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The Central Banker's Case for Doing More

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In this policy brief I present my view on the role of monetary policy in our recovery and whether the major central banks in the United Kingdom and beyond should be doing more in the coming months. Of course, every central bank's policy-setting committee has to make its own assessment of the right policy measures for its economy, based on its own forecast and the mandate legally set for it. Thus, I am not presuming to offer a "one size fits all" prescription for central bankers beyond the United Kingdom. I would like, however, to try to give some general assessment of the common challenges we face, and what I believe to be the appropriate monetary policy response, barring special circumstances. Not that there will be any doubt about it, but for the record, these are solely my own personal views.

The case I wish to make is that monetary policy should continue to be aggressive about promoting recovery, and I think further easing should be undertaken. To some, that will sound obvious or even overdue. To others, that will sound moot, given the measures already taken and the assumption that there will be diminishing effectiveness of further central bank actions. To still others, this is a call for actions that would endanger price stability, central bank independence, or fiscal discipline.[1] So this is an open debate, at least for those with open minds. I believe that policymakers face a clear and sustained uphill battle, in which monetary ease has an ongoing role to play, even if it may not deliver the desired sustained recovery on its own. In every major economy, actual output has fallen so much versus where trend growth would have put us, and trend growth has not been above potential for long enough as yet, that there remains a significant gap between what the economy could be producing at full employment and it currently produces. Thus, policymakers should not settle for weak growth out of misplaced fear of inflation. If price stability is at risk over the medium term, meaning over the two- to three-year time horizon for central banks' decision-making, it is on the downside.

There are, however, some very serious risks if we make policy errors by tightening prematurely or even by loosening insufficiently. These risks are not primarily the potential for a double-dip recession or even of temporary measured deflation. While bad, these situations would still be within the range of short-term cyclical developments and could be weighed against

1. Examples of the first camp would include Gagnon (2009) and Krugman (2010a), of the second camp Oda and Ueda (2005) and Shiratsuka (2009), and of the third camp, most of the contributors to Wall Street Journal (2010).

simple inflationary pressures from monetary policy trying to stimulate too much. The risks that I believe we face now are the far more serious ones of sustained low growth turning into a self-fulfilling prophecy and/or inducing a political reaction that could undermine our long-run stability and prosperity.[2] Inaction by central banks could ratify decisions both by businesses to lastingly shrink the economy's productive capacity and by investors to avoid risk and prefer cash. These tendencies are already present, and insufficient monetary response is likely to worsen them. The combination of those risks with the potential attainable gains motivates my call for additional monetary policy stimulus.[3]

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This view is based on my reading of historical comparisons and cross-national evidence (including but extending far beyond my own research). Such an assessment does not hinge on a specific interpretation of any particular recent data, let alone of new information suggesting an imminent double dip in the United Kingdom or elsewhere. My assessment instead rests upon the path of post-crisis developments having been broadly consistent with these past patterns as seen in Japan in the 1990s and in the United States and Europe in the 1930s: Economic recovery following a financial crisis is a long process dominated by the interaction of unemployed resources, dysfunctional banking systems, and the degree of policy stimulus. We are a long way from home, and a long, long way from overheating.

The absence of any recent data inconsistent with this pattern in the United Kingdom or elsewhere in the West seems to me pretty conclusive. If there was going to be a recovery that either was inflationary through overheating or otherwise meaningfully different from that established pattern, it should have been evident by now. Instead, we have seen global interest rates on long government bonds, determined by forward-looking markets, at historic lows. Absent evidence of a truly different recovery, the analysis of mainstream macroeconomics should apply, as it did in Japan in the 1990s and in the United States and Europe in the 1930s. That proven analysis tells us that, under the present circumstances, sustained high inflation is not a threat, that persistent high unemployment and output gaps are the threat, and we should take further monetary action to sustain and promote recovery. As in the usual post-crisis difficult recovery scenario, there will be a long period of ups and downs, also seen in Japan's Great Recession and during the Great Depression—these short-term fluctuations are not what I think central banks should focus on. The case for doing more is about activism for sustaining a period of recovery from a low point, thereby preventing us from getting stuck in a long-term trap. The challenge for monetary policy today is not about fine-tuning developments in prices and output.

WHY CENTRAL BANKS SHOULD DO MORE

When I parachuted into the debate over Japan's Great Recession some years ago (Posen 1998), my working assumption was that the problem was amenable to good old fashioned—some would say Keynesian—macroeconomics. The field of policy-relevant macroeconomics had emerged out of the Great Depression, which bore some profound similarities to the situation in Japan then. This view has since been borne out by subsequent research.[4] The source of interest was and is whether Japan's situation could happen to any economy, given the right set of shocks and the wrong set of policy decisions. I argued that it could, and now we are all trying to avoid that outcome for our own economies. A key implication of this analysis is that there was no single decisive event that locked Japan into its fate. Neither the bubble bursting nor the mounting debt on household or corporate balance sheets nor even the initial slow reactions of Japanese fiscal and monetary policy to the crisis made years of stagnation inevitable. The picture was instead of nascent recoveries being aborted first by macroeconomic policy mistakes, and then by the weight of financial problems accumulated over that slow and volatile growth path.

People familiar with the history of the real Great Depression in the United States and Europe will recognize the parallels. The Great Depression was not simply set in motion on one day, even if there were dramatic triggering panics in 1929. Various asset price crashes in the 1920s and 1930s, bank runs and financial fragility, fitful recoveries, sequences of policy mistakes regarding late exits from the gold standard and budgetary austerity, and ruinous global trade and exchange rate conflicts (thankfully absent in Japan in the 1990s and so far today) all cumulated into a prolonged terrible period.

2. On this potential for political backlash, see Alderman (2010), Dao and Loungani (2010), O'Rourke (2010), and Posen (2005).

3. Where consistent with local conditions and central bank mandates.

4. See Posen (2010a) and the references therein.

The Great Depression was not caused by a single shock or policy mistake, and it was not over quickly. Some extremely useful recent cross-national research has established that in broad terms the same pattern of persistently slow and choppy recovery following financial crises holds for a wide range of economies in the postwar period as well.[5]

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What drove many of the economic policy mistakes in Japan, particularly on the monetary side, was repeated underestimation of Japan's potential rate of economic growth.[6] Similar mistakes played a contributing role in the harmful actions of the major central banks in the 1930s (Ahamed 2009). For monetary policymakers, the estimate of the potential of the economy to grow on average without inflation matters, because when an economy's growth rate exceeds potential—aggregate demand is too high—and the economy is already running close to capacity, inflation is the result, as seen in the 1970s.[7] When a central bank underestimates how fast an economy can run without causing inflation, however, or how far away an economy is from full employment, it can cause slow growth and even recession or deflation. There is no getting away for central banks from having to make this assessment of something directly unobservable, and there is no virtue to getting it wrong in either direction.

This medium-term Phillips Curve relationship between output and inflation is supported by a robust set of results renewed in the empirical literature at intervals.[8] Thus, it is no surprise that in the aftermath of a financial crisis, the general tendency is for sustained downward pressure on inflation.[9] Outright deflation emerges only rarely, largely because of the resistance to nominal wage declines by both workers and businesses (which means the unemployment rate is higher in times of low inflation or deflation than the usual Phillips Curve trade-off would imply).[10] Krugman's (1998) justly famous liquidity trap model shows the possibility of similar perverse effects in financial markets when low or negative inflation expectations become entrenched, but the nominal interest rate cannot be cut below zero. These perversities of low inflation or deflationary environments exacerbate the real economic harm of the situation—they do not counteract the downward pressure on prices simply because instead of immediately experiencing measured deflation the economy sees real dislocations.

Even in normal times, central banks cannot simply read-off from a precrisis Phillips Curve, or from the level of observed output, employment, and inflation, directives on what policy to pursue, let alone what outcome to choose (the mistake of the early 1970s). After a financial crisis, with inflation low and deflation looming, it is even less direct. Kuttner and I (2004) document the unreliability of output gap estimates, and thus of strict guidance from Taylor rules for monetary policy, in Japan in the 1990s due to the low inflation environment. These should be taken as cautions against fine-tuning by monetary policymakers, however, and though important, still support the big picture of basic macroeconomics applying in the current situation: Times of low demand and idled factors of production lead to downward pressure on prices. This is how I would characterize the reality that Krugman (2010b) channeling Tolkien has called "One Model to Rule Them All."

5. Notably, Abiad et al. (2009), Claessens et al. (2009), Meier (2010), and Reinhart and Reinhart (2010) are very relevant and persuasive contributions to this literature of cross-national post-crisis studies.

6. See Posen (1998, 2001, 2010b). The original working title of my first book on Japan was "How Much is Enough for Japan?" to highlight the key role of this repeated underestimation of potential growth in the policy mistakes that kept Japan from recovering.

7. There are other factors affecting inflation besides the gap between aggregate supply and demand. In the short-term of less than a year, price shocks like exchange rate movements or oil price increases affect inflation outcomes. In the long-term of more than a few years, the credibility of the central bank's commitment to price stability and of the government to fiscal discipline matter. But the gap between supply and demand is the primary determinant of inflation over the time-horizon that monetary policy decisions influence, i.e., two to three years ahead.

8. Among others, see Ball and Moffitt (2001), Fuhrer and Olivei (2010), and the large body of Robert J. Gordon's work on this topic.

