

Managing Openness: Lessons from the Crisis for Emerging Markets

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Contents

1. Who was Hit and Why?	1
2. Policy Responses: The Unanswered Questions	5
3. Why Was the Collapse of Trade so Dramatic?	7
4. The Role of Global Imbalances	13
5. Managing Openness	17
6. In Sum	20
Appendix	21
References	23

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Another paper on the crisis requires some justification. The justification for this one is that the lessons of the crisis for emerging markets and their management of openness are still not adequately understood. Important questions remain unanswered. This paper focuses on three.

First, who was hit, and why? And, relatedly, what policies should emerging markets follow to maximize the likelihood of being in the camp less affected by global volatility? While more than a little has been written on this subject, it is not clear that consensus answers yet exist.

Second, what explains the outsized response of trade that was one of the principal transmission belts for the crisis? This may have been just another “sudden stop” of capital flows, not unlike the sudden stops of the past, but it was the first modern sudden stop of trade flows, something that deserves further analysis.

Third and finally, what was the role of global imbalances in the crisis? The answer to this last question again has implications for what kind of policy adjustments emerging markets should make going forward.

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1. Who was Hit and Why?

The impact of the crisis varied enormously. Comparing demeaned real GDP growth in 2008Q3 and 2009Q1 at seasonally-adjusted annual rates, growth fell by an astounding 35 percentage points in Latvia, 30 in Lithuania, and 25 in Estonia, compared to less than 5 percentage points in India, Poland and Argentina. This handful of outliers, both positive and negative, already points to hypotheses. More open economies were hit harder. Countries with large current account deficits were hit harder. (See Figures 1 and 2.) Countries that had restrained the rate of growth of credit did better. There is some evidence that countries entering the crisis with smaller budget deficits – that kept their fiscal powder dry – had better crises.¹ (See Figure 3.)

The question is whether these and other regularities stand up to scrutiny when analyzed using data for a larger sample of emerging markets. Rose and Spiegel (2009) link the severity of the growth decline, along with some ancillary measures of financial distress, to a set of indicator variables in 2006, the eve of the crisis, but find few robust regularities. One interpretation of this is as confirming the weak predictive power of so-called early-warning indicators, something to which some of us have pointed previously.² Crises differ. Market behavior and policy responses change, not least in response to the development of early-warning indicators themselves. In this view, there is no telling when you will be hit, or how hard. The appropriate policy response is therefore to invest in insurance. This view has some appeal to those of us who live on active earthquake faults and have learned to keep flashlights and bottled water on hand.³

¹ Berkman et al. (2009) find some support for the hypothesis that countries with stronger fiscal positions were hit less severely but caution that this evidence is weak. Budget data here are from Economist Intelligence Unit.

² As in Eichengreen, Rose and Wyplosz (1995). The contrary view is Frankel and Saravelos (2010).

³ Drs. Rose and Spiegel, like yours truly, live on an active earthquake fault.

Another interpretation is that it is not crises that differ but countries. The impact of the same shocks and policies may be different in low, low-to-middle, and middle income countries, given differences in market structure and development. Mody (2009) finds, for example, that a positive correlation between large current account deficits and the fall in output (as countries with large deficits found them increasingly difficult to finance) is evident only in lower-middle income countries (the middle tier of developing countries), not in upper-middle or low-income economies. Berkman et al. (2009) find that the financial channel was more important than the trade channel for emerging markets (defined as developing countries with reasonably open capital markets), but that the trade channel was more important for a broader sample of developing countries (trade mattered more for the financially less connected low income countries).

Or the difficulty of identifying sources of vulnerability may reflect neither that neither crises nor countries differ but rather that the link between a country's characteristics and its susceptibility to disturbances is nonlinear. An example is the role of reserve accumulation in providing insulation from shocks. Berkman et al. (2009) find no evidence that countries with more reserves had better crises. Blanchard et al. (2010) report the same negative conclusion: when they include both reserves and short-term liabilities as shares of GDP, the latter matters but the former does not. Others like Obstfeld, Shambaugh and Taylor (2009), in contrast, find a link between reserves and financial stability. Policy makers like Brazilian central bank governor Henrique Meirelles have similarly argued that they played an important stabilizing role in the crisis.⁴ The post-crisis behavior of emerging markets, which has been to accumulate more, is certainly consistent with this view.

⁴ As cited in MercoPress (2010).

The obvious reconciliation is that of Moghadam (2010). Reserves play a stabilizing role but only to a point. In a liquidity crisis in which investors are deleveraging, foreign borrowings must be repaid, and the scarcity of foreign exchange puts severe downward pressure on the local currency, having the reserves needed to repay most or all of those short-term foreign obligations, provide banks and firms with scarce foreign exchange and support the exchange rate is of considerable value. At some point, however, perhaps when reserves match the value of short-term obligations coming due, the marginal benefit of more begins to diminish. Whether, beyond that point, they do anything to enhance stability further is questionable. In other words, the relationship between reserves and stability is nonlinear. The least squares parabola in Figure 4 is consistent with this view.⁵

This much is intuitive. The problem is that there is less than full agreement on the point at which diminishing returns set in. Moghadam's data suggest that this happens around the point where reserves match a country's external financing requirement (the sum of the current account deficit, short-term debt, and medium- and long-term amortizations of the public and private sectors). (See Figure 5.) Wyplosz (2007), in contrast, argue that reserves continue to yield stability benefits beyond that point. It can be the stock rather than simply the maturing portion of the foreign debt that matters if investors, in a panic, scramble to sell it off. It may be M2 that matters if the liabilities of the banking system are in foreign currency or the country is committed to pegging the exchange rate.

