Macroeconomic and Financial Policies Before and After the Crisis

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My charge in this paper is to analyze the roles of monetary, fiscal and regulatory policies in the run-up, midst, and aftermath of the crisis. This focus directs attention to the following questions:

- How important in the genesis of the crisis were lax supervision and regulation of financial institutions, perverse incentives in financial markets, the stance of monetary and fiscal policies, and global imbalances?
- What explains variations in the policy response across countries?
- Should we re-think the efficacy of the policy response in light of the problems that developed subsequently in Europe and elsewhere?

My focus here is on the G20 countries. The crisis also had a powerful impact on other, generally poorer economies whose experience is equally deserving of attention.[1] But a single paper can't cover everything.

1. Financial Policies in the Run-Up to the Crisis

It has become fashionable, even commonplace, to blame outside factors for the credit crisis in the United States. Alan Greenspan has argued that the crisis had its roots in the end of the Cold War, which changed the geopolitical and economic balance (Greenspan 2010). Others have attributed the crisis to the rise of China, which unbalanced global markets by significantly augmenting global labor supply with workers with an inordinate inclination to save (Bernanke 2010).

[1] See IMF (2009).

While factors such as these may have played an enabling or compounding role, the root causes of the crisis, in my view, lay at home. Those root causes were an ideology of market fundamentalism and the policies flowing from it.[2] The idea that markets get it right and governments only get in the way, what I refer to here as market fundamentalism, is a powerful current in American thought. That ideology was dealt a blow by the Great Depression, which bequeathed a consensus that markets are dangerously unstable and require strong oversight. But historical memory does not last forever, and by the 1970s the generation that lived through the 1930s had begun to pass. Already before the Reagan revolution American anti-regulationist ideology had reasserted itself, and the policy pendulum had begun to swing in the other direction with the removal of Regulation Q ceilings on interest on the deposits and the elimination of regulatory restrictions on stock brokers' commissions. The Reagan Administration pushed the deregulatory envelope, albeit more in the nonfinancial than the financial sphere. In the second half of the 1990s the Clinton Administration and Greenspan Fed then rejected proposals for regulating financial derivatives.[3] This was followed after the turn of the century by Bush policies weakening oversight of the financial-services industry and limiting the resources provided the overseers.

The upshot was a situation where mortgage brokers were allowed to originate subprime mortgages in the absence of meaningful regulatory oversight. Banks were permitted to minimize costly capital cushions and raise leverage to dangerous heights. They were allowed to further economize on the need for capital by shopping for ratings on the complex derivative instruments concocted from those subprime mortgages. They were able to enhance those ratings further by wrapping the resulting securities with credit default swaps obtained from lightly regulated and poorly capitalized nonbank financial firms like the American International Group. None of this was socially-redeeming business practice, or so we now appreciate. But the temptation to engage in it was irresistible given the heads-I-win-tails-you-lose structure of executive compensation and absence of regulatory oversight.

Given their inadequate resources, it is not surprising that the Securities and Exchange Commission and other regulators were unable to detect even blatant frauds like Harry Madoff

[2] Like any capsule description, this one doesn't cover anything. I attempt to provide a fuller analysis below.

[3] A partisan if entertaining account is Johnson and Kwak (2010).

and Kenneth Starr (the financial advisor, not the former solicitor general), much less sophisticated efforts at regulatory arbitrage like Lehman Brothers' Repo 105 transactions.[4] There is a perennial "bloodhounds and greyhounds problem" in financial markets: the highly-incented private greyhounds run very fast, and the regulatory bloodhounds attempting to stay on their trail strain to keep up. This imbalance is especially pronounced periods like the recent decade when financial structures and practices are changing rapidly. But it doesn't help to put the bloodhounds on a starvation diet.

The limited resources with which the regulators were provided encouraged them to acquiesce in the privatization of their supervisory and regulatory function. Where they had once placed bank assets into buckets according to risk and set capital requirements accordingly, they now allowed banks to rely on their own models to gauge risk and capital adequacy. Where banks lacked models, the regulators allowed them, and their customers, to use letter grades assigned to their securities by the rating agencies.

Both practices were problematic. Banks had incentives to tweak their models to limit the estimated likelihood of a significant loss on their portfolios, since this limited the capital they had to hold and elevated their profits. If it also heightened the risk of failure, well, that was someone else's problem. That their models of the returns on and covariances of complex derivative securities were estimated on short spans of data covering only periods when, inter alia, housing prices had been going up was similarly not of concern. The mathematization of risk-management protocols derived from finance-theoretic tools encouraged false confidence in these practices. The fact the models were based on restrictive assumptions – necessarily in order to make them tractable – was easily forgotten. That they were linear representations of an intrinsically nonlinear world was dismissed as of second-order importance.

The rating agencies were no better. Advising an originator on how to structure an instrument so as to secure an investment-grade rating and then rating the same security bred conflicts of interest. The agencies allowed themselves to be played off against one another by issuers shopping for ratings. Market participants alarmed by these practices had nowhere to turn given the entry barrier posed by the Nationally Recognized Statistical Rating Organization status conferred by the SEC and required in order for credit ratings to be used for regulatory purposes. After their experience in 1997-8, Asian readers will no doubt feel a sense of *shadenfreude* about

[4] The failure to detect and correct the Madoff fraud is recounted in Markopolos (2010).

all this scorn being heaped on the rating agencies. That grim self-satisfaction may recede, however, when they ask themselves exactly what the alternative is for issuing ratings and setting capital requirements.[5]

2. Glass-Steagall and the GSAs

At this point is necessary to say something about a set of more specialized issues, starting with the elimination of the Glass-Steagall restrictions on mixing commercial and investment banking.[6] It is fashionable to question whether the Gramm-Leach-Bliley Act revoking the last vestiges of Glass-Steagall had much to do with the crisis. Gramm-Leach-Bliley was itself a response to the fact that banks had long since discovered ways around Glass-Steagall. And it was investment banks already specialized in the origination and distribution of complex securities, and not deposit-taking commercial banks freed up by the elimination of Glass-Steagall, that played the central role in originating and distributing complex mortgage-related securities, had the highest levels of leverage, and took the hardest fall.[7]

In fact the role of Gramm-Leach-Bliley was still significant, if somewhat subtler in its effects. Together with the regulatory arbitrage that contributed to their demise, the removal of the Glass-Steagall restrictions intensified competition between the commercial and investment bank subsectors. It allowed commercial banks with preferential access to funding courtesy of FDIC insurance on their deposits to move into activities that had traditionally been the preserve of the investment banks.[8] The latter responded by taking on more risk in the effort to maintain their historical return on capital.[9] The explosive growth of leverage and excessive reliance on short-term funding that were two weak links in the financial chain both reflected these competitive dynamics.

