

Promoting Better National Institutions: The Role of the IMF

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What are “institutions”?

What do we mean by institutions? The generality of the word cries out for a definition. I am not going to attempt it. A narrow interpretation would consist of only specific legal bodies or procedural mechanisms. Examples include regulatory agencies (e.g., Securities and Exchange Commissions), standards-setting bodies (e.g., for accounting), and what are sometimes called “commitment devices” (currency boards, guarantees of central bank independence, balanced budget amendments, the Stability and Growth Pact, etc.). A broad definition would include everything about a society that is more detailed than the basic theoretical model in a graduate economics textbook: from the existence of efficiency wages and a six-month gold futures market, to culture. The notion of institutional quality that has become common in the growth literature lies at an intermediate level of generality, and pertains to Property rights and Rule of Law. I am happy to accept that usage. But, before I turn to it, I want to flag the wide variety of issues that could be termed institutional, and to observe that they may not necessarily all

¹ Forthcoming, IMF Staff Papers. The author would like to thank Rachel Glennerster for useful comments and suggestions.

be correlated. For example, democracy is on many people's list. But the commitment devices I named (currency boards, independent CBs, Stability Pact), are distinctive for being institutions that prevent macroeconomic policy from being determined in "too democratic" a manner.

In table 1, I have placed an array of what might be termed institutions, ranked across two dimensions: (1) How sure are we what the right answer is? and (2) How clearly relevant are they to the business of the IMF, which I will call countries' balances of payments, and to a lesser extent economic growth. The bottom row is, and has always been, clearly within the purview of the IMF. Within the bottom row, I have put monetary policy in the far right, because we are pretty confident what is the relationship between money and the balance of payments, exchange rate, and inflation. I have chosen to put fiscal policy one column over, because there is some controversy and uncertainty regarding questions such as whether raising taxes to eliminate a budget deficit can be beneficial, and what effect fiscal expansion has on the overall balance of payments. I have put capital controls and the choice of exchange rate regime under "we have very little confidence what the right answer is," even though we have a lot to say about it. And I have put "how to restore investor confidence during a balance of payments crisis" under "we basically have no idea."

Now look at the top row, to illustrate the other dimension, irrelevance from the business of the Fund. At one end I have judged that we have no idea what is the right religion (if there is one), so that it is fortunate that this is clearly not relevant to the job of the Fund. Let me add that when I say "how sure are we about the right answer," I don't necessarily mean "how sure am I personally," but more "how much agreement is there

among informed opinion.” At the other end, I have judged that it is clear that protecting human rights and the environment are good goals, and that we have a fairly good idea how to go about them, but they are equally outside the purview of the IMF, even if it is sometimes hard to explain that to protestors. I have assigned labor rights a lower level of confidence than the environment, because I am not sure what I think of “right to work” laws, for example, or that I want to tell other countries at what age teenagers can start working or whether labor unions must be given the right to hold meetings on the company premises. Two years ago, I would have placed democratic elections in the far right, but after the recent elections in Mexico, the United States, Zimbabwe, Brazil and Bahrain, I am no longer completely confident which electoral institutions translate into realization of the will of the people.

TABLE 1: INSTITUTIONS RANGE ALONG TWO DIMENSIONS

| | | <i>HOW SURE ARE WE THAT WE KNOW THE RIGHT ANSWER?</i> | | | |
|---|---------------------|---|---|--|---------------------------------------|
| | | <i>not very</i> | <i>a little</i> | <i>fairly</i> | <i>Very</i> |
| <i>HOW RELEVANT IS THIS ISSUE TO BALANCE OF PAYMENTS PROBLEMS ?</i> | <i>not relevant</i> | religion | capital punishment; drug policy | democratic elections, labor rights | human rights, environment |
| | <i>a little</i> | social capital | IPR rules; executive compensation | competition policy; land tenure; legal systems | poverty; education; military spending |
| | <i>fairly</i> | how to close banks & dispose of NPLs; what are the best bankruptcy procedures | Standards for corporate governance; securities, accounting, bank regulation | property rights; trade policy | corruption, fiscal transparency |
| | <i>very</i> | how to restore confidence in a crisis | exchange rate regime; capital controls; PSI | budget deficits | monetary policy |

One could debate the precise placement in the table of many of these entries. But I mainly want to establish the simple idea that these issues can usefully be arranged along these two dimensions.