9. Variations on estimated Phillips Curve relationships between output or unemployment and inflation continue to apply in these situations. Meier (2010) finds a consistent pattern of downwards pressure on inflation in his sample of post crisis economies; Liu and Rudebusch (2010) and Stock and Watson (2009, 2010) demonstrate this for the United States through the current period using sophisticated methods; Posen (2010b) shows that even relatively simple Phillips Curves fit the inflation data for the largest economies in the current crisis—except for the United Kingdom, but that result is distorted by one-time transient shocks, as I discuss below (see also Dale (2010b) and Fisher (2010) regarding the UK inflation experience of late).

10. These kind of effects of low inflation on labor markets are formally modeled in Akerlof, Dickens, and Perry (2000); Kimura and Ueda (2001) and Kuroda and Yamamoto (2003) show how these effects came into play in Japan during the 1990s. As noted by Smets (2010), discussing Stock and Watson (2010), nominal wage rigidities can be seen playing a role in the current crisis as well.

None of these results support the idea that ongoing rises in inflation could emerge from such a situation as we now find ourselves in.[11] As I discuss below, the current overshooting of the United Kingdom's inflation target is not going to be sustained for long, largely because this downward pressure is kicking in, and that outweighs the lingering impact of forecast errors we at the Bank made previously.

The case for doing more is about activism for sustaining a period of recovery from a low point, thereby preventing us from getting stuck in a long-term trap.

How big a mistake could central banks make in underestimating potential growth? Consider figures 1 and 2, which show various computations of trend growth rates for Japan and the United Kingdom, respectively. In Japan, official estimates of potential growth were as low as 0.5 percent real year-over-year during the 1990s (Posen 1998, 2001), and partly as a result, the Bank of Japan hesitated to aggressively ease policy and then hesitated to undertake unconventional stimulus. Yet Japanese output growth in the 1990s, excluding the end of the boom, averaged more than twice that rate a year, coincident with outright deflation. When the Japanese economy recovered from end of 2002 to mid-2008, it averaged more than 2 percent real annual growth, and prices took almost the entire period of that recovery to begin to rise. Whatever damage to potential output was done by the crisis, and whatever lasting loss of productive capacity Japan suffered, was not enough to offset the downward pressures of underutilized resources. Clearly, the inflation threat of overheating was much exaggerated, and as a result the Japanese people suffered a lost decade of employment and growth.

What about in the United Kingdom today? As shown in figure 2, the difference between UK GDP growth rates during the boom of the 2000s and on average in the more normal 1990s is meaningful but much smaller than was in Japan before and after the bubble, i.e., less than half a percent annually. That relatively small difference suggests that the extent to which the United Kingdom was growing above potential if any prior to the crisis was small, since a small improvement in potential is more credible than a big jump. Saying that the United Kingdom was close to potential in the 2000s is of course consistent with the stable low inflation outcomes enjoyed until 2008. By including the awful experience of the crisis, we could drive down the average of real GDP growth rate since 2000 by a full percentage point a year, to 1.65 percent. If one were to mistakenly do so, that would require one to take the growth rate of the last two years, from the 2008Q3 to latest available data, as representing a fundamental shift in the United Kingdom's potential, and/or to assume that the crisis somehow directly destroyed a lot of UK productive capacity (instead of leaving it idle and over time decaying). If that were plausible, then one could become concerned about recent good quarterly outcomes causing inflation going forward.

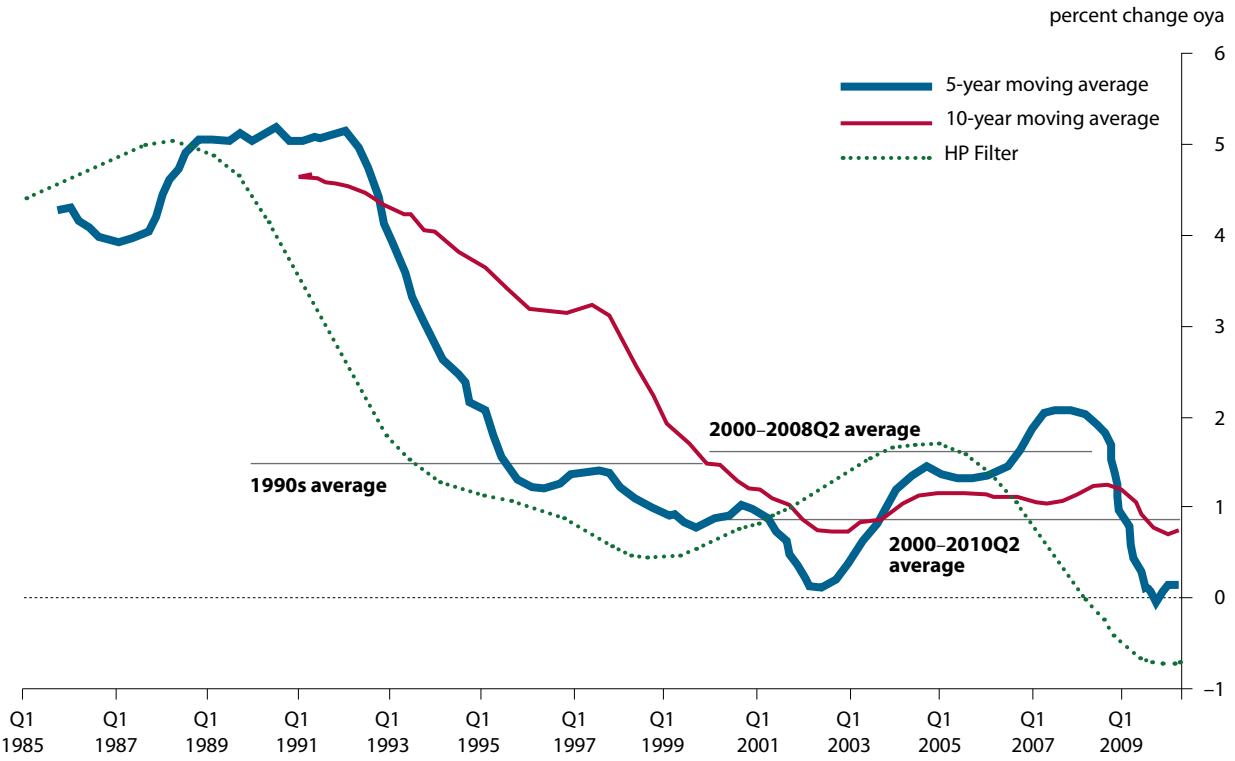
But there is no good reason to make that assumption, at least not to the degree that would lead one to believe we are already close to full capacity or growing well above sustainable trend. Mistaking the immediate impact of a financial crisis for a fundamental decline is precisely the error that was made by monetary policymakers in Japan in the 1990s, and elsewhere in the 1930s, and could be devastating here today. This is my take from Bank of England Governor Mervyn King's famous comment that, after the crisis, "It's the levels, stupid," that count primarily for the inflation forecast (Bank of England 2009). Recently, my MPC colleague Spencer Dale (2010b) has re-emphasized that the fact that UK output is now 10 percent lower than it would otherwise have been, absent the crisis, a number far in excess of even the most pessimistic estimates of decline in UK supply capacity.

The crisis has had a negative impact on the supply side of the UK and other economies, and I do not dismiss it. In fact, I am on record forecasting that aggregate supply and trend productivity—that is, the determinants of potential output going forward over a central bank's time horizon—will be noticeably damaged by the crisis, including in the United States (Posen 2009b, 2009c). There is no contradiction between recognizing this reality and also making the assessment that the *immediate* fall in output and employment after the 2008 panic was far larger than the contraction to date in productive capacity. That is the logical outcome because, as I have put it in Posen (2010a) and elsewhere, the workforces of the advanced economies did not wake up one morning and find that their left arms and their places of work both had disappeared overnight.[12] That leaves for now large output gaps of underemployed resources pushing down on inflation.

11. No, I am not denying the current existence of large government debt stocks, nor the historical proclivity for some indebted governments to inflate some of that debt away. Absent political upheaval fundamentally delegitimizing tax collection and public spending decisions, however, those pressures are not relevant to our developed democracies with independent central banks, open capital accounts, and free bond markets.

12. We know that such things can happen, and have happened, through war, and we should recognize that, unlike too many in the world today and too many of our grandparents, we are fortunate not to be experiencing that horror.

Figure 1 Simple measures of potential output: Japan



Note: Hodrick Prescott (HP) Filter smoothing parameter =1600. 1990s average = 1.49 percent, 2000–2008Q2 average = 1.64 percent, 2000–2010Q2 average = 0.86 percent.

Sources: Thompson DataStream and Bank of England calculations.

Yet, the longer that growth remains below potential and that output gaps persist, the more lasting damage is done to our economic potential and to our citizens.[13] That is why I emphasized the word "immediate" when talking about the relatively larger impact of the crisis on aggregate demand than aggregate supply. The classic and all too relevant channel through which lasting damage to productive capabilities occurs is the process whereby people laid off from work during a recession have few options, those unemployed then become long-term unemployed and de facto unemployable over time.[14] In the United States, there is increasing evidence of structural mismatches in the labor market and of a rise in the share of long-term unemployment (and leaving the labor force) among working age adults; in fact, the United States seems to be on a path towards channeling the EU unemployment experience of the 1980s.[15] And while many European economies, most strikingly Germany but also including the United Kingdom, have not seen such large rises in unemployment in response to the initial shock as in the United States, these problems are still emerging (Guichard and Rusticelli 2010). Of course, for Greece, Ireland, Spain, and some others, risks of hysteresis reinforcing already high long-term unemployment are out in full force.