The exchange rate is another variable that appears to bear a nonlinear relationship to the impact of the crisis. The weight of the evidence suggests that countries pegging their currencies had worse crises, other things equal. Flexibility helps when confronted by

⁵ Data for five outliers – Algeria, Botswana, Benin, Cape Verde, and Uganda – were dropped for clarity. Including them deforms the parabola a bit but doesn't change the story.

an unprecedented shock. Berkman et al. (2009) and Blanchard et al. (2010) both report that countries with pegged rates suffered deeper output collapses even after controlling for a range of other economic and financial variables.⁶ But both also suggest that more flexibility was not always better. What significantly enhanced stability was moving from a peg to a managed float, not moving from managed flexibility to a free float.⁷

It is widely argued that countries with larger, better-developed, and more open financial systems did worse in the crisis.⁸ The intuition in this case is simple enough. The 2007-8 shock originated in financial markets. Financial linkages through which national markets were limited together constituted an important transmission belt. Countries with relatively large financial systems and whose markets were open to foreign investors therefore felt the crisis first and most acutely. Korea suffered, for example, because half of its stock market capitalization was in the hands of foreign investors who held a fire sale in response to their own financial distress. Countries with better developed financial systems had tended to have more short-term external debt, which made for a more serious crisis (Figure 5).⁹ Figure 6 contrasts countries with more and less open financial systems, where the index of restrictions on inflows and outflows, from Schindler (2009) in constructed so that a higher value means more restrictive. It shows that countries with repressed financial systems had their own problems in the crisis, but that countries with

⁶ IMF (2010) dissents from this emerging consensus, concluding that there was no difference in the depth of the recession between countries with pegs and floats.

⁷ Think of a suspension bridge. A bridge with no structural flexibility whatsoever can rupture when hit by an earthquake. At the same time, a bridge with excessive structural flexibility will pitch and sway dangerously when shocked. It is an intermediate degree of flexibility for which engineers strive.

⁸ Alexander et al. (2008) is an example of a study showing that the severity of the crisis was increasing in the size of the financial sector.

⁹ Note that I show the least squares regression line both with and without the outlier, Latvia.

highly open financial systems, shown at the right, did worse than countries with some restrictions, shown in the middle.¹⁰

2. Policy Responses: The Unanswered Questions

The question is what to do about it. If what we have just lived through a once in a hundred year firestorm, then the correct answer, presumably, is “nothing.” But if what we have just experienced was a salutary if expensive reminder of the intrinsic instability of financial markets, then the lesson must be “go slow on financial liberalization and opening.” The Indian approach of going slow on domestic deregulation and opening is the right one. The Brazilian approach of using taxes to discourage short-term foreign capital is the right one. The Korean approach of discouraging short-term foreign funding by banks by making it more costly for them to hedge their positions in the forward market is the right one.

The implication, like it or not, is that the growth of financial intermediation will be slower than otherwise. Some will say that raising the cost of financial intermediation by slowing financial development will have costs in terms of economic growth. But this assumes a first-best world; if the problem is excessive growth of financial activities with negative externalities for financial stability, then clamping down on these represents a welfare improvement.

¹⁰ The obvious explanation for why countries with relatively closed financial systems did poorly is that they also had weakly related banking systems. The standard intuition has tended to be that the quality of supervision and regulation is positively correlated with the openness and degree of development of the financial system – the high-income countries that have long since removed capital controls possessing the strongest regulation. A lesson of the crisis is that this intuition is not necessarily correct.

The problem, again, is that we lack the information needed to know how far to go in this direction. There is ample and convincing evidence that financial development and openness have a positive impact on growth and inclusiveness.¹¹ The evidence is ample and convincing, that is, when one draws it from good times. But it is equally clear that financial development and openness expose countries to additional problems in bad times, when financial markets fail. Two studies establishing the point are Vlachos and Waldenstrom (2005) and Eichengreen, Gullapalli and Panizza (2009). The problem is that we lack good estimates with which to balance the marginal benefits of the first effect against the marginal costs of the second. Again, it may be the relationship is nonlinear: that the early stages of financial development and integration have significant net benefits but that said benefits diminish subsequently.

It is of course possible to give more nuanced advice. Rather than slow financial development, slow certain specific forms of financial development. We know that countries whose banks funded themselves on wholesale markets, especially abroad, were vulnerable when liquidity evaporated. Those where the deposit-to-domestic private-sector-loan ratio was high did relatively well.¹² Highly-leveraged as opposed to high-developed financial markets can be especially dangerous, in other words. Countries where a relatively high share of foreign capital inflows were in the form of portfolio capital (short-term portfolio flows in particular) did poorly.¹³ This is an old finding from statistical post mortems on the 1997 Asian crisis; Tong and Wei (2009) and World Bank (2010b) show that it continues to hold. Markets that were permissively regulated,

¹¹ See for example World Bank (2010a), Chapter 2, for a summary of the evidentiary base.

¹² Latvia and South Korea were among the countries with the lowest ratios of deposits to private-sector loans; neither had a good crisis. More generally, Berkman et al. (2009) and World Bank (2010b) show that countries with more leveraged domestic financial systems (higher ratio of domestic credit to domestic deposits) did poorly in the crisis.

¹³ Again, Korea illustrates the point: the country attracted less than its proportionate share of foreign direct investment (less than its observable characteristics and the behavior of FDI in other countries would lead one to predict) while relying heavily on foreign portfolio investment.

resulting in the strongly procyclical behavior of credit, and not simply markets were the problem.¹⁴

To be sure, not all questions about the policy response are unanswered or, for that matter, even contentious. Allowing a large current account deficit to develop (as in Thailand in 1997 and East-Central Europe in 2007) is a source of vulnerability to be avoided by appropriate adjustments in monetary and fiscal policy. A government budget in balance or surplus that gives the authorities fiscal room for maneuver is valuable when there is a negative shock to external demand. Anti-inflationary credibility will enable the monetary authorities to further support demand by cutting interest rates, and a modicum of exchange rate flexibility can help by crowding in exports.¹⁵ Reserve accumulation will be helpful, at least up to a point, for assisting banks and firms with short-term foreign-currency exposures and for preventing any decline in the exchange rate resulting from deleveraging by foreign investors and resulting foreign-exchange shortages from getting out of hand.

3. Why Was the Collapse of Trade So Dramatic?

The outsized collapse of trade is a second important mystery to be unraveled before we can move to policy recommendations. The year-over-year decline in world trade volumes between 2008 Q1 and 2009 Q1 was 18 per cent, an order of magnitude larger than the decline in global production.¹⁶ In emerging East Asia, the decline in the dollar value of trade was even greater than in the 1997-8 financial crisis.

¹⁴ Thus, Mody (2009) finds that economies that had overheated in 2008 saw larger decelerations in 2009. Berkman et al. (2009) and World Bank (2010b) similarly find that countries with more rapid credit growth tended to suffer larger growth decelerations. Of course, any Polish policy maker could have told you this.