Deep sources of growth

By now the empirical literature on determination of countries' levels of income and growth rates² is so large that some have called for a halt. I disagree; I think we are still learning important things about why some economies perform better than others. Some of the relatively better-established determinants are investment, education, trade, political stability, financial development, and economic freedom.³

Perhaps the most interesting part of the current debate on growth is: *what are the deeper determinants?* Policies regarding taxes, government spending, tariffs help determine investment, education and trade, but what are the deeper determinants of those policies? A recent paper by Dani Rodrik and coauthors poses the question well.⁴ In their view, there seem to be three emerging theories: geography, openness, and institutions. Each has some standard measures; but each has serious endogeneity problems that must be addressed. (Table 2 illustrates.) Let us consider each in turn..

(1) By now "*geography*" has (belatedly) made its way deep into the literatures on trade and growth in many different ways. So it is important to clarify here what sort of geography we mean. We are talking about the natural climate, biology, and geology -----
-- especially differences between the *tropics* and temporal zones, such as presence of

² In a cross-country study that conditions on beginning-of-period income, in practice qualitative effects don't depend on whether you are talking about end of period level of income or period growth rate.

³ Barro (1991) started it all.

malaria and other debilitating tropical diseases, length of the growing season, and other climate effects. The presence of malaria can be partly endogenous: it was stamped out in Panama and Singapore, despite their tropical locations, by superior technology and social organization. Such instrumental variables as latitude, percent of land in the tropics, or average temperature capture the exogenous component of theory #1.⁵

Table 2: DEEP DETERMINANTS OF GROWTH

| Determinant: | 1. Tropical geography | 2. Openness | 3. Institutions |
|---|---|--|---|
| Measures | Malaria and other diseases; Length of growing season | Trade/GDP, Tariffs; FDI | Property rights, Rule of Law |
| Sample endogeneity problem | Suppression of malaria | Imported investment or luxury goods; Endogenous tariffs | Regulation & tax systems develop with income |
| Exogenous instrumental variables | Distance from equator, tropical area; temperature, rainfall | Gravity model: including remoteness, landlockedness, linguistic & historical links | European settler mortality rates; extractive industries (plantation crops and mining) |

Acemoglu, Johnson, & Robinson (2001, 2002), Acemoglu, Johnson, Robinson, & Thaicharoen (2002), Easterly & Levine (2002), Engerman & Sokoloff (1997, 2002), Hall & Jones (1999), and Rodrik, Subramanian, & Trebbi (2002). *Typical finding: **Institutions dominate.***

(2) By *openness*, we mean international integration along several dimensions, but trade is the most important, and the most readily measured (ratio of trade to GDP).

Trade and trade policies are both clearly endogenous. For this reason, Frankel and

⁴ Rodrik, Subramanian, and Trebbi (2002).

⁵ Diamond (1997), Gallup, Sachs, and Messenger (1998), Hall and Jones (1999), and Sachs (2001).

Romer (1999) proposed an instrumental variable for theory #2: geographical suitability for trade as predicted by the gravity model, and it has been widely accepted. It includes such exogenous determinants of trade as remoteness from big trading partners, landlockedness, etc. (New Zealand and Botswana are disadvantaged in this respect, the Netherlands and Hong Kong are well situated.)

(3) Finally, *Institutions*. Rodrik, et al, use as their measure of institutional quality an indicator of the rule of law and protection of property rights [taken from Kaufmann, Kraay and Zoido-Lobaton (2002)]. Acemoglu, Johnson, and Robinson (2001) use a measure of expropriation risk to investors. Acemoglu, Johnson, Robinson, and Thaicharoen (2002) measure the quality of a country's "cluster of institutions" by the extent of constraints on the executive. The theory is that weak institutions lead to inequality, intermittent dictatorship, and lack of any constraints preventing elites and politicians from plundering the country.⁶

Institutions, much like malaria and trade, can be endogenous. Many institutions -- such as the structure of financial markets, mechanisms of income redistribution and social safety nets, tax systems, and IPR rules -- tend to evolve in response to the level of income. What is a good instrumental variable? Acemoglu, Johnson, Robinson, and Thaicharoen (2002) and Acemoglu, Johnson, and Robinson (2001) introduce the mortality rates of colonial settlers. The theory is that, out of all the lands that Europeans colonized, only those where Europeans actually settled were given good European institutions. This theory is related to the idea of Engerman and Sokoloff (1997, 2002) that lands endowed with extractive industries and plantation crops (mining, sugar, cotton)