[5] Random assignment of customers to rating agencies by a clearing house as recommended by Senator Al Franken and antiquated Basel I style rules?

[6] In 1999.

[7] Starting with Bear Stearns.

[8] Can you say “proprietary trading?”

[9] In principle, it also would have been possible to return capital to the shareholders – to downsize the firm – but this would have been less rewarding both financially and in terms of ego gratification for their CEOs.

Another U.S. policy pointed to by some critics is explicit and implicit subsidies for homeownership and, thereby, for housing finance, which encouraged the dubious mortgage-related financial activities implicated in the crisis. Out of the American ideal of the Jeffersonian farmer (the idea that American political and social values rested on the bedrock that every early adult, or at least every white male adult, owned his own farm) grew the notion that a man's home, even if mortgaged, was his castle. The housing crisis of the 1930s led to the creation of the government-sponsored Federal National Mortgage Association (Fannie Mae), which purchased FHA-financed mortgages and financed its activities by selling quasi-government-guaranteed long-term bonds to insurance companies and pension funds. In the 1960s Fannie was cloned into Ginnie Mae and Freddie Mac as a way of enhancing the direct financing capacity of the GSAs and limiting the direct burden on the federal budget. Fannie and Freddie were exempted from state and local taxes and received a line of credit from the U.S. Treasury. By the 1990s they were borrowing directly on the market to finance activities that included not just purchasing mortgages but also packaging them into residential-mortgage-backed securities. This was the raw material that J.P. Morgan and others used to construct collateralized debt obligations.

In 1992 the ironically-named Federal Housing Enterprise Safety and Soundness Act then encouraged Fannie and Freddie to expand their operations, which they did by obtaining regulatory authorization to hold less capital than other financial institutions. Freddie and Fannie were mandated to devote additional resources to low-income housing, as a result of which the share of low-income-housing related underwriting activities in their new investments reached 50 per cent by 2000. The Bush Administration pushed the mandate up to 54 per cent in 2004. The Community Investment Act of 1977, enforced more vigorously in the 1990s than before, required commercial banks to similarly channel more mortgage finance to low-income households – as Rajan (2010, p.36) puts it with black humor, "to find creative ways of getting people who could not afford homes into them." This political encouragement and the incentives it provided, it is argued, fostered the growth of the subprime mortgage market at the center of the crisis.

Political pressure mixed with financial innovation is a toxic brew. But the story of the financial crisis as an unintended consequence of policy to subsidize low-income housing lends itself to exaggeration. In fact the subprime lending boom was overwhelmingly underwritten by nonbank lenders not subject to the provisions of the Community Reinvestment Act or by banks

lending outside of their own community assessment areas. For another, there is the fact that Freddie Mac and Fannie Mae were least active in the 2005-7 period when the housing market took off, this being when Freddie and Fannie's accounting scandals came to light. To say that Freddie and Fannie then responded aggressively in order to maintain their market shares is not the same thing as saying that they were driving the market. According to the Federal Reserve Board (2008), at most 6 per cent of subprime lending was connected to the Community Reinvestment Act. Finally, there is the fact that many of the same excesses and problems were evident in the commercial real estate market, where affordable-income mandates did not apply.

All this suggests that while policies channeling excessive finance into affordable housing did not help, there were also a wider credit boom and more pervasive incentive problems at work.

3. The Role of Global Imbalances

While lax regulation and skewed incentives were at the heart of the crisis, some authors have placed equal emphasis on global imbalances. A first argument for the importance of global imbalances is that they lowered the required return on U.S. treasury securities and, by implication, on the residential-mortgage-backed securities and associated derivatives that were close substitutes. But empirical studies suggest that this effect was limited. The largest estimate of which I am aware, Warnock and Warnock (2009), suggests that the impact on ten-year treasury yields was on the order of 90 basis points. Other estimates (e.g. Craine and Martin 2009) make the impact just half that. No question, lower yields encouraged investors to stretch for yield by moving into riskier assets. They encouraged portfolio managers to take on additional risk in order to meet historical benchmarks. But it is important to think about not only signs but magnitudes. In other words, it is hard to imagine that the financial crisis would have been fundamentally different had long-term rates in the United States been 50 or even 90 basis points higher while everything else remained the same.

Moreover, emphasizing the U.S. current account deficit (and corresponding foreign surpluses) reflects a focus on net capital flows, where gross flows were larger and growing more quickly.[10] If the concern is not with the level of U.S. interest rates but with flows of finance into toxic mortgage-related securities, then foreigners were fully capable of buying into this market (or into markets for other assets that were substitutes, like the U.S. treasury market, pushing

[10] See Lane and Milesi-Ferretti (2007). Whelan (2010) is good on this point.

other investors into mortgage-related securities) without running current account surpluses. In a world of international capital mobility, it was only necessary for U.S. investors to take equal-sized positions in foreign markets.[11] In fact, barely a third of the increase in the gross external liabilities of the United States in 2002-7 can be explained in an accounting sense by the country's cumulative current account deficits. While current account imbalances and capital mobility are related, much of the literature implicating imbalances in the crisis unhelpfully emphasizes the former to the exclusion of the latter.

As good an indication as any of this is the fact that European banks were substantial enablers of the subprime crisis in the sense that they ended up holding large amounts of subprime-related structured credit products. Europe did not run a significant current account surplus with the United States. Two-way trade in assets, in conjunction with lapses in supervision and regulation, and not global imbalances explains this fact.

A subtler argument, made by Obstfeld and Rogoff (2009), is that global imbalances and the excesses resulting in the financial crisis were jointly determined by the stance of policy. In the early stages of the debate it was fashionable to indict U.S. fiscal policy and specifically the deterioration in the budget balance following enaction of the Bush tax cuts of 2001-2. Public dissaving meant national dissaving, widening the current account deficit. By artificially goosing the U.S. economy, the budget deficit goosed the housing market. But much subsequent literature questioned the link between fiscal policy and global imbalances; it challenged the "twin deficits hypothesis," showing that even if there was a link it was less than robust.[12] Similarly, while fiscal policy was part of the broad policy backdrop for the housing boom, it is hard to assign it a leading role. And while the fact of large pre-existing deficits limited the authorities' options when the crisis struck and raised questions about medium-term fiscal sustainability, this is different from saying that fiscal policy caused global imbalances and the crisis.

More recently, debate has focused on the role of monetary policy in the crisis. U.S. monetary policy was too loose in 2003-4, it is alleged, when the Fed's discount rate was significantly below the levels suggested by the Taylor Rule. Global imbalances were not responsible for the Fed's decision to cut rates so sharply in 2001, but they enabled the U.S.