¹⁵ Or at least limiting their decline.

¹⁶ See Freund (2009).

We know the usual explanations: protectionist measures, disruptions to the supply of trade credit, and the development of global supply chains. We just don't know how much weight to attach to them. Starting with protectionism, I like to think that this was a problem averted largely by learning from historical experience. Comparisons of the Great Recession with the Great Depression, which were rife in 2008-9, pointed to the importance of avoiding the kind of protectionism that compounded the earlier slump. WTO disciplines helped, as did G20 cooperation – and monitoring of countries' compliance by organizations like the World Bank and Global Trade Alert. But there still was a good deal of murky protectionism. Evenett (2010) identifies more than 300 trade restricting measures of one sort or another between the fourth quarter of 2008 and fourth quarter of 2009.

Eichengreen and Irwin (2009) exploited the Great Depression parallel to suggest where the danger was greatest. In the 1930s, recovery policy meant monetary policy. In order to promote recovery, countries abandoned defense of their exchange rate pegs, cut the level of interest rates, and allowed their currencies to decline. Unlike this time, reductions in interest rates were not accompanied by aggressive quantitative easing.¹⁷ Other countries felt the effects through two channels. To the extent that they saw their currencies appreciate as a result of their neighbors' policies, their competitiveness worsened and their problems deepened. They lost reserves and, to maintain their pegs to gold, their central banks were forced to tighten. But to the extent that their neighbors began to recover and, as a result, consumed more foreign as well as domestic goods, they also felt a positive locomotive effect. The evidence for the 1930s is that the first channel dominated: depreciation was beggar by neighbor.¹⁸ Countries that felt themselves

¹⁷ A few dramatic counterexamples like Japan notwithstanding.

¹⁸ This was the influential view of Nurkse (1944). Evidence for it is in Eichengreen and Sachs (1985).

beggared responded with restrictive trade policies that distorted their economies and further transmitted the contraction internationally. Protectionism was a byproduct of their failure to act and, more generally, of the inadequate coordination of stimulus policies.

This time recovery policy meant not only sharp reductions in interest rates, often to zero, but also aggressive quantitative easing and fiscal stimulus. With quantitative easing, the locomotive effect as opposed to the beggar-thy-neighbor effect of expansionary monetary policy was stronger. The cross-border spillovers of expansionary fiscal policy were positive as well.¹⁹ Where in the Depression it had been the passive countries – those that did not take a policy response to the crisis – that had the strongest incentive to protect, this time it was the active countries that saw other countries as free riding on their efforts. This, in a nutshell, explains the genesis of “Buy America” policies: some American policy makers saw an expensive but necessary \$787 billion fiscal stimulus as also benefiting other countries insofar as the associated spending fell on imports as well as U.S. goods, and unfairly so insofar as other countries did not respond with stimulus programs of their own. I read the evidence on the incidence of protectionism in the last three years as broadly consistent with this pattern.

To be sure, countries were much successful than 80 years ago in coordinating their policy responses to the crisis, which I interpret as more evidence of their having learned from history. This limited complaints about free riding and contained the protectionist impulse. Kee, Niagu and Nicita (2010) conclude that only 2 per cent of the decline in world trade in 2008 was attributable to increased protectionism. I suspect that this may be an underestimate; unlike other authors (e.g. Evenett 2010) who consider trade

¹⁹ Normally one would think them ambiguous: the direct spending effect on other countries is positive, but the positive impact on interest rates of fiscal expansion is negative, since it crowds out investment in neighboring countries. In a little trap, of course, the second channel is rendered inoperative.

restrictions broadly defined, Kee et al. look only at tariffs. A more encompassing measure would yield a somewhat higher number. Still, the conclusion that trade policy was not a major factor in the collapse of trade would probably still stand.

It is plausible that disruptions to the supply of trade finance should have been important for the collapse of trade. Trade, by virtue of its time-intensive nature, depends on finance, and this was, after all, a financial crisis. Iacovone and Zavacka (2009) show that the exports of firms more dependent on external finance fall by more in banking crises than those of firms that self-finance and that have more tangible assets and hence better collateral. Chor and Manova (2010) similarly document the greater sensitivity of exports to the cost of capital on the part of firms with fewer collateralizable assets and greater dependence on external finance.

On the other hand, Mora and Powers (2009) argue that this effect was quantitatively small because the disruption to flows of trade credit was limited in duration and extent. Although other credit markets froze up, trade finance declined to only a limited extent, a few exceptional cases notwithstanding. Because trade credit is collateralized, it was possible to keep credit flowing. Official export credit agencies, for their part, stepped in to help. For developing countries this means not just relying on the multilaterals but putting central banks and national export credit agencies in a position where they can also help. To the extent that parts, components, and other inputs going into the manufacture of exports are themselves imported, the central banks and export credit agencies in question will have to provide trade finance in foreign exchange. This is another reason, above and beyond those discussed earlier, to hold reserves.

These last observations bring us to the role of trade in parts and components. This is a relatively new trend in which developing countries, Asian countries in particular, have become deeply implicated. It is widely cited as a factor in the outsized reaction of trade in 2008-9. The explanation appears to be especially popular among Japanese economists

(e.g. Takana 2009) who must account for the fact that Japanese trade fell so dramatically in the crisis (export volumes fell by an astounding 50 per cent between February 2008 and February 2009). Japan's extensive involvement in trade in parts and components is an alluring explanation.

I am not convinced. If the difference now is that the parts and components in your laptop are produced in Taiwan but the machine is assembled in China, causing the components to cross national borders and be counted twice in the trade statistics, it is true that the same decline in the demand for laptops can result in a larger recorded drop in recorded trade, since it causes the volume of global trade to fall by approximately the value of two laptops (ignoring the value added in assembly). But while this can explain why the absolute value of the fall in trade was large, it cannot by itself explain why the percentage fall in trade was so large or why the elasticity of trade with respect to income has been rising.²⁰ With assembly via global supply chains, there is twice as much trade in laptop parts and components. A fall in demand by one laptop causes recorded trade to fall by twice as much. But with both the numerator and denominator multiplied by two, elasticities are unchanged.²¹

To implicate production fragmentation in the collapse of trade, it is necessary to argue two things: that only some goods are produced using global supply chains, and that goods so produced were affected most strongly by the negative demand shock. It is possible to defend both arguments. In periods of high uncertainty, firms and households will put off spending on big ticket items. (Baldwin 2009 refers to these items as "postponables.") This is especially the case of uncertainty associated with financial disruptions, since big ticket purchases have to be financed. Romer (1990) showed that it was heavily consumer durables the demand for which fell off in the early stages of the

²⁰ As documented by Freund (2009).