⁶ This is by now a large literature. Other examples include Roll and Talbott (2001), for whom property rights is one of the most important variables.

developed institutions of slavery, inequality, dictatorship, and state control, whereas those climates suited to fishing and small farms (fruits and vegetables, grain and livestock) developed institutions based on individualism, democracy, egalitarianism, and capitalism. Acemoglu et al chose their instrument on the reasoning that initial settler mortality rates determined whether Europeans subsequently settled in large numbers. The first item to point out to justify this otherwise idiosyncratic-sounding instrumental variable, is that there need not be a strong correlation between the diseases that killed settlers and the diseases that afflict natives, and that both are independent of the countries' geographical suitability for trade. The conclusion of Rodrik et al is that institutions trumps everything else -- the effects of both tropical geography and trade pale in the blinding light of institutions. Nobody denies the important role of, e.g., macroeconomic stability; but the claim is that macroeconomic policies are merely the outcome of institutions. This is essentially the same result as found by Acemoglu et al (2002), Easterly and Levine (2002) and Hall and Jones (1999): institutions drives out the effect of policies, and geography matters primarily as a determinant of institutions.⁷

My own view is that some of the papers may overstate the effect of institutions, by not conditioning on enough variables. Table 3 reports some recent results from Noguera and Siscart (2002), who condition on country size, and implement the gravity instrument with a comprehensive set of bilateral trade data. They find that, yes, institutions have a statistically significant effect on income per capita, but openness and tropical location retain their significant effects as well. For the purposes of today's panel, it doesn't matter much whether the effect of institutions is merely one of several

⁷ Easterly and Levine just group openness together with other policies. Hall and Jones consider latitude a proxy for European institutions, and those don't distinguish the independent effect of tropical conditions.

important deep factors or if, as these papers seem claim, it is the only important deep factor. Clearly institutions are important.

Table 3: Effects of Trade, Tropics, and Institutions -- Noguer-Siscart Estimates

| | Dependent variable: log GDP per capita in 1985 | | |
|----------------------------------|--|-------------------|-------------------|
| Trade Share (instrumented) | 0.79** (0.33) | 0.82** (0.37) | 1.01** (0.41) |
| Log Population | -0.13** (0.06) | -0.04 (0.08) | -0.05 (0.09) |
| Log Area | 0.24** (0.08) | 0.12 (0.07) | 0.23** (0.08) |
| Latitude | 0.45 (0.23) | | 0.52 (0.31) |
| Tropics (share of population) | -1.83** (0.20) | | -0.99** (0.30) |
| Distance to Equator | | 1.52** (0.65) | |
| Sub-Saharan Africa | | -1.07** (0.27) | -0.67** (0.32) |
| East Asia | | -0.10 (0.23) | -0.27 (0.25) |
| Latin America | | 0.42 (0.25) | 0.51 (0.27) |
| Institutions | 1.27** (0.40) | 1.47** (0.49) | 1.59** (0.42) |
| Sample Size | 89 | 89 | 89 |
| R2 | 0.69 | 0.77 | 0.77 |
| RMSE | 0.61 | 0.53 | 0.54 |

Notes: A constant was included in the regressions but not reported.
 Robust standard errors, including adjustment for constructed regressors, appear in parentheses.
 ** indicates statistical significance at 95% level.
 Source: Noguer and Siscart (2002).

Financial sector institutions are particularly relevant for the Fund. Here the series of papers by La Porta, Lopes-de-Silanes, Shleifer, and Vishny (e.g., 1998) shows the importance of such institutions as protection of shareholders rights, and the possibility that they are deeply rooted in history and culture. The relevancy of the variables explored by La Porta et al to the Fund's job is supported by the finding that they predict external crises in emerging markets, in Mulder, Perrelli and Rocha (2002).