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[11] Or for foreign investors to sell other safer U.S. securities already in their possession.

[12] A useful review of the literature is Bartolini and Lahiri (2006). An update using data through 2009 is Chinn, Eichengreen and Ito (2010).

central bank to keep them at low levels by providing a steady demand for Treasury bills and bonds, the low yields on those instruments notwithstanding. At its maximum in 2004, the gap between the level of interest rates predicted by the Taylor rule and the Fed's policy rate was 300 basis points. U.S. households responded to the availability of cheap credit by going on a spending binge. This arguably was the driver for both the housing boom and for global imbalances, or so it is alleged.[13]

With benefit of hindsight we can say that the Fed overestimated the danger of a Japan-style deflation. It overreacted by cutting rates so aggressively and leaving them low even once the economy began to recover in 2003. With hindsight we can similarly say that policy makers should have worried more about the decline in personal saving, since this response was predicated on an increase in households' financial (and housing) wealth that was illusory. Tightening more quickly would have damped down the increase in asset prices, encouraging saving that would have limited global imbalances while at the same time working to discourage the development of housing-related risks. If this meant that the U.S. economy would have expanded somewhat more slowly once the trough was reached in late 2002, then this was a price worth paying.

That said, there are grounds for questioning whether a somewhat higher level of short-term rates (short-term rates being what are under the control of the central bank) would have made that much of a difference for conditions in housing markets. The main channel through which short-term rates affected housing was adjustable-rate mortgages, whose low entry rates might have lured more unsuspecting buyers into the market. Between 2001 and 2004, the gap between the rates on adjustable-rate mortgages (ARMs) keyed to the one-year interest rate and conventional 30-year mortgages nearly doubled – as did the share of new mortgage borrowers opting for ARMs. Again, however, the question is whether the impact on the housing market was substantial. Bernanke (2010) objects that, although the gap between rates on ARMs and conventional mortgages grew over time, it was never large. Greenspan (2010) observes that ARM originations peaked two years before the housing market, the implication being that they could not have been responsible for the bubble.

[13] By inter alia Taylor (2007).

None of this is to deny a role for global imbalances in the crisis. But it is to question whether the priority for policy, and specifically policy makers concerned to prevent renewed financial instability, should be to seek to prevent their recurrence.[14]

4. Response

It took three quarters, from the summer of 2007 to the spring of 2008, for the U.S. crisis to spread to the rest of the world. In addition to the sheer fact of a U.S. recession, there was the impact on banking systems (mainly in Europe) and on trade (mainly in Asia and Latin America). Why European banks should have been infected is no mystery. Feeling the intensification of competition (in their case owing to the Single Market rather than the elimination of Glass-Steagall), they were even more highly leveraged than their U.S. counterparts and heavily invested in structured financial products. In some countries, Spain, Ireland, and the UK for example, they were also deeply implicated in local housing booms.

By comparison, it is less clear why trade should have collapsed so dramatically, faster even than output and faster than in the 1930s. The largest part of the explanation appears to be that a substantial fraction of trade was in parts and components related to the production of "postponeables" (big ticket items on which consumers and firms temporarily stopped spending when uncertainty spiked).[15] Disruptions to the availability of trade credit also mattered, but their effects were less persistent. Overt and murky protectionism thankfully made only a minor contribution to the slump in trade.[16]

By the summer of 2008, the world economy was tracking the Great Depression. In contrast to that earlier historical episode, the policy response was quick and powerful. That the advanced countries responded with aggressive monetary and fiscal easing is unsurprising; officials were acutely aware of the dangers of inaction (Wessel 2009), and they possessed policy room for maneuver. More striking is the quick and substantial reaction of emerging markets. In part this reflected the fact that there now existed, for the first time, venues like the Group of 20 to communicate the need for a coordinated response that avoided free riding and beggar-thy-

[14] I return to this below.

[15] See Eaton, Kortum, Neiman and Romalis (2010). The postponeables terminology is from Baldwin and Taglioni (2009).

[16] See Kee, Neugu and Nicita (2010).

neighbor policies. More importantly it reflected the fact that emerging markets had kept their powder dry. Their fiscal positions were strong, making it possible to increase public spending without exciting fears for fiscal sustainability. (To see this, contrast the emerging markets and advanced countries in Table 1.) Currency and maturity mismatches had been reduced, so that depreciation of the exchange rate did not threaten financial stability. Because central banks had built credibility, cutting interest rates did not automatically incite fears of inflation. Large war chests of foreign reserves meant that central banks were in a position to support the exchange rate where necessary, to provide dollar funding, and to otherwise reassure investors.

The U.S. moved first, with the largest stimulus in 2008 (Table 2). By 2009, however, the stimulus applied by G20 emerging market members matched that of the United States, scaled by GDP. China's stimulus so measured was by far the greatest. It is worth reminding oneself in light of subsequent events that the fiscal stimulus applied by EU G20 members was relatively small all through the period.[17]

Some of these responses are easier to visualize when depicted in two dimensions. Figure 1 shows that the G20 countries experiencing the largest slowdowns did not always respond with largest stimuli. One reason, suggested by Figure 2, is the wide variation within the G20 in the size of the public sectors government: countries with a larger share of tax-related revenues in GDP had more scope for ramping up public spending or cutting taxes. Figure 3, on the other hand, does not suggest that countries entering the crisis with relatively high levels of debt applied less fiscal stimulus, as might have been expected; if anything the opposite was the case. This is one way of understanding what countries got into trouble subsequently and why.

Figure 4 turns to monetary policy. It confirms that the central banks of countries suffering the most pronounced growth slowdowns had the most inclination to cut interest rates. The other thing that stands out from this figure is the aggressive response, by international standards, of the Federal Reserve, whether for doctrinal reasons or in reflection of the severity of American financial problems.[18]

Figure 5 shows, however, that the same countries that cut policy rates aggressively were not rewarded with lower long-term real interest rates. This is a reminder of the limited power of

[17] Of course, large variations are hidden within the EU G20 average, and the G20 does not include such EU countries as Greece, Portugal and Ireland. Spain (Table 1) is another matter.

[18] On the roots of these potential doctrinal differences, see below.

conventional monetary policy in a severe slump. In an environment of actual or expected inflation, central banks may be constrained by the zero bound on nominal rates, and policy rates operating on the short end of the term structure will influence the long-term rates on which, inter alia, investment decisions depend only insofar as they succeed in influencing expectations about future conditions and future policy (recall the Fed's "low for long" commitment).