²¹ A nice exposition of this is O'Rourke (2009).

Great Depression. And we know that a number of those products – motor vehicles, consumer electronics – are now heavily involved in global supply chains.

One wonders also about the interaction of production fragmentation with the two earlier explanations for the collapse of trade. It could be that the articulation of supply chains renders trade more sensitive to disruptions to the provision of trade credit. If component exporters can't get credit, then assemblers can't get parts, and even a limited financial disruption can break all the links in the chain.²² This is trade equivalent to the O-Ring theory of economic development.²³

In this case, it is of course in the interest of the assembler to provide the component exporter the credit he needs. But it is not obvious that the assembler will be able to obtain credit in a truly global credit crisis, or that he will have the earnings with which to fund such credit himself, absent an ability to get the parts its needs to assemble and export. So it could be that disruptions to the supply of trade credit and production fragmentation interact.

Similarly, protectionism and supply chains may interact. Freund (2009) observes that firms utilizing global supply chains tend to alter the location of production in a slump. She gives the example of Porsche, which decided to cut the assembly of its cars in Finland in 2009 while maintaining its operations in Germany, one presumes for political economy reasons, given that Porsche is a German-owned company. In this case it is precisely the exports assembled via international supply chains that disappear, despite the fact that those products are identical down to the finest detail to those that the German plant assembles for export.

²² One is reminded of some of the incipient disruptions to trade and production in Europe with the Icelandic volcano eruptions of April 2010.

²³ See Kremer (1993).

4. The Role of Global Imbalances

I come finally to the role of global imbalances in the crisis. You might expect me to give them a place of prominence, since I had written in the past of the dangers of their disorderly correction.²⁴ Of course, the crisis of which I worried then was not exactly the same as the crisis we went on to experience. With benefit of hindsight, I would put most of the blame for the crisis elsewhere, although I do think that global imbalances played a role.

Fundamentally I see the crisis as the result of flawed regulation and perverse incentives in financial markets. Regulators bought into the arguments of the regulated that financial institutions could safely operate with a thinner capital cushion. They accepted the premise that capital adequacy could be gauged on the basis of banks' internal models and, where these were absent, ratings of securities provided by commercial credit rating agencies, notwithstanding the incentives for the proprietors of the former to tweak their models to minimize estimated risks and capital requirements and the tendency for the latter, as investment advisors as well as issuers of ratings, to fall prey to conflicts of interest. The regime that resulted was capital poor and dangerously procyclical. Regulators neglected liquidity, assuming away problems in wholesale money markets. Banks were allowed to hide risks in conduits and structured investment vehicles and window dress their balance sheets. Agency problems flourished at each stage of the originate-and-distribute process. Mortgage brokers had no fiduciary responsibility to homeowners. Banks not keeping a participation in the complex derivative securities they originated felt no responsibility to investors. The structure of compensation encouraged bank executives to roll the dice, disregarding the implications of their actions for the survival of the firm. And the regulators averted their eyes. If you want my summary of the crisis, there you have it, in one paragraph.

²⁴ In Eichengreen (2007).

Of course, this summary goes only an inch below the surface. The deeper question is how these extraordinary circumstances were allowed to arise. Here I would cite a powerful ideology of deregulation stretching back to at least the Reagan-Thatcher years. I would cite excessive confidence in quantitative methods of risk management, Value at Risk, and of asset pricing. I am not acquitting the academy, in other words; we too fell prey to a powerful collective psychology.²⁵ I would cite the intensification of competition, with the Glass-Steagall restrictions starting to crumble even before passage of the Gramm-Bliley-Leach Act in 1999, encouraging banks to take on additional leverage in their desperation to maintain normal returns. Finally, I would cite a conscious policy in the United States of starving the regulators of human and financial resources. It is hard to understand the pre-crisis behavior of the Securities and Exchange Commission any other way. There's my summary of the deeper causes of the crisis, again in one paragraph.

But if the match that ignited the fire lay elsewhere, in lax regulation and perverse incentives in financial markets, global imbalances poured fuel on the flames. With significant amounts of foreign capital, official capital in particular, flowing toward the United States, long-term interest rates were lower than otherwise. This fed to the housing boom. Reinhart and Rogoff (2009) show that the connection between capital inflows and housing booms is a historical regularity. My own ongoing work with Kevin O'Rourke and Augustin Benetrix on housing booms and busts, using data for a panel of OECD countries in recent years, again suggests that house-price developments are strongly correlated with capital flows. Foreign capital inflows into U.S. housing markets made it easier for financial institutions to finance the teaser rates on option-ARMs that sucked more households into the market. Again, I would not put global imbalances at the center of the housing boom in the United States, but I would argue that they played a supporting role.

²⁵ A longer reflection on the role of economists in the crisis is Eichengreen (2009).

Beyond the housing market, the downward pressure on U.S. interest rates resulting from foreign official and private purchases of U.S. treasury and agency securities could have contributed to the crisis through a number of channels. First, lower nominal interest rates encouraged institutions to take on more risk in order to match previous nominal returns.²⁶ Investors use nominal returns as a gauge of manager performance. If nominal returns go down, they may take this as the manager's fault and withdraw their funds. To retain his clients, the manager is then forced to move into riskier assets and employ more leverage.

Second, some investors, such as pension funds and insurance companies, have fixed contractual liabilities. They are required to pay out fixed nominal amounts to their investors. If market interest rates go down more than the company expected when signing the contract, the yield on safe securities may not be enough for it to meet its obligations. Again, survival will require portfolio managers to move into riskier investments or take on more leverage. Banks that have issued certificates of deposit to their customers and whose other liabilities bear fixed interest rates may likewise find themselves squeezed.