Even though Acemoglu et al and Rodrik et al both use the same instrumental variable (settler mortality) and both find an important role for institutions, they have a different interpretation of the implications for the question of relevance for IMF strategy. Rodrik accuses Acemoglu et al of confusing their instrumental variable with a theory, by which he means he believes that they are claiming that everything is determined by historical institutions, and so there is not much you can do about it. Indeed Acemoglu et al conclude "Distortionary macroeconomic policies are...part of the 'tools' that groups in power use in order to enrich themselves and to remain in power. But they are only one of many possible tools...An interesting possibility implied by this perspective is a seesaw effect: preventing the use of a specific macro distortion will not necessarily cure the economic instability problems, since underlying institutional problems may manifest themselves in the use of some other tool by politicians and elites to achieve their objectives." They give the example of tools used by the coastal elite in Ghana to maintain their power at the expense of cocoa farmers in the interior, through such policies as an overvalued exchange rate and the cocoa marketing board.⁸ If the IMF succeeds in

⁸ Bates (1981).

preventing Ghana from having an overvalued exchange rate, the elite instead suppresses the price of cocoa paid to farmers in other ways.

Rodrik is essentially accusing Acemoglu et al of predestinationism. “European settlement is destiny.” He makes the point that even though settler mortality is a good instrument for institutions, institutions can be determined by many other things as well, and have been even in the past, and so there is no reason why they can’t be changed in the future.⁹ [Fortunately, he does not accuse them of ethnocentrism or racism. Nor has anyone else, so far as I know; but this must just be because the research has not yet been translated from econometrics to newspaper English.]

The point is important. The identification of an exogenous instrument that works historically should not stop one from working for beneficial changes in a country’s institutions that depart from geographic and historic destiny. Similarly, even when one has to take institutions as given, one should be aware of the wider context, but shouldn’t refrain from working for beneficial changes in policy.

The Role of the IMF

The subtitle of this panel is “The Role of the IMF.” I see the issue coming up under four headings of IMF activities: technical assistance, the new FSAP and ROSC activities, program conditionality, and the question of prolonged use of Fund resources.

⁹ He also accuses them of an error of econometric methodology, which rings strikes me personally as odd, because he took precisely the opposite side in his critique of Frankel and Romer. We argued that since variation in trade attributable to geography had a significant effect on growth, this was suggestive that variation in trade that might take place as the result of deliberate liberalization could also have a positive effect on growth. Rodriguez and Rodrik (2001) argued that this was an impermissible leap, because there was no reason to think that the two sources of trade would operate in the same way.

Technical assistance to national governments is clearly relevant, such as help building better national statistical systems or the work of the IMF Institute. The Financial Sector Assessment Program helps countries develop better institutions for regulating banks and other financial markets. I gather that it now goes beyond general “capacity building,” and that FSAP missions typically go just before Article IV missions that the results can be discussed at that time, and incorporated in the Article IV report, and sometimes in subsequent IMF programs as well. The same is true of Reports on Observance of Standards and Codes (ROSC) missions as well, especially regarding fiscal transparency.¹⁰

But let us go directly to the issue of structural conditionality of IMF programs, wherein lies the heart of the debate. During the course of the 1990s there was an expansion in coverage or scope of IMF conditionality, from macroeconomic policies in the last row, of the table to structural policies, which, roughly speaking, is the second to last row. Perhaps in the “heat of action” there was an expansion into such areas as competition policy which are now reverting to World Bank responsibility. Currently the Fund devotes attention and resources to financial sector institutional issues, in particular.

The expansion of IMF conditionality beyond macroeconomic policy has been widely attacked as an example of Mission Creep.¹¹ My own view is that it has been appropriate. Briefly speaking, even if you don’t buy the argument that structural flaws such as crony capitalism were the cause of the East Asia crisis, it seems clear to me that

¹⁰ Report of the Managing Director to the International Monetary and Financial Committee: The Fund’s Crisis Prevention Initiatives, 2001.

¹¹ Of course the critique that the IMF overreached by getting into issues such as the Indonesian clove monopoly, and should instead “stick to its macroeconomic knitting,” contradicts the critique that it applies a cookie cutter approach and neglects the issue of poverty. “Frankel’s Law” is that for every critique of the Fund that sounds plausible and devastating, there exists an equally plausible-and-devastating-sounding critique that is its diametric opposite. Frankel and Roubini (2002), Section V(A).

the IMF could not put a lot of money into Indonesia without taking steps to make sure that the money wouldn't [in Paul O'Neill's words] end up in Swiss bank accounts. Investor confidence was not going to be restored unless President Suharto signaled in a serious way a change in regime away from enrichment of his family and toward an economic system that would remain workable in the future. As international economic integration increases, the tension between regulation and national sovereignty increase, and an optimal tradeoff for multilateral governance probably entails giving up a little of each, rather than hugging either corner of no regulation or no sovereignty.