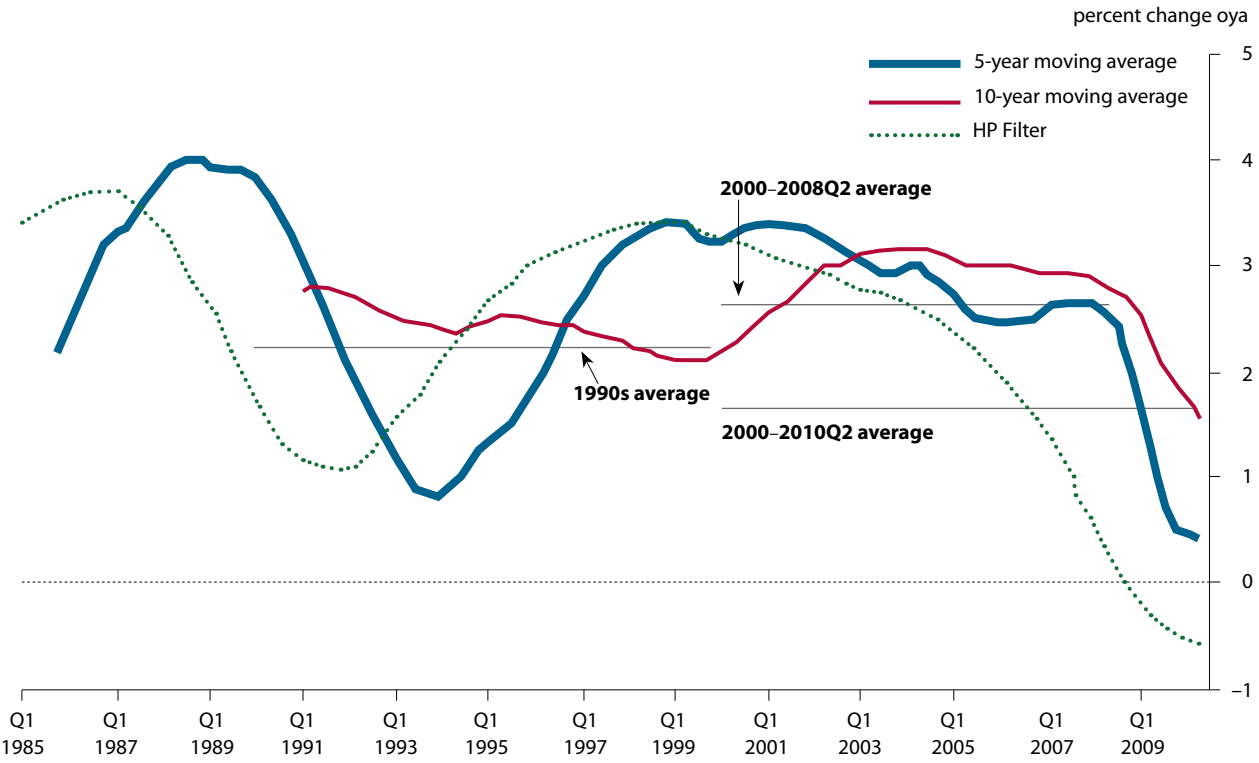
One should make the same kind of arguments regarding other factors of production than labor, meaning business equipment and corporate finance. My MPC colleagues and I have spoken in our last few *Inflation Reports* and meeting minutes about the macroeconomic impact of temporary idling by businesses of, say, one production line in a plant (or one line of service in an consultancy) and of the associated skilled workers (e.g., Bank of England 2010, 26). In a speech earlier

13. Dickens and Madrick (2010) give a review of recent some theory and evidence on this interaction.

14. Economists call this effect on unemployment "hysteresis," following Blanchard and Summers (1986). Ball (2009) and Dao and Loungani (2010) give recent takes on the continuing relevance of this concern.

15. My PIIE colleague Jacob Kirkegaard (2009) was ahead of the curve in identifying this development. Altig (2010) gives a good summary of recent data on mismatch. See also OECD (2010) and BOJ Board Member Miyao's comments (Ujikane 2010). This raises some questions about labor market institutions for future research

Figure 2 Simple measures of potential output: United Kingdom



Note: Hodrick Prescott (HP) Filter smoothing parameter =1600. 1990s average = 2.24 percent, 2000–2008Q2 average = 2.66 percent, 2000–2010Q2 average = 1.65 percent.

Sources: Thompson DataStream and Bank of England calculations.

this year, Deputy Governor Paul Tucker (2010) summarized this negative dynamic:

> "In the months after the Lehman crisis, the cutbacks in lending and in trade credit insurance were so severe that some firms were probably unable to maintain production at previous levels. Working capital is, after all, an intermediate input [to production]. Those constraints have probably reduced over the months. But, given insipid and uncertain demand, not a few firms seem to have temporarily suspended part of their capacity: whether by putting part of their workforce on short hours or closing down a production line. This makes it likely that supply conditions are going to depend heavily on the path of aggregate demand... [if] demand proves anaemic, then suspended capacity is more likely to be permanently scrapped...."

If sufficient demand comes back in time, it is both feasible and profitable for companies to reactivate those machines and workers; if not, it becomes inevitable for those lines to be closed down and those workers to be let go. If the capacity and workers are brought back on line in time, additional aggregate demand will not be as inflationary as it normally would be, because capacity will increase. Once the mothballing becomes permanent, however, then inflation responds more quickly to growth in demand, given the lasting reduction in the economy's productive capacity.

This is more than a plausible theory or collection of anecdotes about short-term feedback loops. Banking systems that are left undercapitalized or otherwise impaired tend to roll over outstanding loans to larger borrowers and to undersupply credit to new firms and smaller enterprises during recessions. The banks' idea is to avoid declaring large losses so present management can retain their jobs. The upshot of persistent recession interacting with such bank incentives to limit lending, however, is also to reduce growth in employment and in productivity. Japan showed clear signs over the course of its lost decade of diminishing corporate competition and innovation due to credit market dysfunction.[16] Economic researchers Aghion et al. (2009) and Ouyong (2010) establish across countries over time that R&D investment at the

16. See Caballero, Hoshi, and Kashyap (2008), Hoshi and Kashyap (2004), Shimizu (2000), Posen (2009a, 2010a), Aghion et al. (2009), and the references therein.

firm level suffers asymmetrically in recessions and periods of financial disruption—and lower investment in innovation has a significant negative impact on long-term growth.

Of course, this adverse outcome for trend growth and productive capacity is only inevitable in the aggregate, because these effects are not the only processes at work following a financially induced recessionary shock. Some individual businesses do increase efficiency during recessions by becoming leaner and meaner. Field (2006, 2009) establishes that the United States actually had significant productivity growth during much of the 1930s. As I argued in Posen (2001), Japan undertook meaningful structural reform of communications, energy, financial, retail, and, to a lesser degree, labor markets during its lost decade, which kept the potential growth rate there from falling on net as well. But we must note that such reforms increased the output gap until growth kicked in, and still left unemployment high and inflation low or absent. In addition, as Eichengreen (2010) points out for the United States in the 1930s, and as I would agree also holds regarding Japan in the 1990s, the productivity improvements seen were the result of a multitude of policy decisions and business choices taking place against the weight of very evident negative pressures of the sort I have discussed. The only inevitable aggregate supply effects of protracted recessions are the negative ones, and more positive productivity developments require sustained effort from businesses and governments.[17] This is another reason why it is right to characterize post-crisis periods as long struggles with ongoing demands on macroeconomic policy.

The policy challenge is about getting out of a self-perpetuating negative outcome that would erode many of our children's future as well.

Central bankers have been leery about drawing links between monetary stimulus and long-term supply for thirty-plus years. We fear repeating the mistakes of the 1970s, when central bankers overestimated potential growth and overheated our economies, causing high inflation. We internalized the insights of Nobel Laureates Milton Friedman and Edmund Phelps on the independence of the natural rate of unemployment from inflation expectations (i.e., the long-run Phillips Curve is vertical). We are wary of making politically dangerous or populist promises with regard to employment, since printing money cannot create jobs in normal circumstances, but the demand for so doing is always there. As a result of these concerns, many central banks have adopted price stability–focused mandates as a bulwark against making policies on the basis of such a link between short-term monetary stimulus and sustainable growth.

I believe, however, that central bankers' fears on this score can be taken to intellectually unjustified extremes, and there is a risk of our doing so now when the damage could be great by so doing. When the overwhelming bulk of pressures in the economy are disinflationary, and when the levels of output and employment are both clearly likely to be below potential for an extended period, it is right for central bankers to take the additional negative effects of protracted recession on trend productivity growth and on capacity into account. That is a far cry from 1960s and 1970s monetary policy efforts to push the economy into growth without regard for the limits on, and in fact the decline then in, potential growth. To the degree that monetary policymakers have a choice about how we maintain price stability, we should always prefer getting inflation back from below target by offsetting insufficient demand rather than by allowing aggregate supply to contract.