Third, lower interest rates cheapen wholesale funding. Lower wholesale money market rates encourage financial intermediaries to expand their balance sheets. The impact will be most visible among broker dealers relying on the wholesale money market for much of their funding and among conduits and special-purpose vehicles that issue commercial paper to fund their investments in speculative assets.²⁷

Finally, if lower interest rates and more ample liquidity boost equity prices, including the equity prices of financial institutions themselves, those institutions will want to increase their lending in order to restore previous levels of leverage. Higher share

²⁶ This is the mechanism discussed by Gambacorta (2009).

²⁷ The effect will be less, though by no means absent, among commercial banks relying on retail deposits for most of their funding. That the expansion of balance sheets should be proportionately greater among broker-dealers than commercial banks is emphasized by Adrian and Shin (2009).

prices for banks mean that they have more capital. But this also means that they are not fully loaned up. Some of their capital is effectively sitting idle. If the firm's lending capacity is not being fully utilized, this is something that it will seek to correct. Low interest rates that translate into higher equity prices will thus trigger a lending boom.

The question is how much difference capital inflows made for U.S. rates. Craine and Martin (2009) estimate that 10 year bond yields were at least 50 basis points lower in 2005 than they would have been had there been no additional foreign purchases since the beginning of 2004. Bandholz, Clostermann and Seitz (2009) suggest that that ten-year bond yields were 70 basis points lower as a result of foreign capital inflows. Warnock and Warnock (2009) suggest that the increase in U.S. treasuries held by foreigners depressed treasury yields by 90 basis points. I read this as a reasonably high degree of consensus on magnitudes, at least by the standards of the economics profession.

In the end, one must ask how different the course of the crisis would have been had ten-year bond yields been 50, 70 or even 90 basis points higher. One answer is: not very different. The problems of lax regulation and skewed incentives in financial markets would still have been there. The problems implicit in the originate-and-distribute model would still have been there. Problems in the mortgage-broking industry would still have been there. The conflicts of interest of the rating agencies would still have been there. The incentives for risk taking created by the structure of executive compensation and too big to fail would still have been there. With wholesale funding modestly more expensive, leverage modestly less, and investors stretching less for yield, outcomes would have been less extreme. When the boom unwound, it would have unwound less violently. But, qualitatively, outcomes would have been the same.

Another answer to the how-different question is: very different. Economic dynamics are nonlinear. Crises are nonlinear. It is just conceivable that a difference of 70 basis points would have meant an entirely different outcome. We will never know.

5. Managing Openness

The financial crisis was born and bred in the United States. To the extent that global imbalances played a role, low U.S. saving rates were, in turn, central to the development of those imbalances. But it takes two to tango. The story would be incomplete without acknowledging also the contribution of the surplus countries: China, emerging East Asia, the Middle East oil exporters, and surplus OECD countries like Germany and Japan.

The roles of these different countries and regions of course varied over time. Early on, surpluses were relatively evenly balanced, while more recently China in particular has dominated the surplus side of the equation. This now creates a dilemma for emerging markets, as exemplified by the aforementioned China. Should they stick with their tried and true development strategy, which has entailed restraining domestic consumption, keeping the real exchange rate low, and plowing savings into investment in tradable manufactures, and thereby risk the reemergence of global imbalances and associated crisis risks as demand again picks up in the United States? Or should they abandon that strategy for another?

In thinking about this problem, it is important for economists not to become fixated on the nominal exchange rate (we can leave that to the politicians). The exchange rate is an outcome, or a relative price that results from the elements comprising the development strategy, not a policy variable in and of itself.²⁸ In China, to pick an example not entirely at random, the strategy has been (to repeat) to restrain domestic consumption in order to mobilize large amounts of domestic savings for investment in capacity to produce tradable manufactures. Limited financial development, a limited social safety net, and limited pressure on enterprise managers to pay out dividends are all mechanisms that

²⁸ As I argue at more length in Eichengreen (2008). A similar argument is Song, Storensletten and Zilibotti (2010).

help to maintain this consumption/investment balance. With domestic consumption low, the relative price of nontraded goods is low. The prices of exportables are relatively high. To observers ignorant of the policy mix, the renminbi looks undervalued. But given the policy mix, the prevailing real rate is the market equilibrium. Were it not, China would experience faster inflation, and the real exchange rate would adjust through this mechanism.

Should China now change its policy mix (more rapidly)? The answer, logically, should flow from an analysis of the conditions that made the original policy mix desirable. My own view is that the policy mix has been beneficial for some years now as a way of promoting the flow of resources into a manufacturing sector that would have been suboptimally small, owing to other distortions, in its absence. A policy mix that depresses the real exchange rate may be a second-best way of overcoming distortions (financial market underdevelopment that limits the availability of start-up capital, for example) that would otherwise discourage the growth of high-value-added manufacturing.²⁹ Or it may be a way of encouraging activities that throw off positive externalities (learning effects external to the manufacturing firm, for example) that would otherwise be undersupplied by even a well-developed market. I suspect that both kinds of distortions have been present in China, which is why this particular development strategy has been so successful.

The question is whether those distortions have now become less pronounced, so that the authorities can begin modifying the policy mix. This is a properly a question for specialists on Chinese capital markets and Chinese manufacturing, not for me. For what it is worth, I think China has made good progress in terms of financial development. Enterprises are increasingly able to float bonds and borrow from banks, permitting them to rely less on the retained earnings they amass a result of the prevailing policy mix. (To be clear, by “increasingly able” I do not mean “freely able.”) Through integration,

²⁹ High value added relative, specifically to agriculture and traditional manufacturing.

collaboration, and the development of supply chains and production networks, manufacturing firms are better able to appropriate some of the positive externalities thrown off by their activity. (In this case, “better appropriate” is different than “fully appropriate.”) If this is correct, then the policy response should be to begin to gradually move away from the prevailing policy mix. Policy makers can encourage consumption (by developing the social safety net and liberalizing financial markets). They can encourage enterprises to pay out dividends (by reforming corporate governance). As consumption on, among other things, nontraded goods rises in response, the real exchange rate will adjust. China can take the adjustment either through inflation (which will raise the relative price of nontraded goods) or renminbi appreciation (which has the same effect). My own preference would be for the latter.