This doesn't mean we are ready for the IMF to dictate countries' domestic policies on human rights or the environment. That would be too serious a violation of national sovereignty, and in any case would not be the IMF's job. But an expansion of authority at the margin, one step up, strikes me as about right. And the World Bank should probably be operating one row above that, especially along the right margin.

Implicit in the table is the principle that in deciding whether an issue area is an appropriate concern for the Fund, it should not ask only "how directly relevant is it to the balance of payments?" but also "how confident are we that we know the right answer?" I think we are more confident that spending on education is good for the economy than on whether encouraging bowling leagues and choral groups is. We are more confident that corruption is bad¹² than that American accounting practices are necessarily superior to European practices.

Return to the bottom row of Table 1. What about the point that convincing a finance minister to sign a letter of intent specifying macroeconomic targets -- or, for that

¹² There is by now a lot of work on the effects of corruption and transparency. E.g., Gelos and Wei (2002). The subject of corruption was almost taboo at the Fund two decades ago, but this has changed.

matter, agreeing to structural reforms along the lines of banking regulation and corporate governance -- is unlikely to accomplish much if his heart isn't in it? Macroeconomic and structural policies may be merely the reflection of deeper institutional constraints. In the old days, IMF staff would say that an important function of the Fund was to "take the heat politically" for tough policy decisions that the local finance minister might well understand to be necessary, but could not enact domestically without being able to blame the unpopular policy on the Fund. And they would say it with a bit of pride. Thinking has shifted. Now the mantra is no longer "use the IMF as an excuse for reform," but "the country has to take ownership of reform." This is good as far as it goes. Certainly it is infinitely better to have the local politicians take ownership of a given reform package than not. But it begs the question of how to get them to do it.

My suggestion would be that it may be appropriate to start thinking more systematically about when to cut off perennial borrowers, particularly countries that have consistently failed to meet their agreed targets. The goal should be to move the long-run system toward a higher marginal reward for countries that are taking steps in the right direction, which means withholding support from those who are not. The judgment of which countries are in which category should not be based solely on overall economic performance, nor on how many times they have missed their program conditions. It could be partly based on whether the country has been subjected to adverse developments beyond its control, such as an adverse trend in its terms of trade. But I want to suggest that it may also be appropriate, at the stage of judging repeat users, to think about the broad institutional setting. If a country is undemocratic, corrupt, and chronically prone to spend resources on the military rather than health and education, then that may be a

reason to conclude that a recurrent budget deficit or overvalued currency indeed has deeper causes. The appropriate strategy for the international community may be to give up on that country for awhile.

The IMF and other multilateral institutions cannot determine when the social and political conditions will be right in the country for a new sweeping reform movement. But they can offer would-be reformers grounds for hope that they will be given more help than would bad actors who are their domestic competitors. Of course, the kind of help that is appropriate to give is very different for the IMF than it would be for G-7 governments, aid agencies, or even the World Bank. Nevertheless, I am suggesting that it may be appropriate for the Fund to look at some non-traditional criteria, which could be termed institutional.

These same issues could be addressed in the context of the PRGF. I know that part of the intention behind the process that produces Poverty Reduction Strategy Papers is to insure a country-driven agenda of structural reforms. But I don't know much about how this has been working so far in practice.

The example of settler mortality rates highlights how deep-rooted institutions can be and how infrequently and slowly they change in general. But notwithstanding historical influences, institutions can change, and sometimes quickly. Most institutional change happens at a time of national upheaval, such as the end of a war or the birth of an independent country. We have all been reflecting lately on how successfully Japan and Germany were remade after the end of World War II. The breakup of the colonial empires in the 1950s through 1980s offered another opportunity that some countries (e.g., Singapore, Hong Kong, Botswana, and Mozambique) seized much better than others.