HOW CENTRAL BANKS SHOULD DO MORE

That takes care of why we should do more. Now I will turn to how we should do more. As argued in Bean et al. (2010) and Bernanke (2010), uncomfortable though some might be with utilizing the unconventional monetary policy measures undertaken over the last two years, there is no real impediment to undertaking more of them in the present circumstance. Bernanke (2000, 2010), Kuttner (2009), and Nishimura (2009) discuss from a practitioners' perspective some of the various policy options currently available to central banks.

Speaking for myself, I believe that if we were to loosen monetary policy further, it must primarily take the form of large-scale asset purchases (LSAPs, to use the acronym *du jour*). Changing interest rates on banks' reserves and making precommitments to keep instrument rates low might help at the margin but would not have a large-scale impact. These alternative measures also seem to me to have some direct disadvantages for the financial system that have to be taken into account in a way that does not apply to LSAPs. Charging interest on reserves is no substitute for directly fixing the banking system as a means to increase lending, and counterproductively could result in higher interest rates to borrowers. Precommitments to keep interest rates low for a very long time could either lead to a self-

17. Posen (1998, chapter 6) summarizes the literature on why recessions are inefficient and do not automatically cleanse the economy in a productive manner.

fulfilling prophecy where investors expect weak returns and stay in cash (Bullard 2010, Cowen 2010) or could constrain reacting to future events as needed. Targeting the 10-year government bond rate seems to me to violate both Goodhart's Law (that observed statistical regularities, here between long-bond rates and real activity, break down when policymakers try to exploit them) and what we know about financial innovation (lenders will simply stop keying their contracts to a given targeted interest rate, to the extent that they can).

The magnitude and timing of the impact of additional LSAPs on the macroeconomic outcomes we care about—prices, output, employment—remains somewhat uncertain. As I argued in Posen (2009a), while quantitative easing (QE) is clearly having some benefit in the United Kingdom and elsewhere, mechanistic monetarism did not apply in Japan earlier this decade and does not seem to be at work in the United Kingdom or United States at present—that is, one cannot simply map from so many billion in government bonds bought to so many percent higher inflation or lower unemployment. Gagnon et al. (2010) and Joyce et al. (2010) present rigorous event study estimates of the effect of asset purchases (and announcements thereof) on some overnight interest rate spreads of concern in the United States and United Kingdom, respectively. The message seems to be that central banks were right to react quickly with LSAPs when the zero-lower bound on interest rates was reached—but it matters how much was done, with what impact in practice, not just that we did react. The size of central bank balance sheets versus past practice is no predictor of present performance of QE. At least it is additional reassurance that the probability of our inducing sustained or large, let alone accelerating, inflation overshoots through additional LSAPs can be safely ignored for now.

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We will know we will have done enough with QE or other monetary stimulus only when we have clear indications that our policies are moving the desired variables—market interest rates, output, employment, and inflation expectations—sufficiently and in the right directions on a sustained basis. I think that it is not enough for a central bank to say, "Look, we expanded our balance sheet more than any time in history" or "we did things we never did before" and argue that "therefore we must have done a lot, if not too much". In my opinion, that is backwards logic. It would be like saying that "the fire must be out because we've already pumped more water than for any previous fire we've fought" or "we must have gotten to our destination because I've been driving for hours and we've already used a full tank of gas." This is a worse fire than any of us have ever seen in our lifetimes, and we are farther from home than we have ever been, and so we cannot judge our progress by how much effort or resources we have already put in. We can only gauge the success of our efforts by our results, and until we achieve those results, there is no danger from our heavy use of the available instruments. This is not a normal situation with finely balanced risks on both sides or with monetary policy able to finely calibrate to an outcome.

The persistence of deflation in Japan, despite the Bank of Japan's own LSAPs of Japanese government bonds from 2003–06, remains a cautionary tale.[18] While Krugman (2010a) can legitimately hoist some of us current central bankers on our own rhetorical petard for inaction, when we were the very people who loudly upbraided the Bank of Japan for its own inaction prior to 2003, Japanese commentators can turn that right around. A Japanese economist friend teased me recently that once I got inside a central bank, I then realized how difficult it was to get the desired effects from QE, so I had toned down my rhetoric. I have indeed been less loudly critical of the Bank of Japan's now past actions, but, as I told him, my rhetorical switch came in 2004 when it became apparent that the Bank of Japan was trying real LSAPs, and reflation was not arriving as easily as I and others had presumed it would. Subsequent research suggests that part of the problem was that the Bank of Japan waited too long to begin LSAPs, so that deflationary expectations were already entrenched. The Bank of England and other central banks took a lesson from that, citing the example to motivate their rapid reactions in 2008–09.[19]

Another source of the difficulty the Bank of Japan had with getting maximum effect on prices from its QE program was that the Bank actually bought short maturity bonds, which are close substitutes for cash and thus would be expected to have only a limited effect on portfolio behavior (McCauley and Ueda 2009).

That fact raises a legitimate issue whether the only assets to be purchased by central banks should be (medium- to long-maturity) government bonds, or whether other private assets (such as corporate bonds, commercial paper, or high quality mortgages) might be purchased in quantity by central banks as well. My feeling has always been that while purchasing private assets has some risks, notably in terms of public hold-

18. Among many studies of this experience, see Baba et al. (2005, 2006), Oda and Ueda (2005), and Shiratsuka (2009).

19. See Tucker (2009), Ahearne, et al. (2002), and Harrigan and Kuttner (2005) for evidence about the importance of getting a quick start.

ings overhanging market prices, and of difficulty in exiting the position in a given asset market when monetary contraction becomes desirable, these risks are manageable or at least much smaller than the macroeconomic risks of inaction.[20] In fact, my instinct, and I believe that I am not alone in this view, is that purchasing private assets should have a larger macroeconomic impact than purchasing government bonds, *ceteris paribus*, because then one is going after risk spreads, as well as liquidity issues or term-premia, and potentially unblocking a distressed market (Nishimura 2009, Posen 2009a). Further, to the degree one believes in the "preferred habitat" view as a source of QE's effectiveness, purchasing assets that are less perfectly substitutable for cash than government bonds would seem to be the way to go to maximize bang for the buck (especially in a liquidity trap).[21]

It is right for both long-term stability and short-term performance for central banks to do more now.

Reassuringly, however, the best empirical studies to date of the impact of QE in the United Kingdom (Joyce et al. 2010) and of the impact of "credit easing" in the United States (Gagnon et al. 2010) estimate that the immediate impact on interest rate spreads of LSAPs are comparable whether done with public or private asset purchases.[22] Moreover, the feasibility of the private assets purchase approach depends upon the availability of different types of assets and relative depth of markets in a given economy, as I discussed in Posen (2009a). In the United Kingdom, perhaps surprisingly, we have very limited depth and breadth in our markets for corporate bonds and mortgage-backed securities, and large-scale purchases by the central bank would essentially overtake the whole market. A central bank should not want to have a monopsony position as a sole buyer of all of an asset class or to make choices about specific private-sector assets' relative worth, if it can possibly avoid doing so.

So I am comfortable with the idea that in the United Kingdom, if not elsewhere, additional monetary stimulus at this point should begin in the form of additional QE as the Bank of England pursued by purchasing Gilts in 2009–10. While we do still have financial dysfunction of the sort discussed above, we do not have acute asset market distress at present in the United Kingdom as we did when QE began (see figure 3, which shows how the spread on even highly rated corporate bonds spiked during the acute crisis, and is down now though still elevated). Thus, the potential relative advantage of credit-market interventions over bond interventions is further narrowed. In case such QE were to prove insufficiently effective or were financial fragility to become acute again, I would still want preparation ahead of a "plan B" of large-scale non-Gilt asset purchases, in close coordination with HM Treasury. I mean that call for coordination quite seriously, though it is my place only to suggest such efforts. The selection of private assets to purchase is rightly done in consultation with, if not by, elected fiscal authorities, and many forms of direct credit-market intervention would better take the form of fiscal measures supported by the Bank's actions and implementation. That is no impediment to such actions, just a recognition of how in our democratic system with an independent central bank they should be managed and accountability defined.[23]

I would note that I am not counting on or even suggesting that a major channel of QE's transmission to the UK economy would be through the exchange rate. Occasionally one hears that LSAPs by central banks is a form of competitive depreciation of exchange rates, and even that the MPC wanted to drive Sterling down. If QE were such a ploy, I would oppose doing it—and in fact, nothing could be further from the truth. Consider the graph of the Bank's Sterling effective exchange rate over time presented in figure 4. In March 2009, the Bank of England began QE, with the index at 75.2. Approximately six weeks before QE was announced, the pound had stopped falling (the index hit a local low of 70.4 in January 2009 from a relative high of 102.4 at the start of January 2007).