How quickly should it move? The answer depends on how quickly the distortions I have just described diminish; this much is obvious. But it also follows that, since the diminution of financial-market constraints, the development of collaborative relationships among firms and so forth are gradual rather than discontinuous processes, the change in the policy mix, and therefore the level of the real exchange rate, should also adjust gradually rather than discontinuously. I am not in favor of a sharp step appreciation of the renminbi, in other words. This logic calls for gradual appreciation over time.

But if one believes that global imbalances contributed to the crisis, and that China’s large surpluses, emanating from its policy mix, contributed to global imbalances, then this is argument for rather faster appreciation than otherwise. If one believes that China’s policies (of course, not only China’s policies), operating through the channel of global imbalances, have implications for global financial stability (and thus implications external to the country), then it should optimally step up the pace of renminbi appreciation.

And what is logically true of China is true, to a greater or lesser extent, of other emerging economies in East Asia and other parts of the world.

6. In Sum

Looking back over the last thirty years, the shift in toward a more market-led system, stable macroeconomic and financial policies, and greater openness in international transactions has yielded enormous benefits to emerging markets in terms of economic development and growth. Note that I have characterized greater openness as only one of a constellation of related policies. It is not openness per se that matters but the combination. While this makes it difficult to identify the contribution of openness per se to the improvement in economic performance, most of us would share a strong intuitive sense that openness has played an important role.

But openness also has a downside in that it exposes countries to external shocks. It heightens the need for policies to shield relatively fragile developing economies. For developing countries where trade remains the principal channel through which shocks are transmitted, recent events underscore the importance of making contingency plans for the possibility that trade credit might dry up and exports may collapse. Central banks should hold reserves to fill the trade-credit gap. They should establish and fund specialized export-credit agencies. They should prearrange support with multilaterals and other extra-national agencies in a position to help. Given the special sensitivity to such disruptions of durable manufactures produced via global supply chains, countries heavily dependent on these products should redouble their efforts at export diversification.

For emerging markets where financial linkages are now the principal channel through which foreign shocks are transmitted, the regulatory framework for domestic financial markets needs to be strengthened. This means strengthening supervision and regulation along the obvious dimensions and, given the crisis, worrying more about leverage, liquidity and transparency. It means using a portfolio of policies to deal with capital inflows associated with the carry trade: first, fiscal tightening; second, tightening limits on lending by domestic banks; third, additional exchange rate flexibility to

introduce two-way bets into financial markets; fourth, sterilized intervention; and fifth (and finally, if the preceding measures don't work), capital inflow taxes. It means holding reserves adequate to deal with the consequences of sudden stops and, indeed, with the wholesale liquidation of foreign holdings. Achieving this last goal means two things. One, identifying more precisely exactly what constitutes an adequate level of reserves under these circumstances. Two, negotiating reserve-pooling and emergency-swap facilities to minimize the cost of reserves, whether at the regional level (CMIM and FLAR), through bilateral swaps with the Fed and the ECB, or at the IMF.

Finally, emerging markets must think about gradually transitioning away from a tried and true growth model that has emphasized saving to the expense of consumption, slowed financial development, and successfully promoted export-led growth but at the same time contributed to global imbalances. China and others are already committed to this transition. But to successfully complete it, they need a clearer understanding of the underlying distortions that made for the success of the earlier strategy. Without this, it is hard to know how quickly now to move away from it. And they need to bear in mind that policies that had unquestionable benefits domestically also added fuel to the fire that resulted in the financial crisis. If they internalize this externality, they will be inclined to move away from prevailing policies sooner rather than later.

