy discussion on alternative bank exit frameworks.

This paper — a product of the Finance Cluster, Latin America and the Caribbean Region — is part of a larger effort in the region to document best practices in bank exit frameworks. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Marga O. De Loayza, room I5-112, telephone 202-473-8902, fax 202-522-2106, email address mdeloayza@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The author may be contacted at adelatorre@worldbank.org. (31 pages)

2296. An Ecological and Historical Perspective on Agricultural Development in Southeast Asia

Yujiro Hayami
(March 2000)

How location, natural resources, and different policies toward the elite's preemption of unused land shaped the historical development of different agrarian structures across Southeast Asia, conditioning agricultural growth performance until today.

According to Myint's "vent-for-surplus" theory, development of the economies of Indonesia, the Philippines, and Thailand from the nineteenth century on took natural advantage of large tracts of unused "empty land" with low population density and abundant natural resources of the type typically found in Southeast Asia and Africa at the outset of Western colonization. When these economies were integrated into international trade, hitherto unused natural resources (primary commodities the indigenous people had not valued) became the source of economic development, commanding market value because of high import demand in Western economies.

The major delta of Chao Phraya River was the resource base of vent-for-surplus development with rice in Thailand; tropical rain forests filled that role in Indonesia and the Philippines with respect to the production of tropical cash crops. This basic difference underlay differences in distribution of farm size: the unimodal distribution of peasants or family farms in Thailand and the coexistence of peasants and large estate farms or plantations specializing in tropical export crops in Indonesia and the Philippines.

Differences in agrarian development were also shaped by different policies toward the elite's preemption of unused land. Under Spanish colonialism, the elite preempted unused land in the Philippines wholesale, bifurcating land distribution between noncultivating landlords and sharecroppers in lowland rice areas, and between plantation owners and wage laborers in upland areas. In Indonesia, the Dutch government granted long-term leases for uncultivated public land to foreign planters, but prevented alienation of cultivated land from native peasants, to avoid social instability.

In Thailand, concessions were granted for private canal building, but the independent kingdom preserved the tradition of giving land to anyone who could open and cultivate it. Relatively homogeneous landowning peasants dominated Thailand's rural sector.

As frontiers for new cultivation closed, the plantation system's initial advantage (large-scale development of land and infrastructure) began to be outweighed by its need to monitor hired labor. The peasant system, based on family labor needing no supervision, allowed Thailand's share of the world market in tropical cash crops to grow, as Indonesia and the Philippines lost their traditional comparative advantage. Moreover, land reform in the Philippines made land markets inactive, with resulting distortions in resource allocation and serious underinvestment in agriculture.

This paper — a product of Rural Development, Development Research Group — is part of a larger effort in the group to review rural development in Asian countries. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Pauline Kokila, room MC3-510, telephone 202-473-3716, fax 202-522-1151, email address pkokila@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The author may be contacted at hayami@sipeb.aoyama.ac.jp. (38 pages)

2297. Sources of Ethnic Inequality in Vietnam

Dominique van de Walle and
Dileni Gunewardena
(March 2000)

To redress ethnic inequality in Vietnam, it is not enough to target poor areas. Policies must be designed to reach minority households in poor areas, to open up options by ensuring that minority groups are not disadvantaged (in labor markets, for example), to change the conditions that have caused their isolation and social exclusion, and to explicitly recognize behavior patterns (including compensating behavior) that have served the minorities well but intensify ethnic inequalities in the longer term.

Vietnam's ethnic minorities, who tend to live mostly in remote rural areas, typically have lower living standards than the ethnic majority. How much is this because of differences in economic characteristics (such as education levels and land) rather than low returns to characteristics? Is there a self-reinforcing culture of poverty in the minority groups, reflecting patterns of past discrimination?

Van de Walle and Gunewardena find that differences in levels of living are due in part to the fact that the minorities live in less productive areas characterized by difficult terrain, poor infrastructure, less access to off-farm work and the market economy, and inferior access to education. Geographic disparities tend to persist because of immobility and regional differences in living standards. But the authors also find large differences within geographical areas even after controlling for household characteristics. They find differences in returns to productive characteristics to be the most important explanation for ethnic inequality.

But the minorities do not obtain lower returns to all characteristics. There is evidence of compensating behavior. For example, pure returns to location — even in remote, inhospitable areas — tend to be higher for minorities, though not high enough to overcome the large consumption difference with the majority.