While this may be mere coincidence, the claim that the Bank (or MPC) intended to depreciate competitively is demonstrably false. After QE began, the pound moved sideways until the euro crisis, and overall is flat between the announcement

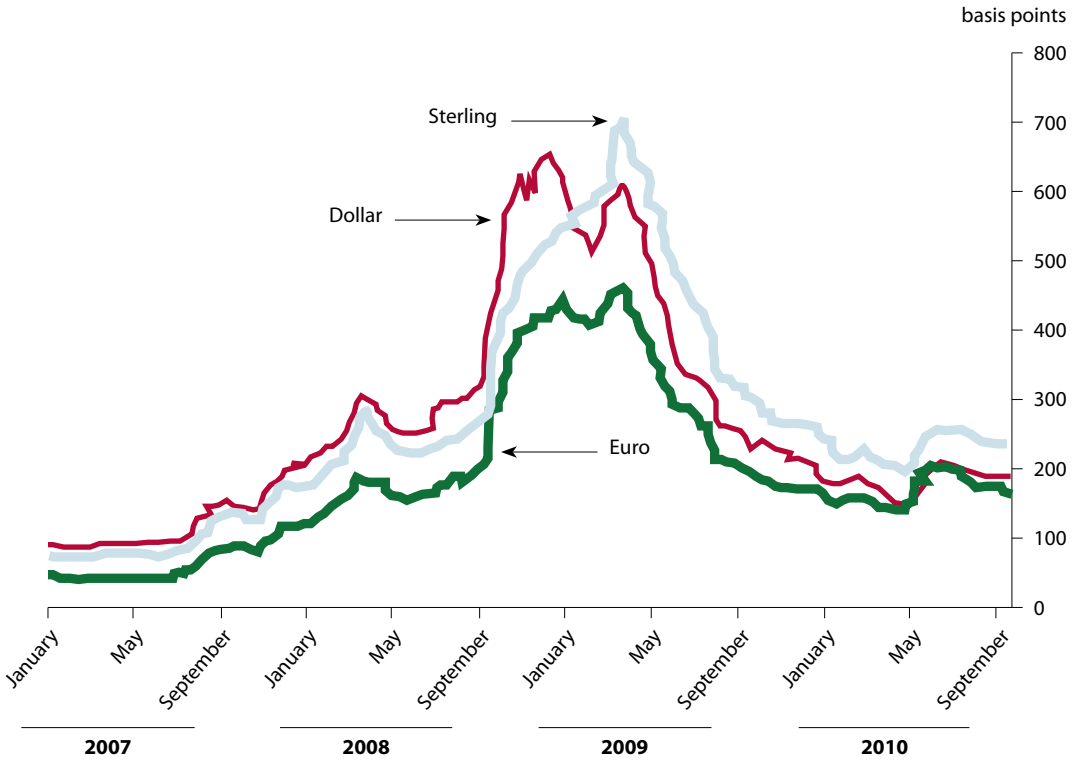
20. There are all kinds of other ill-founded concerns raised about the expansion and eroding quality of central bank balance sheets, irrespective of the type of asset purchased (e.g., Wall Street Journal 2010), just as were mooted in Japan in the 1990s. As I argued in Posen (2009a), these proved to be unfounded when QE was undertaken on a large scale by the Bank of Japan in 2003–06, and so far in the United Kingdom or United States. These are just the shibboleths that lead to "self-induced paralysis" by central bankers (in Bernanke's (2000) apt phrase), and I already have refuted these in Posen (1999, 2000, 2009a, 2010c) and elsewhere.

21. I am grateful to Ken Kuttner for discussion of this idea, as part of our research work in progress.

22. Neely (2010) presents some evidence that LSAPs by the Federal Reserve also had large international effects. The overseas spillovers of unconventional monetary policy measures merit further analysis.

23. This does not express an MPC view, just my own. Such a view would of course be conditional on the majority of the MPC agreeing that a particular set of measures would be the way to implement further stimulus if we wanted to ease from here. The MPC could take that decision on means distinct from (and ideally ahead of) if and when a majority on the MPC agreed that we should engage in further ease. Should such MPC majorities arise, you would all be made aware of such decisions by Bank publication.

Figure 3 Investment grade corporate bond spreads



Sources: BofA Merrill Lynch Global Research; Bloomberg; and Bank of England calculations.

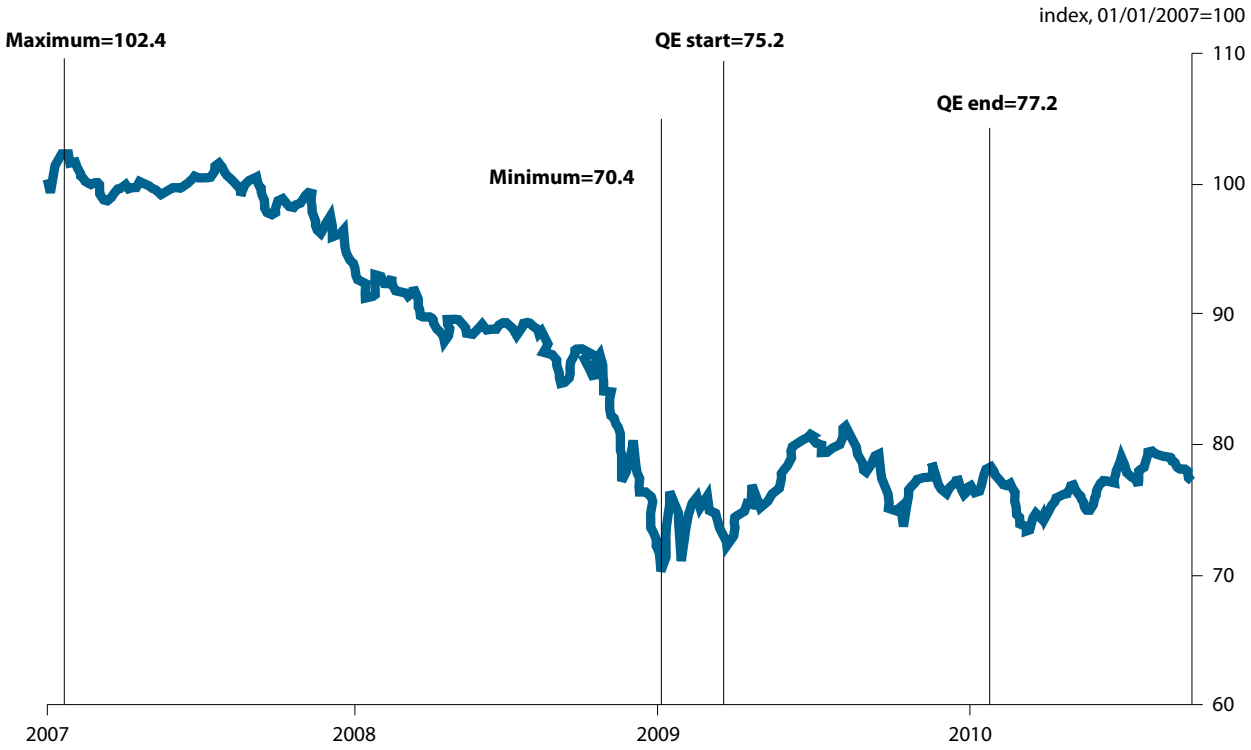
of our Asset Purchase Program and the suspension of asset purchases in February of this year (77.2 versus 75.2 on the announcement dates). In Japan's QE period as well, the yen appreciated very strongly, even in the face of direct currency market intervention to sell dollars by the Japanese government on a huge scale in 2003 and early 2004. It is my belief that from both a UK and a global perspective, we would be better off if more central banks engaged in LSAPs simultaneously (among those for whom stimulus is appropriate at present) rather than were the Bank of England to do it alone.

My bottom line is that we have to try further QE and if necessary other LSAPs now whatever the required scale to have the needed effect. Fear of looking ineffective should not be a deterrent to doing the right thing. When facing a worsening situation, you work with the tools you have, whether you're a central bank in the aftermath of a financial crisis, or someone stranded on the road with a car problem when night is falling. And you try to get help.

It is possible that further QE will be insufficient on its own to create a sustained recovery because of widespread risk aversion and liquidity preference killing investment demand (as in Krugman 1998). If that situation becomes evident, then that is the time for further fiscal stimulus, and monetary policy can support such measures.[24] Obviously, the room for fiscal stimulus is subject to limitations from the conditions of debt sustainability and market credibility that any given government faces. I will not presume to make an assessment of those conditions for any specific country, including the United Kingdom. I will just note that, as a general proposition, if QE is less than effective due to persistent excessive liquidity preference and deflationary expectations, economic theory says that money-financed fiscal stimulus is the right response. The indicator of such a situation would be persistently low and declining government bond interest rates. In practice, it was when fiscal and monetary stimulus worked together in conjunction with a banking clean-up that Japan did grow in the 2000s and emerged from its Great Recession. Let us hope we do not face that dire situation of mounting risk aversion, and I do not think it very likely if we undertake more stimulus

24. Auerbach and Gale (2009), Blanchard, Dell'Ariccia, and Mauro (2010), Fatas and Mihov (2009), and Posen (1998) all discuss the effectiveness and viability of fiscal stimulus under such circumstances. Stiglitz (2010) gives a particularly well-thought out case for investment tax cuts and how to structure them.

Figure 4 Sterling exchange rate index movements



QE = quantitative easing

Source: Bank of England.

now, but let us not blind ourselves to the possibility of the situation arising either.