Appendix

Figure 1

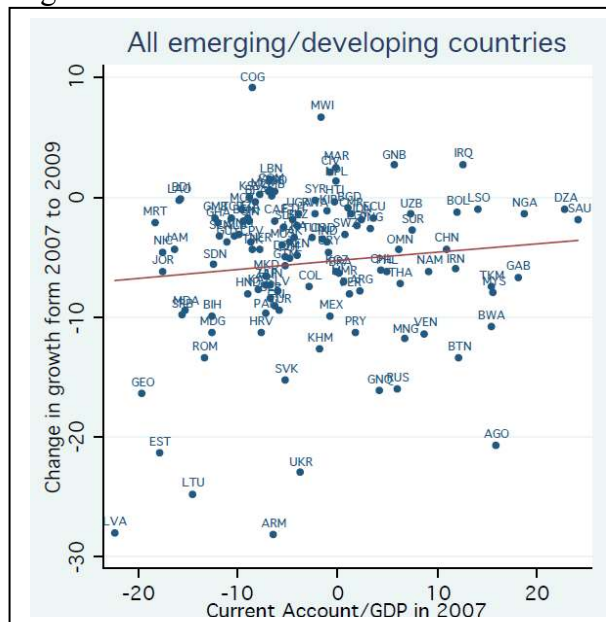


Figure 2

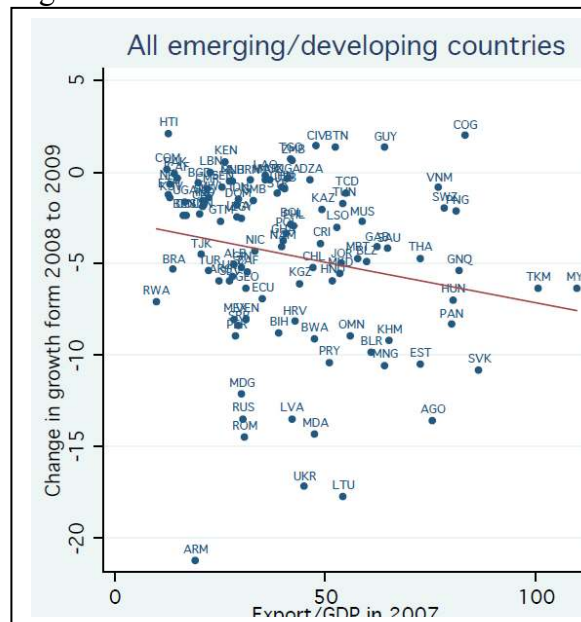


Figure 3

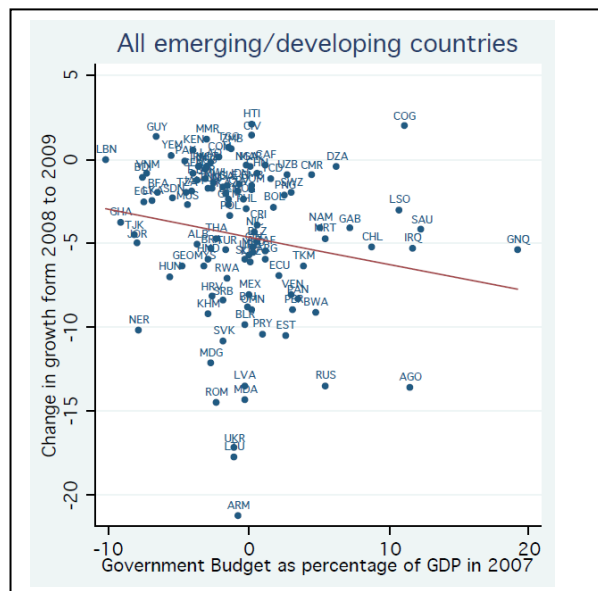


Figure 4

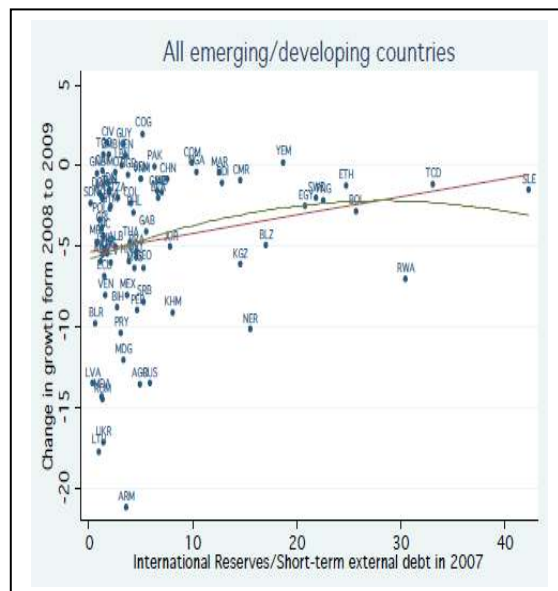


Figure 5

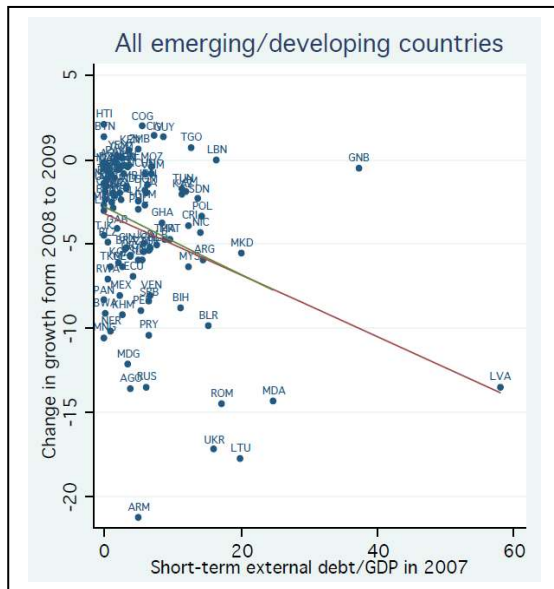
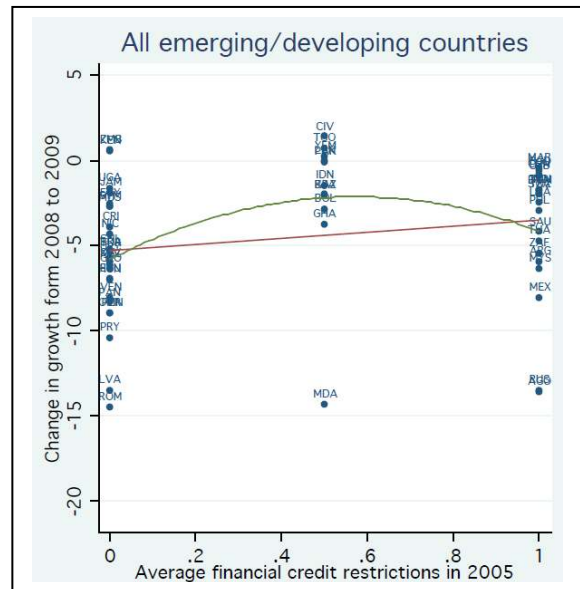


Figure 6



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<Abstract in Korean>

개방도 관리: 금융위기를 통한 신흥시장국의 교훈

Barry Eichengreen

금융위기를 다른 각도에서 연구하기 위해서는 당위성이 전제되어야 한다. 본 논문은 다음과 같은 당위성을 지니고 있다. 금융위기를 통해 신흥시장국들이 얻을 수 있는 교훈과 개방도(openness) 관리에 대한 이해가 여전히 부족하며 중요한 의문들도 해결되지 않았다는 것이다. 본 논문은 다음의 세 가지에 중점을 두고자 한다.

첫째, 피해를 입은 분야는 어디이고 그 이유는 무엇인가? 그리고 이와 관련하여 글로벌 금융 불안의 영향을 완화할 가능성을 극대화하기 위해 신흥시장국들이 추구할 정책은 무엇인가? 이에 관련한 연구가 일부 이루어졌지만 공통된 해법이 제시되어 있지는 않다.

둘째, 금번 금융위기에 대한 주요 파급경로(transmission belt) 중 하나인 무역의 급격한 반응을 무엇으로 설명할 수 있는가? 무역의 반응은 과거의 sudden stop과 다르지 않은 것이었을 수도 있지만 이는 근래에 발생한 무역의 첫 sudden stop이었으며 이에 대한 심층적인 분석이 요구된다.

마지막으로 이번 금융위기에서 글로벌 불균형은 어떠한 역할을 하였는가? 이 마지막 질문의 해답은 곧 신흥시장국들이 앞으로 추진해야 할 정책에 대한 시사점을 제공할 것이다.

본고는 한국은행 금융경제연구원의 외부연구용역사업의 일환으로 작성되었습니다. 연구내용은 집필자의 개인의견이며 한국은행의 공식견해와는 무관합니다. 따라서 본 논문의 내용을 보도하거나 인용할 경우에는 집필자명을 반드시 명시하여 주시기 바랍니다.