In the early 1990s, the ruins of the Soviet Union left an opportunity for building new institutions that, though it appeared frustratingly slow and erratic at the time, ten years later has begun to look better in many transition economies. Finally, today, such new countries as East Timor, Macedonia, and Afghanistan are open to advice on institutional design coming from the IMF and the rest of the international community, more than were the nations that become independent with the original breakup of the big colonial empires.

References

- Acemoglu, Daron, Simon Johnson, James Robinson, 2001, "Colonial Origins of Comparative Development: An Empirical Investigation," American Economic Review 91, 1369-1401.
- Acemoglu, Daron, Simon Johnson, James Robinson, 2002, "Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution," Quarterly Journal of Economics, forthcoming.
- Acemoglu, Daron, Simon Johnson, James Robinson, and Yunyong Thaicharoen, 2002, IFM meeting, NBER, October 2002.
- Barro, Robert, "Economic Growth in a Cross Section of Countries," *Quarterly Journal of Economics*, CVI (May 1991), 407-444.
- Diamond, Jared, 1997, Guns, Germs and Steel, WW Norton and Co.: New York.
- Easterly, William, and Ross Levine, 2002, "Tropics, Germs, and Endowments," NBER Working Paper No. 9106; Carnegie-Rochester Conference Series on Public Policy.
- Engerman, Stanley, and Kenneth Sokoloff, 1997, "Factor Endowments, Institutions, and Differential Paths of Growth among New World Economies: A View From Economic Historians of the United States," in How Latin America Fell Behind, edited by Stephen Haber, 260-304, Stanford University Press.
- Engerman, Stanley, and Kenneth Sokoloff, 2002, "Factor Endowments, Inequality, and Paths of Development Among New World Economies," Working Paper 9259, October.
- Frankel, Jeffrey, and David Romer, 1999, "Does Trade Cause Growth?" American Economic Review 89, no. 3, June, 379-399.
- Frankel, Jeffrey, and Nouriel Roubini, 2002, "The Role of Industrial Country Policies in Emerging Market Crises," in Martin Feldstein, Economic and Financial Crises in Emerging Market Economies, University of Chicago Press, Chicago.
- Gallup, John, Jeffrey Sachs, and Andrew Messenger, 1998, "Geography and Economic Development," NBER Working Paper No. 6849, Dec.
- Gelos, R. Gaston and Shang-Jin Wei, 2002, "Transparency and International Investor Behavior," International Monetary Fund, Oct. 1.
- Hall, Robert, and Chad Jones, 1999, "Why Do Some Countries Produce So Much More Output per Worker than Others?" Quarterly Journal of Economics 114, 1, Feb. 83-116.

Kaufmann, D., A. Kraay and P. Zoido-Lobaton, 2002, "Governance Matters II -- Updated Indicators for 2000/01," World Bank Research Department WP No. 2772.

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert Vishny, 1998, "Law and Finance," Journal of Political Economy, 106, no. 6.

Mulder, Christian, Roberto Perrelli and Manuel Rocha, 2002, "The Role of Corporate, Legal and Macroeconomic Balance Sheet Indicators in Crisis Detection and Prevention," IMF Working Paper No. 02/59, March.

Noguer, Marta, and Marc Siscart, 2002, "Trade Raises Income: A Precise and Robust Result," Department of Economics, New York University, October.

North, Douglass, 1994, "Economic Performance Through Time," American Economic Review, 84, no. 3, June, 359-368.

Report of the Managing Director to the International Monetary and Financial Committee: The Fund's Crisis Prevention Initiatives," Policy Development and Review Department, International Monetary Fund, November 14, 2001.

Rodríguez, Francisco, and Dani Rodrik, 2001, "Trade Policy and Economic Growth: A Skeptic's Guide to the Cross-National Evidence," *NBER Macroeconomics Annual 2001* (Cambridge, MA: MIT Press).

Rodrik, Dani, Arvind Subramanian, and Francesco Trebbi "Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development," CID Working Paper No. 97, October 2002.

Roll, Richard, and John Talbott, 2001, "Why Many Developing Countries Just Aren't," UCLA, November.

Sachs, Jeffrey, 2001, "Tropical Underdevelopment," NBER Working Paper No. 8119, Feb.

Wei, Shang Jin, 2000, "Local Corruption and Global Capital Flows," Brookings Papers on Economic Activity, Fall.