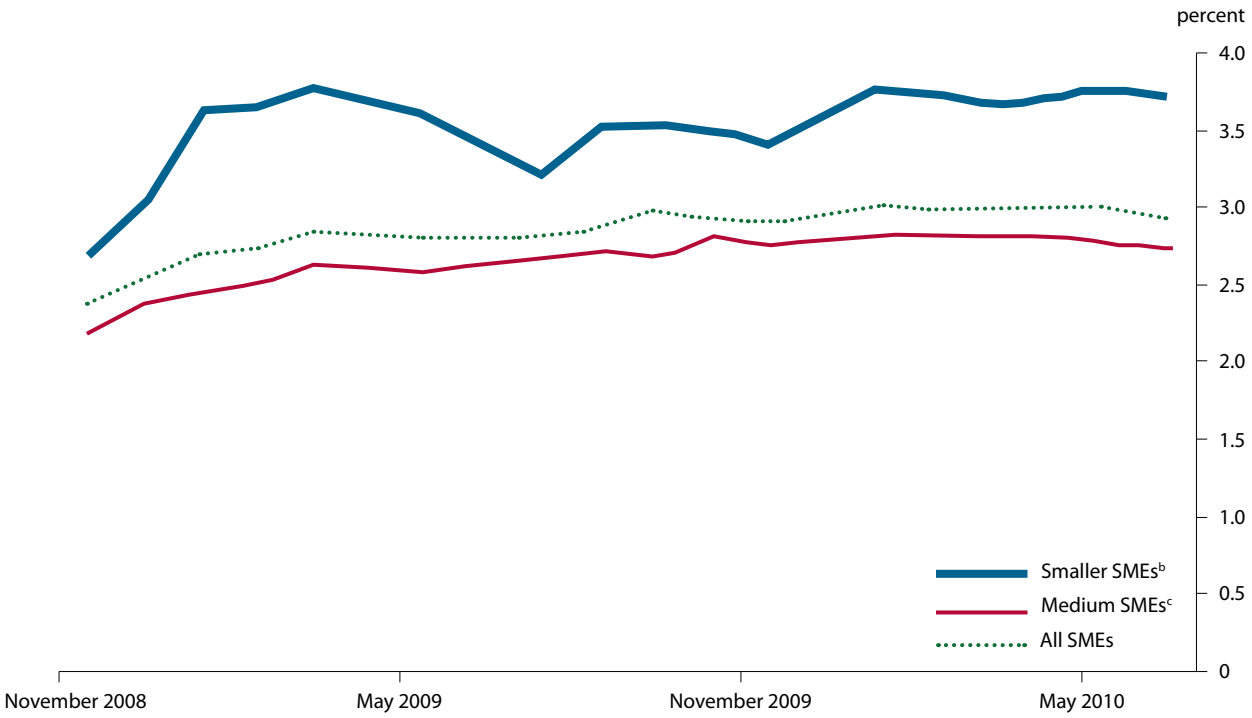
The more likely reason that further QE might be insufficient to bring about sustained recovery on its own is because of continuing problems in the financial system. Simply put, banks given additional liquidity may not lend, as we are currently seeing in the United Kingdom.[25] (Note, this problem and the previous one of excessive liquidity preference are not mutually exclusive and might in fact tend to occur together.) The intent and the hope for QE as practiced by the Bank of England has been that it allowed us to go around the broken banking system, and clearly that has to have happened to some degree (Dale 2010a, Miles 2010).

Yet, our current crisis and its impact bear out the importance of financial intermediaries, and what happens when they are impaired, just as was the case in Great Depression in the United States. While some lending, like mortgages, can be directly influenced by easing liquidity and interest rate conditions through QE, other lending, such as that on collateral to small business, cannot be so easily replaced. Figure 5 shows the continuing high interest rate spread charged on loans to small and medium enterprises (SMEs) in the United Kingdom (in contrast to the high-grade bond rate coming down in figure 3). Figure 6 shows the declining rate of lending to small businesses—obviously, some of which is due to lower demand given prospects, and to higher lending standards (which is welcome), but not all of it. As I worried in Posen (2009a), the issue is not so much the degree of credit crunch in the crisis' immediate aftermath, as the likely failure of lenders to support recovery, particularly in the SME sector of the economy. That point is consistent with the long hard slog view of recovery from the Great Depression when intermediation was disrupted.

That failure of the credit system to support recovery is one of several reasons that I and others continue to call for further financial reform in the United Kingdom and elsewhere, even though the situation has been stabilized. (See also King 2009 and Turner 2010, among others.) The help needed for QE to fully succeed and the United Kingdom to recover is to finish recapitalization and restructuring of the country's fragile lending institutions. Make no mistake, having some day-to-

25. Jerram (2009) gives a very intuitive metaphor for this version of the problem, as he analyzed it in Japan, with banks already awash in liquidity leaving free beer on the bar. See also Baba et al. (2005).

Figure 5 Spread over bank rate of indicative median interest rates on new SME variable-rate facilities[a]



SME = small and medium-sized enterprise
a. Median by value if new SME facilities priced at margins over base rates, by four major lenders. Data cover lending in both sterling and foreign currency, expressed in sterling terms.
b. SMEs with annual bank account debit turnover under £1million.
c. SMEs with annual bank account debit turnover £1 million to £25 million.

Sources: BBA; BIS; Bank of England, *Trends in Lending: August 2010*; and Bank of England calculations.

day financial stability as a result of unprecedented government guarantees and liquidity provision is not the same as having a fully functioning banking system—and the proof of the functionality is in a system's lending behavior, not in passing stress tests on either side of the Atlantic.[26] But so long as there is some transmission from our QE efforts to the real economy as well as to prices, we have to try to make use of it, even in the absence of a fully functioning banking system. In fact, such problems may make our trying further LSAPs all the more important.

WHY WE SHOULD DO MORE IN THE UNITED KINGDOM NOW

I will conclude with why I believe that we should do more quantitative easing now in the United Kingdom. This is particularly important to address, given that inflation in the United Kingdom has been above target for most of the last four years. As I said earlier, my case for doing more is not due to some new information about the UK forecast, and certainly not due to any data previously unavailable to the public. Thus, I am not advocating more stimulus because I am concerned about a double dip at present.

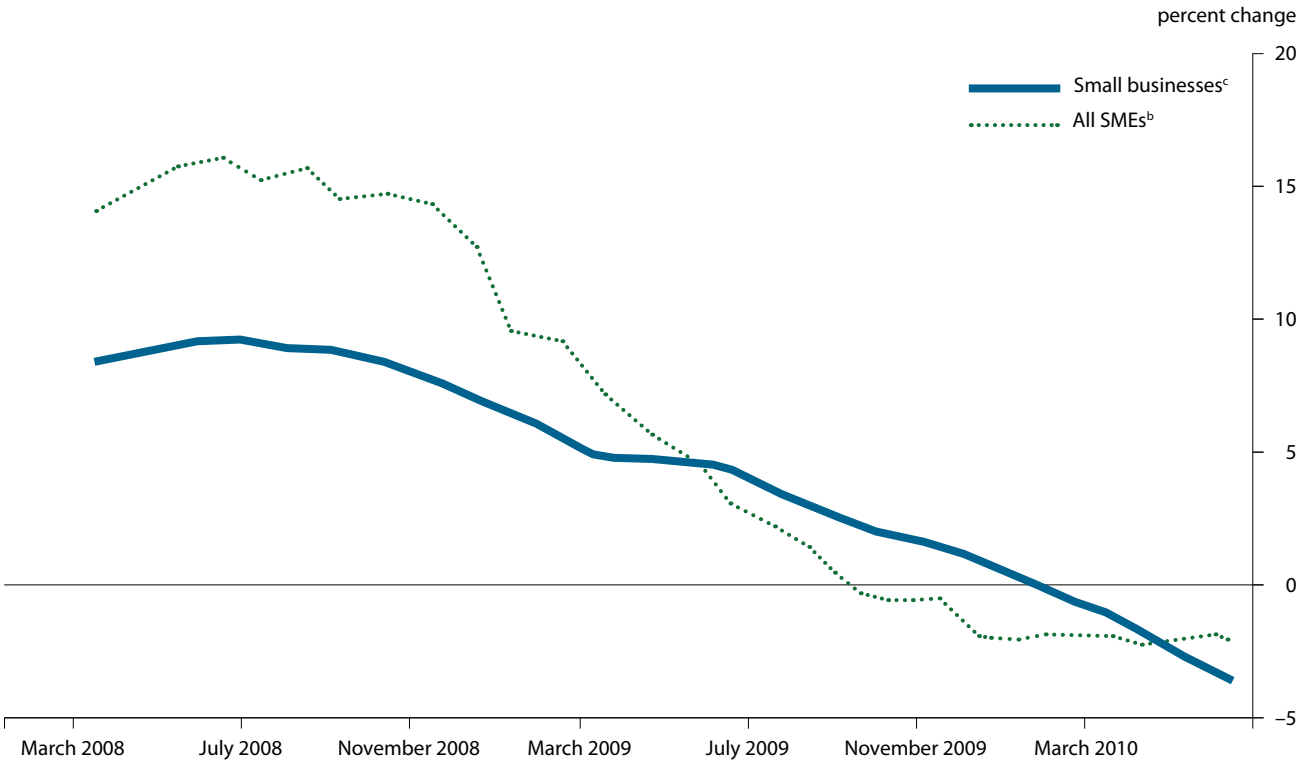
The main reasons that I had not argued strongly for further ease before now parallel the two topics that I discussed today. First, I put on hold my strong presumption that we would not be having a "normal" recovery in the aftermath of a financial crisis in case the data came in showing that view to be obviously wrong. I believed that the UK economy was going to be in one state of the world or the other.[27] I draw attention to figure 7, which can be interpreted as consistent with this two-states view[28]: In it, the MPC was indicating that our collective view was that we believed there was a greater than 70 percent chance that inflation would be either well above

26. See Enrich (2010), Munchau (2010), Posen and Veron (2009), and Veron (2010).

27. This is not loose talk about forecast uncertainty, but my conviction that the UK economy was potentially switching between one state of the world or another, recessionary or expansionary, as in the sense of Hamilton (1989). I believe this framework has applicability beyond the United Kingdom at present.