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366	한국노동패널자료를 이용한 가계부채 분석(2009.2)	김현정·김우영·김기호
367	우리나라 기업의 가격결정행태 분석(2009.2)	김웅·홍승제
368	The Impact of Affinity on International Economic Integration: The Case of Japanese Foreign Direct Investment(2009.3) Hyoung-kyu Chey	
369	한국경제의 구조변화와 생산성: Baumol 효과를 중심으로(2009.3)	오완근
370	제조업과 서비스업의 기술진보 격차가 고용에 미치는 영향(2009.3)	김배근
371	The Estimation of Capital Stocks, Total Factor Productivity and Potential GDP(2009.3) Hak K. Pyo·Sunyoung Jung	
372	Does the Liquidity Effect Guarantee a Positive Term Premium?(2009.3) Kyuil Chung	

373	개별가격변동과 통화정책(2009.3)	박강우
374	우리나라에서의 디플레이션 발생 위험 평가(2009.3)	김웅
375	Labor Market Frictions and Wage Contracts(2009.3)	문외솔
376	채무 만기연장에 관한 게임이론적 분석(2009.3)	정형권
377	개인저축률과 거시경제변수간 관계분석(2009.3)	송승주
378	환율변동이 실물경제에 미치는 영향(2009.4)	김용복·곽법준
379	가계채무구조와 사교육비 지출 행태(2009.4)	이찬영
380	가계부채의 결정요인 분석(2009.4)	김우영·김현정
381	Are Structural Parameters of DSGE Models Stable in Korea?(2009.4)	Jiho Lee
382	Double Drain, Risk of Recession and Monetary Policy in Small Open Economies(2009.5)	Geun-Young Kim
383	A Way Forward for Asian Bond Market Development(2009.5)	Hong Bum Jang·Suk Hyun
384	개방경제의 실질소득지표에 대한 연구(2009.6)	김배근
385	실물·금융변수와 주택가격간 동태적 상관관계 분석(2009.6)	손종칠
386	은행의 비이자영업 확대와 시스템 위험(2009.6)	김기호·윤성훈
387	2009년 한국은행 국제컨퍼런스 결과 - The Credit Crisis: Theoretical Perspectives and Policy Implications(2009.6)	한국은행 금융경제연구원
388	낙인효과(stigma effect)와 자본이동성이 국채 CDS 프리미엄에 미치는 영향 (2009.7)	김용복
389	Comparative Advantage and Labor Market Dynamics(2009.7)	Weh-Sol Moon
390	투자자의 시장심리를 반영한 자산가격 변동요인 분석(2009.8)	김윤영·이진수
391	주가와 채무구조 정보를 이용한 기업부문 신용리스크 측정(2009.8)	이승환
392	직접투자 유출입이 경기동조화에 미치는 영향(2009.8)	황광명

393	은행부문의 통화불일치 평가와 발생요인 분석(2009.8)	서영경·김근영
394	Covered Interest Rate Parity: A Model of Cournot Competition and Bargaining with Outside Option(2009.9)	Byoung-Ki Kim
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396	산업간 지식전파효과 분석 : 사업서비스를 중심으로(2009.9)	김현정
397	우리나라 노동시장의 이력현상 분석(2009.9)	김웅
398	다부문 경제성장모형에 의한 수출주도형 성장전략 평가(2009.9)	김배근
399	최적필터(optimal filter)를 이용한 우리나라 주가지수의 확률변동성 및 점프 추출(2009.9)	윤재호
400	사회후생 극대화를 위한 국가채무 수준에 대한 연구(2009.10)	임진
401	중고령자의 은퇴결정요인 분석(2009.10)	손종철
402	금융 시스템리스크를 감안한 금융기관 자기자본 규제정책(2009.10)	서상원
403	Financial Integration in East Asia: Evidence from Stock Prices(2009.10)	Xiaodan Zhao-Yoonbai Kim
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406	실물경기변동모형에 의한 경기침체 요인분석(2009.11)	송승주
407	1930년대 세계대공황과 2008년 위기(2009.11)	양동휴
408	국내외 금융시장의 연계성 변화 분석 : 외환위기와 글로벌 금융위기 기간을 중심으로(2009.11)	유복근·최경욱
409	Global Economic Recession and East Asia: How Has Korea Managed the Crisis and What Has It Learned?(2009.11)	Yung-Chul Park
410	가구패널자료 접속을 통한 가계의 유동성제약 변화 연구(2009.11)	김기호
411	자본유출입의 경기순응성과 파급경로(2009.12)	송치영·김근영

412	기업 혁신역량 강화를 위한 기업지배구조의 모색(2009.12)	장지상·이근기
413	소비구조 변화가 산업구조에 미치는 영향 - 인구구조 변화를 중심으로(2009.12)	황상필
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416	신용마찰의 경제환경 하에서의 통화정책에 대한 연구(2010.2)	정용승
417	은퇴와 가계소비간 관계 분석(2010.2)	윤재호·김현정
418	Measuring Systemic Funding Liquidity Risk in the Interbank Foreign Currency Lending Market(2010.2)	Seung Hwan Lee
419	선물환시장의 효율성과 무위험금리차(2010.2)	황광명
420	금리정책 동조화의 경로 분석(2010.2)	임진·서영경
421	외국자본 유입이 경제성장에 미치는 영향(2010.3)	김승원
422	횡단면분포 특성을 이용한 기업의 경기반응 분석(2010.3)	김웅
423	경제성장과 사회후생간의 관계(2010.3)	강성진
424	불확실성이 설비투자 결정에 미치는 영향분석(2010.3)	홍성표
425	소득불평등과 경제성장의 관계: Cross-country 비교분석(2010.3)	손종철
426	글로벌 금융위기와 재정거래차익 - 한국의 사례(2010.4)	유복근
427	Local Sharing of Private Information and Central Bank Communication(2010.4)	Byoung-Ki Kim
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429	Optimal Discretionary Policy vs Taylor Rule: Comparison under Zero Lower Bound and Financial Accelerator(2010.4)	Donghun Joo
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431	확률적 프론티어 모형을 이용한 중요소생산성 국제비교: 기술적 효율성을 감안한 접근방법(2010.8)	정선영

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* 금융경제연구 제1~200호의 발간목록은 제320호 이전 책자를, 제201~300호의 발간목록은 제421호 이전 책자를 참고하십시오.