Figure 6 can be read as suggesting that exchange rate adjustment played a positive role adjustment to the crisis. Real exchange rates depreciated between January 2008 and January 2010 in countries experiencing relatively large falls in output, crowding in exports, other things equal. Since inflation rates were not all that different, much of this adjustment was accomplished by changes in nominal rates. The case of the UK, which saw a sharp depreciation of sterling, is a case in point.

5. Re-Thinking the Response

With the passage of time, the exceptional stimulus measures widely credited with averting "Great Depression 2.0" do not come off as looking quite so positive. The resurgence of financial volatility in Europe in 2010 and contagion to other countries, together with drastic fiscal cuts auguring a sharp reduction in public-sector support for aggregate demand, suggest that policy makers simply kicked the can down the road. They averted a larger collapse in aggregate demand in 2007-9 only by laying the groundwork for a further collapse in 2010 once investors awoke to problems of debt sustainability, forcing fiscal retrenchment by now dangerously indebted governments. They socialized bad debts of the financial and nonfinancial sectors by taking them onto the public-balance sheet, transforming a problem of private debt sustainability into a problem of public debt sustainability but without resolving the underlying issues.

It is easy to be critical but hard, even with benefit of hindsight, to say what exactly should have been done differently. A first hypothesis is that governments should have been more aware of potential problems of debt sustainability and shown more restraint in applying fiscal stimulus. As a blanket statement this hypothesis is hard to accept. In the United States, there are no signs that the $787 billion stimulus was too large. It replaced at most a third of the private spending vaporized in the crisis. It was not enough to prevent unemployment rates from rising into the double digits. It showed no sign of raising immediate concerns about the sustainability of the public debt. There was no upward pressure on treasury yields: as the beginning of May

2010, ten-year yields were 3.14, down slightly from 3.17 a year before. There were no downgrades on U.S. sovereign debt from the rating agencies.[19] A number of other countries (China, Germany) were similarly in a position to provide considerable fiscal support for spending because they entered the crisis with their powder dry (with relatively low levels of debt).

A second hypothesis is that the fiscal response should have been more discriminating. Countries that entered the crisis with heavy debt loads should have been more cautious before undertaking additional deficit spending. They should have recognized that they were apt to run up against problems of debt sustainability relatively quickly, because their inherited debts were heavy and also because the denominator of the debt/GDP ratio was now likely to grow more slowly due to the permanent damage done to their economies and financial systems. But in the heat of the battle everyone laid on massive fiscal stimulus, regardless of whether or not they were really in a position to do so.

Of course, to avoid weakening global growth, less deficit spending by heavily indebted countries should have been offset by more deficit spending by other countries in a better position to undertake it. The call for coordinated fiscal stimulus was taken up by the G20, whose communiqués regularly emphasized the case. But the size of national stimulus packages was, in the end, left to national authorities. Those communiqués said nothing about the desirability of countries with debt-sustainability issues doing less while their more lightly-indebted counterparts did more. And even had the national leaders assembled by the G20 acknowledged this point, one can question whether where they led, legislatures would have followed. Would the U.S. Congress have supported an even larger stimulus on the ground that the U.S. needed to do more because heavily indebted countries in Europe needed to do less? That domestic politics can be an obstacle to international policy coordination is a well-established point.[20] It would have been a significant obstacle in this context.

A third critique is that the fiscal authorities should have done more to detail their exit strategies. Explaining and, even better, credibly committing to timely exits would have encouraged private spending and reduced the magnitude of the demand shortfall that the fiscal authorities had to fill. Less deficit spending in the future would have meant lower interest rates

[19] Yet.

[20] See inter alia Frankel (1988).

in the future, which, operating through the term structure, would have meant lower interest rates now, encouraging private spending. To be sure, insofar as interest rates were already near zero, this mechanism would have helped less than otherwise. But one can still imagine that credible plans for eliminating exceptional deficits would have bolstered private confidence and spending, permitting the fiscal authorities to do less.

A fourth critique is that governments did too little to restructure and recapitalize their banking systems, allowing sovereign and private debt problems to jeopardize the stability of financial systems. In Germany, banks' ratio of capital to assets remained just 5 per cent circa 2010, in contrast to 12 per cent in the United States. In Spain, the authorities were reluctant to openly acknowledge the need to shrink the number of *cajas* (regional savings banks) until fully two years into the crisis. In Ireland, panicked authorities extended a blanket guarantee on not just bank deposits but on all bank debt, effectively taking obligations to bank bondholders onto the public balance sheet. This created renewed difficulties when the guarantees approached their expiration date in 2010.[21] If we know one thing about banking crises, it is that the longer their resolution is put off, the more costly it becomes.[22] In all these cases, we see how delay in resolving banking problems and questions about fiscal sustainability fed on one another in a vicious spiral.

More generally, it can be argued that the mistake was not to move more quickly to write down bad debts. In some countries (Portugal, the U.S., Spain) the problem of debt overhang was associated not so much with public as private debts. Nonviable real estate loans and their corporate equivalents should have been restructured more quickly, the argument goes. This would have reduced both uncertainty and the depressing effects of debt deflation. The problem was that mass restructuring was easier said than done. The bankruptcy courts would have been swamped. Where loans were securities, restructuring was more complex, and often the loan servicer had little incentive to facilitate the process. Restructuring bad loans would have forced banks to realize additional losses, which would have required additional expensive recapitalization. Voting publics objected to proposals for selective relief, which would have

[21] Only subordinated debt remained unguaranteed. The authorities might have opted for less expensive measures, such as guarantees for new lending or the early injection of preference or ordinary shares; in the event this was not done. See Honohan (2009) for discussion.

[22] See Laeven and Valencia (2008).

written down the mortgages of homeowners under water but not benefitted their neighbors who had bought smaller houses and taken out smaller loans, while schemes for across-the-board relief would have been prohibitively costly. All this encouraged forbearance rather than the recognition of losses. A social planner might have done things differently, but that was not the political reality.

A final critique is that countries should have relied more on monetary easing and less on fiscal easing. Had central banks done more to support aggregate demand, especially in Europe, it would have been possible for governments to do less. Where the monetary authorities pulled out all the stops, as in the U.S. and UK, pursuing unconventional policies and engaging in quantitative easing, it is hard to imagine how they could have done more. But the ECB was reluctant to push interest rates to near zero (a precondition for turning to quantitative easing), arguing that it needed to keep interest rates in positive territory so that it had room to reduce them if conditions deteriorated still further. It was reluctant to engage in direct purchases of government bonds, given that this would entail, more likely than not, purchasing the bonds of the most heavily indebted governments with the least liquid markets, exposing the central bank to accusations of favoritism and cultivating moral hazard.[23] More than anything, it was reluctant to initiate and defend a policy that could be seen as printing money and thereby exciting German fears of inflation.