28. Reproducing chart 5.11 from our latest *Inflation Report* (Bank of England 2010).

Figure 6 Lending to small and medium-sized enterprises (SMEs)[a]



a. Non seasonally adjusted
b. Lending by four major UK lenders to enterprises with annual bank account debit turnover less than £25 million. Data cover lending in both sterling and foreign currency, expressed in sterling terms.
c. Lending by seven major UK lenders to commercial businesses with an annual bank account debit turnover of up to £1 million.

Sources: BBA; BIS; Bank of England, *Trends in Lending: August 2010*.

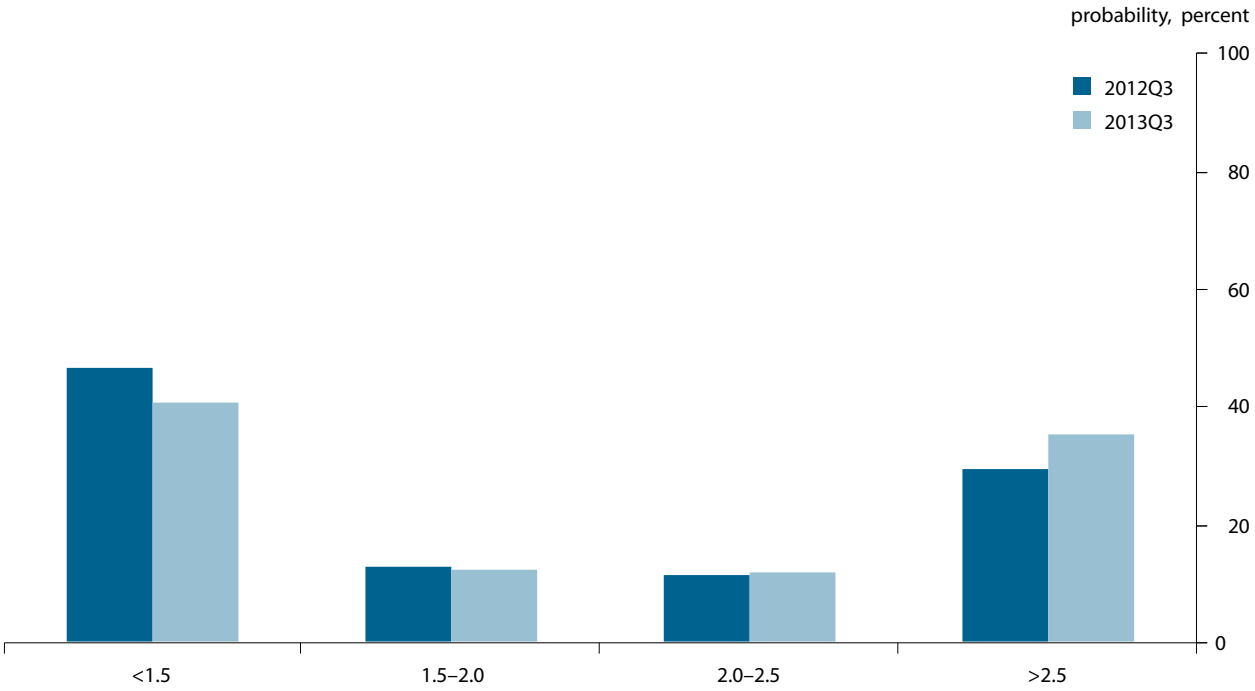
or well below our target both two and three years out and a greater than 50 percent chance that it would be below target. As I said in Posen (2010b), though I was skeptical about so doing, there was a plausible case to be made in spring 2010 that global growth and prior stimulus could combine to give us a recovery in the United Kingdom better than I expected.

I would note, however, that a couple of good quarters of growth, while welcome, should not be enough to persuade us that the United Kingdom is indeed out of danger of a period of persistent slow growth and soon sub-target inflation.[29] Figure 8 plots the path of real GDP levels for three relevant recoveries from a recessionary trough in GDP. The line that ends abruptly is obviously the course of our present difficulties; the lighter line shows the course of recovery of UK output from its last recession in September 1991; and the darker line shows the course of recovery of Japan's real output from its post-crisis initial trough in September 1993. Some observers would draw attention to the fact that our recovery is consistently as fast, or faster than that in the United Kingdom in 1991, at least for the three quarters to date. I would suggest it is a little early to declare victory on that basis, given that our current recovery is just in pace with the Japanese recovery—and we all know how that turned out over the subsequent years. The current UK recovery also has in common with Japan in 1993 the emergence from a financial crisis, something not true in the United Kingdom in 1991, and also has the steepest pre-trough decline in level of output of the three recessions shown here, so the most ground to make up.

One can perform a similar exercise looking at the development of broad money (that is credit) in these three recoveries (see figure 9), and the current recovery in the United Kingdom is almost precisely tracing the track of Japan post-1993, while the non-financial crisis recovery of the United Kingdom in 1991 shows much stronger credit expansion. The point is that, in my opinion, recent data on growth offers insufficient evidence alone to distinguish which situation the

29. Or of persistent large output gaps as studied in Meier (2010).

Figure 7 Frequency distribution of CPI inflation based on market interest rate expectations and £200 billion asset purchases in the August 2010 Inflation Report[a]



CPI = consumer price index

a. The distribution represents the probabilities that the Monetary Policy Committee assigns to CPI inflation lying within a particular range at a specified time in the future.

Note: Values in each bucket (<1.5 percent, 1.5–2 percent, 2.0–2.5 percent, >2.5 percent) are as follows:
2012 Q3 bars: 47 percent, 13 percent, 11 percent, 29 percent.
2013 Q3 bars: 40 percent, 13 percent, 12 percent, 35 percent.

Source: Bank of England.

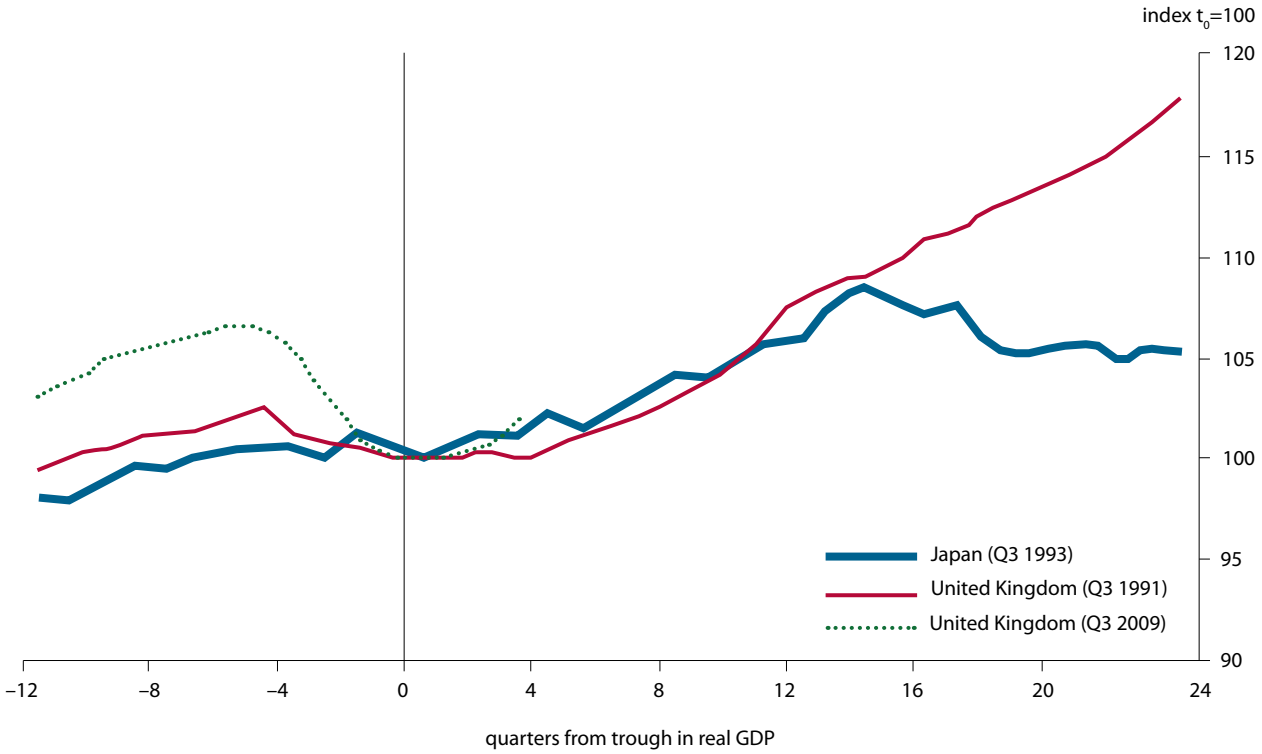
United Kingdom is now in, and the credit comparison with past recoveries is if anything worrisome.