The majority ethnic group's model of income generation is a poor guide on how to fight poverty among ethnic minority groups. Nor is it enough to target poor areas to redress ethnic inequality. Policies must be designed to reach minority households in poor areas and to explicitly recognize behavior patterns (including compensating behavior) that have served the minorities well in the short term but intensify ethnic inequalities in the longer term. It will be important to open up options for minority groups both by ensuring that they are not disadvantaged (in labor markets, for example), and by changing the conditions that have caused their isolation and social exclusion.

This paper — a product of Public Economics and Rural Development, Development Research Group — is part of a larger effort in the group to understand the determinants of poverty and the policy implications. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Hedy Sladovich, room MC2-609, telephone 202-473-7698, fax 202-522-1154, email address hsladovich@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. Dominique van de Walle may be contacted at dvandewalle@worldbank.org. (31 pages)

2298. Fiscal Deficits, Monetary Reform, and Inflation Stabilization in Romania

Nina Budina and Sweder van Wijnbergen
(March 2000)

Fiscal problems are a key factor behind the inflation that has persisted in Eastern Europe since 1989. Deficits need to be cut back, but by how much for a given inflation target? A simple framework links debt, the deficit, and inflation to assess the fiscal stance of the Romanian economy.

Unsustainable fiscal deficits were the chief reason for the inflation that has persisted in Eastern Europe since 1989. Deficits need to be cut back, but by how much for a given inflation target?

Budina and van Wijnbergen develop a simple framework for debt, the deficit, and inflation to study the interactions between fiscal and monetary policy in Romania's economy. This framework can be used to 1) determine the financeable deficit and the required deficit reduction for a given rate of output growth, inflation rate, and target for debt-output ratios, and 2) to find the inflation rate for which no fiscal adjustment is needed.

They use this framework to assess consistency between inflation, monetary reform, and fiscal policy in Romania. Many of the issues in Romania are similar to those in other countries. But Romania is an interesting case because of its history of unsuccessful stabilization attempts.

The authors' results suggest that fiscal problems during 1992–94 were masked by shifting government expenses to the books of the National Bank of Romania so that the government deficit did not fully reflect public spending. In addition, the effects of delayed fiscal adjustment were mitigated by exchange rate overvaluation and favorable debt dynamics. In the late 1990s, however, debt dynamics worsened and the economy experienced significant real depreciation. That exacerbated the fiscal problems and increased the fiscal adjustment needed to restore consistency.

This paper — a product of Macroeconomics and Growth, Development Research Group — is part of a larger effort in the group to study transition economies. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Nina Budina, room MC3-353, telephone 202-458-2045, fax 202-522-3518, email address nbudina@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. The authors may be contacted at nbudina@worldbank.org and svw.heas@wxs.nl. (33 pages)

2299. Household Savings in Transition Economies

Cevdet Denizer, Holger C. Wolf, and Yvonne Ying
(March 2000)

In Bulgaria, Hungary, and Poland, the higher the relative household income is, the higher the savings rate is. But, surprisingly, savings rates appear to be unaffected by either sector of employment (public or private) or form of employment. Savings rates are significantly higher for households that do not own their own homes or that own few of the standard consumer durables — possibly because, with no retail credit or mortgage markets, households must save to purchase houses and durables.

During the transition from central planning to market economies now under way in Eastern Europe, output levels first collapsed by 40 to 50 percent in most countries, then staged a modest recovery in the last two years. Longer-term revival of growth requires a resumption of investment and thus, realistically, of domestic savings.

To explore the determinants of household savings rates in transition economies, Denizer, Wolf, and Ying studied matching household surveys for three Central European economies: Bulgaria, Hungary, and Poland.

They find that savings rates strongly increase with *relative* income, suggesting that increasing income inequality may play a role in determining savings rates.

Savings rates are significantly higher for households that do not own their homes or that own few of the standard consumer durables — possibly because, with no retail credit or mortgage markets, households must save to purchase houses and durables.

The influence of demographic factors broadly matches earlier findings for developing countries.

Perhaps surprisingly, variables associated with the household's position in the transition process — including either sector of employment (public or private) or form of employment — do not play a significant role in determining savings rates.

This paper — a product of the Poverty Reduction and Economic Management Sector Unit, Europe and Central Asia Region — is part of a larger effort in the region to understand determinants of savings, at both the household and the aggregate level. Copies of the paper are available free from the World Bank, 1818 H Street, NW, Washington, DC 20433. Please contact Ala Cubukcu, room H4-347, telephone 202-473-8449, fax 202-522-2754, email address acubukcu@worldbank.org. Policy Research Working Papers are also posted on the Web at www.worldbank.org/research/workingpapers. Cevdet Denizer may be contacted at cdenizer@worldbank.org. (14 pages)