Given subsequent problems, and the fact that the ECB was forced to turn to direct government bond purchases anyway, it is hard to argue with the conclusion that it would have been better for Europe, already in 2009, to rely less on fiscal stimulus and more on aggressive monetary stimulus. It is not as if Europe's problems of fiscal sustainability were unrecognized at that date.[24] If the result would have been a weaker euro already in 2009 (that being the standard result of a mix of tighter fiscal and looser monetary policies), this would have been part of the solution to the lingering crisis.

Similar points can be made about the United States and the Federal Reserve. If not in 2009, then in 2010 the Federal Reserve Board came under pressure from regional reserve bank presidents sitting on the Federal Open Market Committee to raise interest rates, or at least to refrain from further quantitative easing. In the absence of more aggressive balance-sheet

[23] Bini-Smaghi (2009) articulates these fears.

[24] Buiter (2009) is a prescient warning that makes the connection with the case for quantitative easing.

expansion by the Fed, the Obama Administration felt compelled in the summer of 2010 to propose $60 billion of extensions of the 2009 stimulus bill to limit the danger of the economy slipping back into recession. These extenders did not reassure those concerned with the country's medium-term fiscal outlook. Even if there was no sign as yet of Europe-style sovereign debt crisis, there is an argument that it would have been better for the country to rely on monetary expansion and less on fiscal expansion.

6. Some Conclusions

As in the case of the Asian crisis of 1997-8, we will be debating the causes and consequences of the 2007-10 advanced-country financial crisis for years. Evaluations will continue to evolve along with events, no doubt, but it is not too early to begin drawing some provisional conclusions.

First, while this crisis, like all crises, had multiple causes, at its center were problems of lax supervision and regulation. It is appropriate therefore that post-crisis efforts, both in the United States and at the level of the G20, should focus on regulatory reform. Unfortunately, accomplishments here are less than meet the eye. In the U.S., nothing has been done to downsize big banks.[25] The role of the credit rating agencies in regulatory decision making has not been eliminated. It will still be possible for the banks to trade bespoke credit default swaps over the counter. Other than abolishing the Office of Thrift Supervision, nothing has been done to consolidate the fragmented process of supervisory oversight. Macro-prudential supervision will be by committee, which sounds suspiciously like no macro-prudential supervision at all. The new financial consumer protection agency is in limbo: in the Fed but not of the Fed.[26]

At the level of the G20, there is still no agreement on what should be the priority: a bank tax, an executive compensation tax, new restrictions on hedge funds and private equity funds, or a ban on short selling. While there has been much discussion of further reforms of the Basel II framework, there has been no progress in implementation. The crisis in Europe hardly creates

[25] The recently passed Dodd-Frank bill contains a provision limiting individual banks' assets to 10 per cent of total financial assets, but this is unlikely to affect even the largest financial institutions (except possibly Bank of America).

[26] It has been placed in the Fed mainly in order to avoid any direct budgetary implications of its operation. Moreover, a committee of bank regulators will have the power to veto any decision taken by the new agency as damaging to the banks.

confidence that there will be early progress; the weak condition of their banks has caused Germany and France to suggest waiting as long as ten years before fully putting the new rules into effect.[27] Efforts at constructing a proper resolution regime for systemically significant financial firms at the global level have barely begun. This may be too negative an assessment at progress in strengthening supervision and regulation. But it is hard to contain one's disappointment that more was not done in the wake of the most serious global financial crisis in 80 years.

Second, the crisis is a reminder of the value of keeping one's fiscal powder dry. Too many of the advanced countries entered the crisis with large budget deficits and elevated debts. An unprecedented crisis may have justified an unprecedented fiscal response, but against a backdrop of fiscal profligacy it also created unprecedented problems of debt sustainability. Emerging markets learned from the crises of the 1990s the importance of running budget surpluses and keeping fiscal capacity in reserve. One can only hope that the advanced countries, including the United States, draw the same lesson from recent events.

Third, the crisis reminds us that mechanisms for international policy coordination remain inadequate. It would have been better in 2008-9 if countries with unused fiscal capacity had done more to support global demand, enabling those will less unused capacity to do less.[28] More recently, at the June 2010 G20 meeting in Busan, U.S. Treasury Secretary Geithner urged Germany, China and other countries with unused fiscal capacity not to cut policies of fiscal support willy-nilly, enabling other, mainly European, countries with pressing budgetary problems to get on with the task of fiscal consolidation and preventing the reemergence of global imbalances.[29] Once again, the sentiment was admirable, but the response was non-existent.

Fourth, the response to the crisis is a reminder of the importance of coordinating monetary and fiscal policies. In this instance, the coordination deficit is especially glaring in Europe. First the reluctance of the European Central Bank to engage in quantitative easing pushed governments into doing more – often more than they were capable of doing safely. Then

[27] At their June summit in Toronto, G20 leaders agreed to a goal of phasing in the new capital requirements over five years, but if history is any guide there will be further slippage between goals and achievements.

[28] Recall that mainstream models suggest positive cross-border spillovers from fiscal stimulus, making possible this kind of hypothetical adjustment.

[29] See Geithner (2010).

the inability of governments to agree on a concerted response to the second phase of the crisis in 2010 forced the ECB to abruptly reverse its position on direct bond purchases, something that did nothing to enhance the credibility of the policy makers concerned.

But to imagine different policies is to ignore the deep-seated historical factors that shaped the policies actually adopted. The Fed's aggressive quantitative easing reflected memories of the 1930s and the influence of Friedman and Schwartz's interpretation of the Fed's culpability in that episode.[30] Recall then-Governor Bernanke's speech on the occasion of Friedman's 90th birthday: "You're right, Milton. We did it. We're very sorry. But thanks to you, we won't do it again."[31] The ECB's reluctance to pursue comparable policies similarly reflected memories in Europe, and in Germany specifically, of the hyperinflation of the 1920s.[32] History casts a long shadow, whether for better or worse.

References

Baldwin, Richard and Dalia Taglioni (2009), "The Great Trade Collapse and Global Imbalances," *VoxEU* (27 November).

Bartolini, Leonardo and Amartya Lahiri (2006), "Twin Deficits, Twenty Years Later," *Current Issues in Economics and Finance* 12, New York: Federal Reserve Bank of New York (October).

Bernanke, Ben (2002), "Remarks by Governor Ben S. Bernanke on the Occasion of Milton Friedman's Ninetieth Birthday" (8 November), www.federalreserve.gov.

Bernanke, Ben (2010), "Monetary Policy and the Housing Bubble," Speech at the Annual Meeting of the American Economic Association, Atlanta (3 January), www.federalreserve.gov.

Bini-Smaghi, Lorenzo (2009), "Conventional and Unconventional Monetary Policy," Speech to the International Center for Monetary and Banking Studies, Geneva (28 April), www.ecb.int.

Buiter, Willem (2009), "Fiscal Dimensions of Central Banking: Part II," *VoxEU* (24 March).

[30] Friedman and Schwartz (1965).

[31] Bernanke (2002).

[32] So my reading of Trichet (2007) suggests.

Chinn, Menzie, Barry Eichengreen and Hiro Ito (2010), "Global Rebalancing and Economic Growth," unpublished manuscript, University of Wisconsin, Madison; University of California, Berkeley; and Portland State University (July).

Craine, Roger and Vance Martin (2009), "Interest Rate Conundrum," *B.E. Journal of Macroeconomics* 9, pp.1-27.

Eaton, Jonathan, Samuel Kortum, Brent Neiman and John Romalis (2010), "Trade and the Global Recession," unpublished manuscript, Booth School of Business, University of Chicago.

Federal Reserve Board (2008), "Staff Analysis of the Relationship between the CRA and the Subprime Crisis," unpublished manuscript, Board of Governors of the Federal Reserve System (21 November).

Frankel, Jeffrey (1988), "Obstacles to International Economic Policy Coordination," Princeton Studies in International Finance, International Finance Section, Department of Economics, Princeton University.

Geithner, Timothy (2010), "Letter to G20 Finance Ministers" (4 June), http://www.forexyard.com/en/news/TEXT-Geithner-letter-to-G20-finance-ministers-2010-06-05T035051Z.

Greenspan, Alan (2010), "The Crisis," *Brookings Papers on Economic Activity* (forthcoming).

Honohan, Patrick (2009), "Resolving Ireland's Economic and Banking Crisis," *Economic and Social Review* 40, pp.207-231.

International Monetary Fund (2009), "Global Economic Policies and Prospects – Note Prepared by the Staff of the International Monetary Fund, " www.imf.org (March).

International Monetary Fund (2009), "Economic Impact of the Crisis on the Poorest Economies," Washington, D.C.: IMF (March).

Johnson, Simon and James Kwak (2010), *13 Bankers*, New York: Pantheon.

Kee, Hiau, Cristina Nicita and Alessandro Nicita (2010), "Did Protectionist Policy Cause the Trade Collapse?" VoxEU (1 June).

Laeven, Luc and F. Valencia (2009), "Systemic Banking Crises: A New Data Base," Working Paper 08/244, Washington, D.C.: IMF.

Lane, Philip and Gian-Maria Milessi-Ferretti (2007), "The External Wealth of Nations, Mark II," unpublished manuscript, Trinity College Dublin and International Monetary Fund.

Markopolos, Harry (2010), *No One Would Listen: A True Financial Thriller*, New York: Wiley.

Obstfeld, Maurice and Kenneth Rogoff (2009), "Global Imbalances and the Financial Crisis: Products of Common Causes," paper presented to the Federal Reserve Bank of San Francisco Economic Policy Conference, Santa Barbara (18-20 October).

Prasad, Eswar (2009), "Assessing the G20 Stimulus Plans: A Deeper Look," unpublished manuscript, Brookings Institution (March).

Rajan, Raghuram (2010), *Fault Lines: How Hidden Fractures Still Threaten the World Economy*, Princeton: Princeton University Press.

Taylor, John (2007), "Housing and Monetary Policy," Remarks prepared for presentation to the policy panel at the Symposium on Housing, Housing Finance and Monetary Policy organized by the Federal Reserve Bank of Kansas City, Jackson Hole, Wyoming (August).

Trichet, Jean Claude (2007), "Short Address at the Gala Dinner for the 50th Anniversary of the Bundesbank" (20 September), www.ecb.int.

Warnock, Frank and Virginia Warnock (2009), "International Capital Flows and U.S. Interest Rates," *Journal of International Money and Finance* 28, pp.903-919.

Wessel, David (2009), *In Fed We Trust*, New York: Pantheon.

Whelan, Karl (2010, "Global Imbalances and the Financial Crisis," Policy Note, Directorate General for Internal Policies: Economic and Monetary Affairs, European Parliament (April).

Table 1. G20 Stimulus Plans

	Initial Conditions		Spending in 2009			Total Size of Stimulus		
	Gross Public Debt (Percent 2008 GDP)	Fiscal Balance (percent 2008 GDP)	USD Amount (bb)	Percent 2008 GDP	Tax Cut Share (percent)	USD Amount (bb)	Percent 2008 GDP	Tax Cut Share (percent)
Argentina	51.0	1.7	4.4	1.3	0.0	4.4	1.3	0.0
Australia	15.4	0.3	8.5	0.8	47.9	19.3	1.8	41.2
Brazil	40.7	NA	5.1	0.3	100.0	8.6	0.5	100.0
Canada	62.3	0.1	23.2	1.5	40.4	43.6	2.8	45.4
China	15.7	0.4	90.1	2.1	0.0	204.3	4.8	0.0
France	64.4	-2.9	20.5	0.7	6.5	20.5	0.7	6.5
Germany	62.6	0.9	55.8	1.5	68.0	130.4	3.4	68.0
India	59.0	-4.2	6.5	0.5	0.0	6.5	0.5	0.0
Indonesia	30.1	-1.3	6.7	1.3	79.0	12.5	2.5	79.0
Italy	103.7	-2.7	4.7	0.2	0.0	7.0	0.3	0.0
Japan	170.4	-3.1	66.1	1.4	30.0	104.4	2.2	30.0
Korea	27.2	0.9	13.7	1.4	17.0	26.1	2.7	17.0
Mexico	20.3	0.0	11.4	1.0	0.0	11.4	1.0	0.0
Russia	6.8	6.2	30.0	1.7	100.0	30.0	1.7	100.0
Saudi Arabia	17.7	11.2	17.6	3.3	0.0	49.6	9.4	0.0
South Africa	29.9	0.2	4.0	1.3	0.0	7.9	2.6	0.0
Spain	38.5	-2.4	18.2	1.1	36.7	75.3	4.5	36.7
Turkey	37.1	-1.5	0.0	0.0	NA	0.0	0.0	NA
UK	47.2	-4.8	37.9	1.4	73.0	40.8	1.5	73.0
US	60.8	-3.2	268.0	1.9	44.0	841.2	5.9	34.8

Source: Prasad (2009)

Table 2. G20 Countries: Discretionary Measures, 2008-10[1]

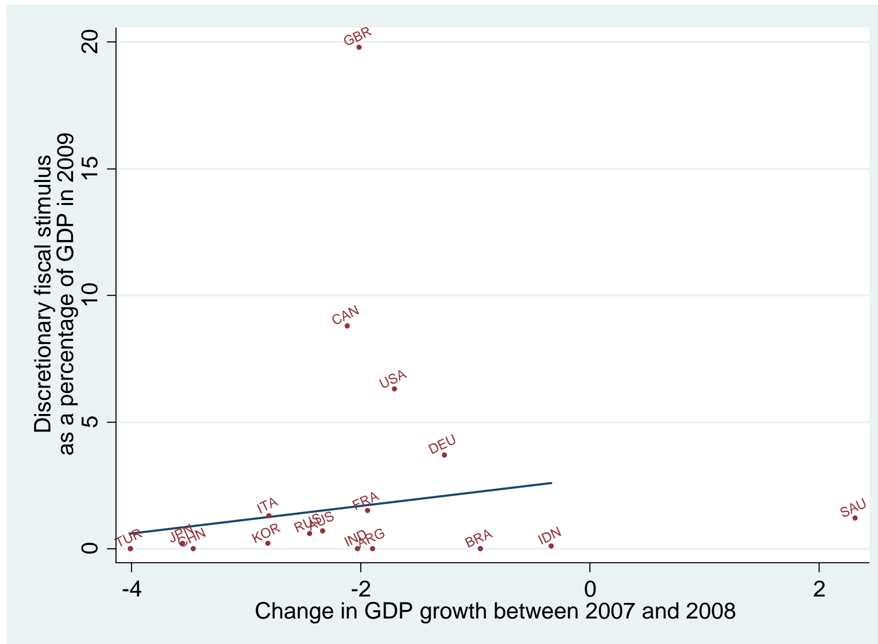
	2008	2009	2010
G20 PPP-GDP weighted average	0.5	1.8	1.3
Advanced countries	0.6	1.6	1.2
of which			
US	1.1	2.0	1.8
EU G20	0.1	1.0	0.8
Japan	0.4	1.4	0.4
Emerging and Developing G20	0.4	2.0	1.4
of which			
China	0.4	3.2	2.7
G20 discretionary impulse[2]	0.5	1.2	-0.5

[1]Figures reflect the budgetary cost of crisis-related discretionary measures in each year compared to 2007 (baseline), based on measures announced through early March. They do not include (i) “below-the-line” operations that involve acquisition off assets (including financial sector support, (ii) measures that were already planned for, spring 2010 adjustments in Europe to previous plans.

[2]Change from the previous year.

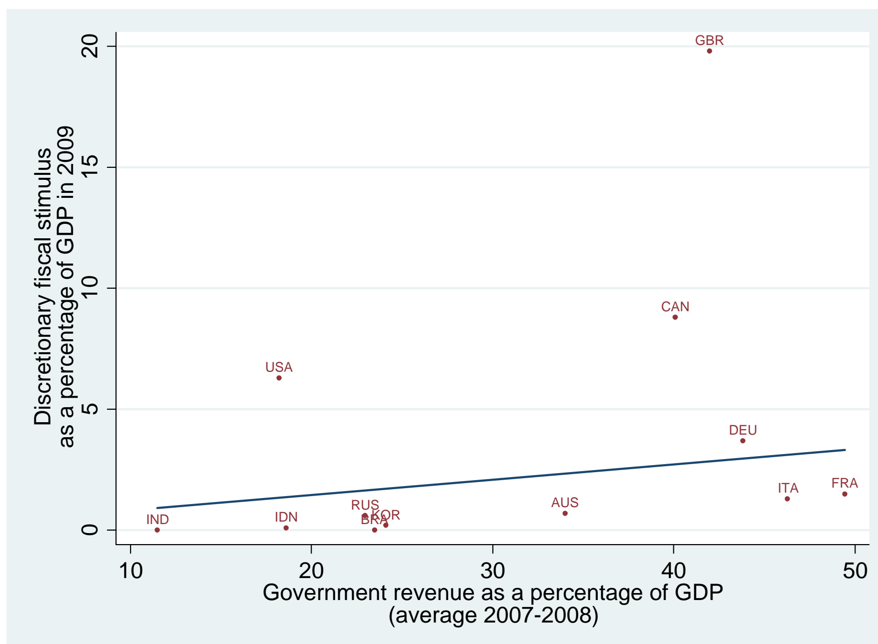
Source: IMF (2009).

Figure 1. Growth and Subsequent Discretional Fiscal Spending



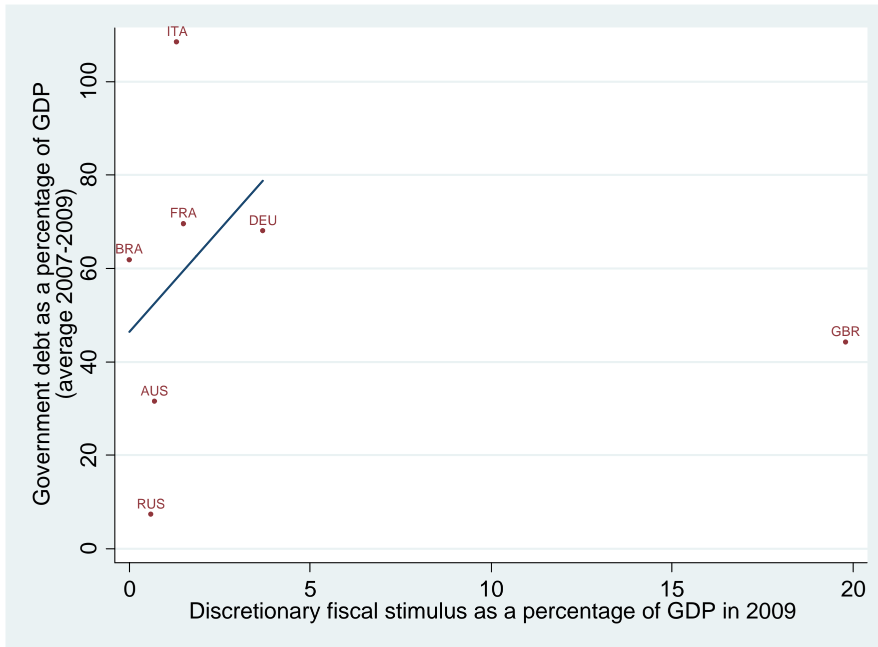
Note: All G20 countries for which data are available. The UK as an outlier is excluded when the least squares regression line is calculated.

Figure 2. Size of Government and Discretionary Fiscal spending



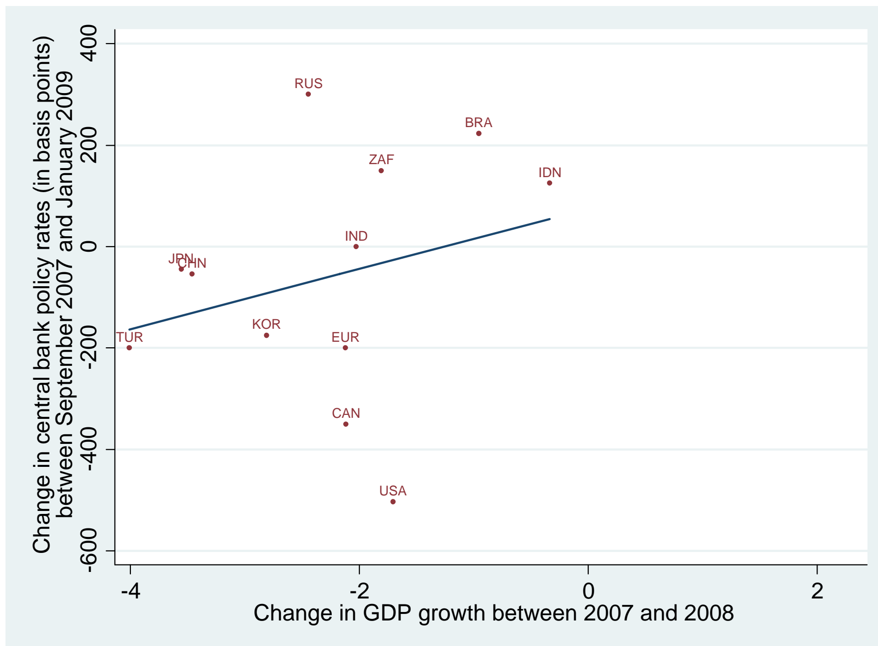
Note: All G20 countries for which data are available. UK as outlier is excluded when least squares regression line is calculated.

Figure 3. Discretionary Fiscal Stimulus and Public Debt



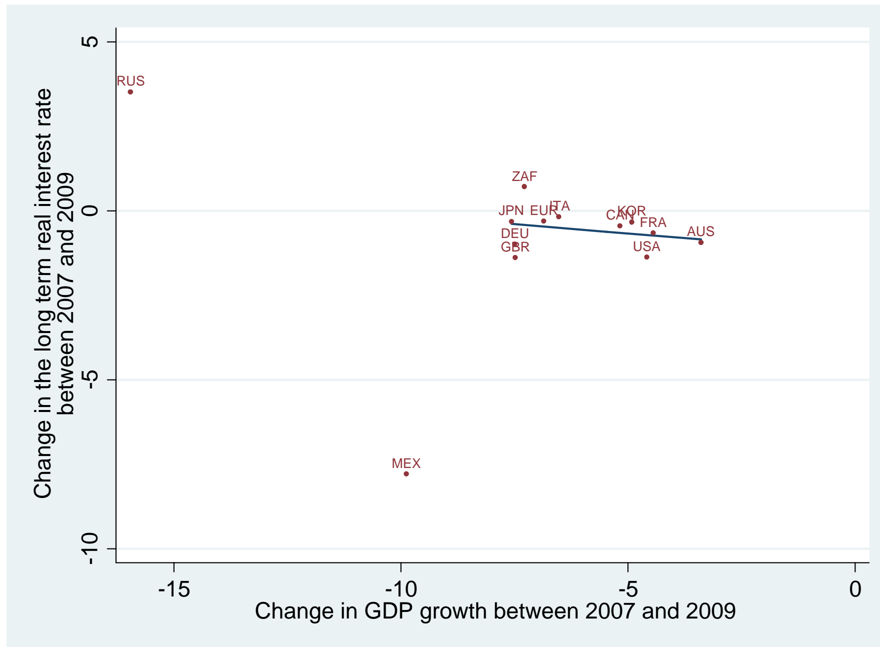
Note: All G20 countries for which data are available. UK as outlier is excluded when least squares regression line is calculated. Government data for Australia, Brazil and South Africa are 2007-8 averages.

Figure 4. Growth and Subsequent Monetary Policy Response



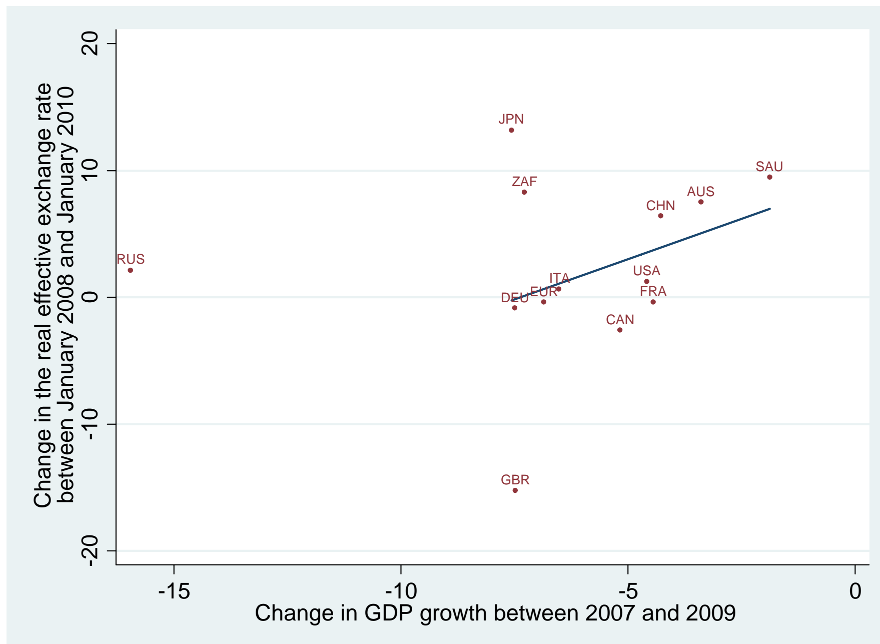
Note: All G20 countries for which data are available. UK as outlier is excluded when least squares regression line is calculated.

Figure 5. Growth and Change in Long-Term Real Interest Rates



Note: all G20 countries for which data are available. Russia and Mexico as outliers are excluded when the least squares regression line is calculated.

Figure 6. Growth and Change in Real Effective Exchange Rate



Note: all G20 countries for which data are available. Russia as an outlier is excluded when the least squares regression line is calculated.