To have a convincing indication of the United Kingdom being in the good situation, I would have had to see more than household short-term inflation expectations creeping up as a result of past shocks, which is all they did, while other forward-looking UK inflation indicators remained quiescent, as they have.[30] I would have had to see inflation and inflation expectations rise in a way inconsistent with the broad output gap framework that underlay my priors. That has not happened. As I discussed in Posen (2010b), the response of actual CPI inflation over the last couple of years may represent a small upward creep in backward looking inflation expectations by households, but the actual target misses were largely due to Sterling's depreciation in 2007Q4–2009Q1 and value-added tax (VAT) increases. I agree with the MPC's August forecast that over time excess capacity will bear down on inflation in the United Kingdom, even though our cumulative past target overshoots have probably delayed that process. In a recent more statistical analysis, Fathom (2010) comes to a similar conclusion. They note that UK inflation forecast errors of late have been positive and tended to reinforce each other and include non-import products, all consistent with some general drift, but that the upward drift is quite small and the trend for inflation—after next year's VAT rise is taken into account—is still forecast to be downward, albeit not as soon as one might have thought in the absence of our past overshooting of target.

Ultimately, though, the MPC has to look forward, and except for the coming VAT increase, all determinants of inflation suggest that declines in UK inflation will occur over the next two to three years to well below target. Private sector wage settlements are running at 2 percent or less (excluding bankers' bonuses), which should be well below productivity growth. The entire public sector workforce will be affected by wage freezes (as contracts come up) or job cuts. According to

30. Bank of England (2010), Dale (2010b), and Fisher (2010) give some evidence on this score.

Figure 8 UK and Japanese recoveries in context: Real GDP



Source: OECD and Bank of England calculations.

the Office of Budget Responsibility, a roughly equal number of jobs are forecast to be lost over the next four years in the private sector companies that serve the public sector as in the public sector directly. It seems impossible to have an inflationary wage spiral under such circumstances. Sterling's exchange rate has been basically stable for the last 18 months, so no further inflation should come from that corner over the forecast horizon.

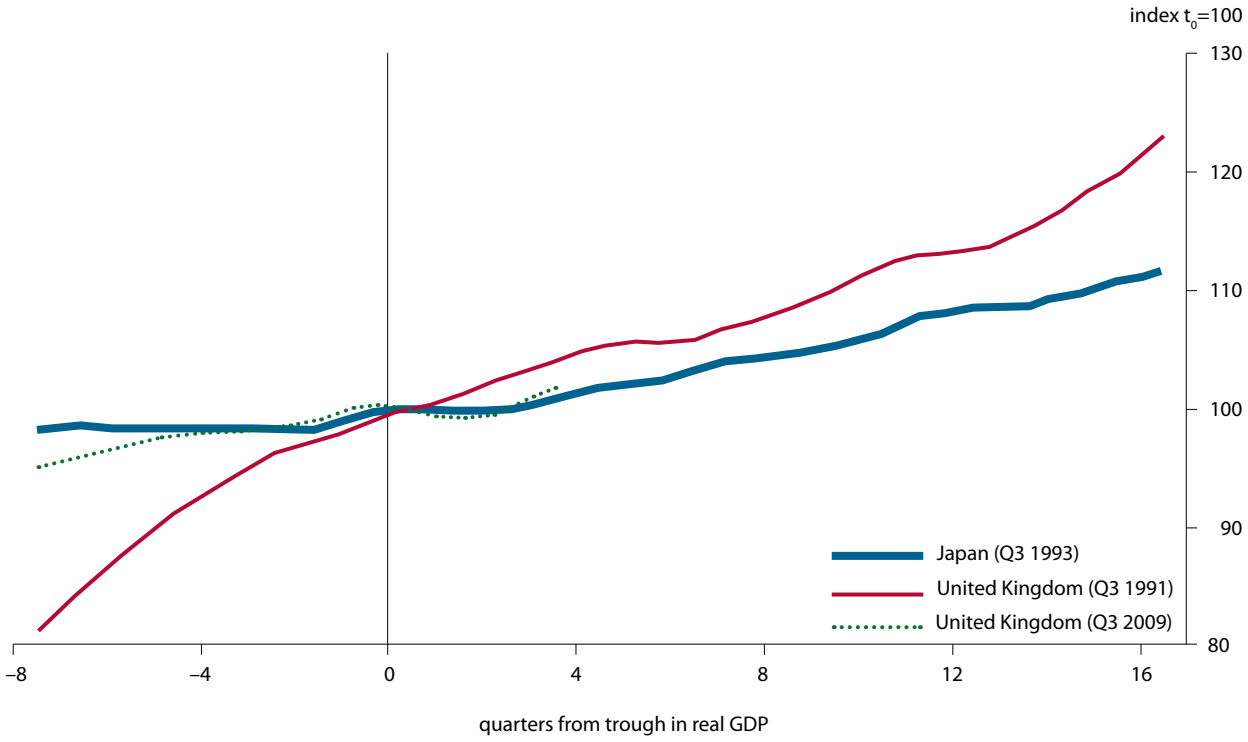
The financial market measures of UK inflation expectations, which the Bank monitors, like five-year-five-year forwards on UK government bonds and the price of inflation indexed Gilts, are consistent with a declining inflation forecast more than a year out. Many of our major trading partners, from Ireland to the United States, are showing declines in and further downside risks to their growth (although Germany is an exception to date). Credit is not growing, especially not to small and medium business. And behind all of this, there is the downward pressure from our low level of GDP and of growth versus where we were before the crisis hit the United Kingdom or would be now, had we grown at trend rates since then.

None of this presents an inflation threat. Thus, the MPC definitely should not respond to a one-time VAT increase by tightening policy, however much it shows up in the CPI contemporaneously. As my co-authors and I stated about inflation target design in Bernanke et al. (1999, 27) a decade ago: "[The target] index should exclude price changes in narrowly defined sectors and one-time price jumps that are unlikely to affect trend or 'core' inflation—for example, a rise in the value-added tax or in a sales tax. The index chosen should exclude at least the first-round effects of such changes." Imagine if the coalition government had proposed a revenue equivalent rise in payroll tax instead of a VAT increase. In terms of short-term macroeconomic impact, the two measures are roughly the same in hitting citizens' purchasing power and being collected continuously, but one shows up by design as an increase in the CPI and the other does not.[31] The MPC would be wrong to tighten in response to such a tax increase, just because of a difference in labeling.

The second thing that I was waiting for before calling for more stimulus was that I also wanted to see whether I had

31. VAT taxes consumption while payroll taxes labor, so the incentives and productivity effects are different over the long-run. But that is secondary to how the MPC should respond to contractionary tax hikes over its policy horizon.

Figure 9 UK and Japanese recoveries in context: Broad money



Note: Japanese M2 +CDs, UK 1991 = M4, UK 2009 = M4 ex. Intermediate "Other Financial Corporations" (OFCs).

Sources: Bank of Japan and Bank of England calculations.

significantly underestimated the stimulative impact of prior QE and other measures undertaken to date by the UK and global policymakers in response to the crisis. On the one hand, as my own research on Japan indicates, early response by countercyclical macroeconomic policy should make a positive difference, and the fact that it was globally coordinated should have reinforced that effect. On the other hand, as my own research on Japan also indicates, the actual size of the fiscal measures implemented and the actual transmission of the monetary ease undertaken are what count, not just the direction. It is not a valid argument to say that central banks have done much more than they have ever done before, and therefore it must be enough. And the admirable coordinated global policy response was also necessary because the shock was essentially simultaneous globally—an export growth constraining external environment that Japan did not face. My expectation about the effectiveness of UK and global policy measures were that they were a good effort but would prove insufficient and had to be sustained. As with the overall outlook, I was open to data disproving those assumptions. That has not happened, either, so far as I can tell.

ACTIVISM BUT NOT FINE-TUNING

I have tried to convey my reasons for believing that in general terms it is right for central banks to undertake more monetary stimulus in the coming months, and why we should do so through LSAPs, even if we cannot promise that such measures on their own guarantee sustainable recovery. Of course, I cannot presume to speak to the forecast, mandates, and other circumstances of any specific central bank but my own, and my role at the Bank of England is that of being just one vote on the Monetary Policy Committee. For the United Kingdom at least, I believe that the case is clear and consistent with the MPC meeting our inflation target in future. In fact, absent further monetary stimulus, I would expect UK inflation to fall well short of the target in 2012 and 2013, perhaps reinforcing a persistently low-growth outcome as in Japan in the 1990s.

Leaving our specific mandated target aside, some critics deem today's macroeconomic efforts to stimulate the economy selfish, impatient, or short-sighted, despite the severe recession. They tell us that we have had a party on loose credit for the last few years (or longer), and we should cut back now so as not to leave future generations with our debts or

inflation. While this view has some merits in certain policy discussions, it misses two important points with regard to this discussion about monetary policy today. First, the damage to our economy, our companies, and our workforce can be made permanent through inaction by policymakers—this is not just about getting through a bad patch, being impatient about a return to growth and employment. The policy challenge is about getting out of a self-perpetuating negative outcome that would erode many of our children's future as well.

Second, and related, periods of persistently sub-potential growth and underemployed resources erode political moderation and the liberal governments we also must pass on to future generations (Posen 2005). Let us not forget that it was sustained high unemployment and austerity, the sense that governments were unresponsive to average people's dire economic conditions, that led to the rise of extremist intolerant parties in pre-war Europe.[32] As we have seen sparks of late, thankfully limited, it can also lead to less liberal economic relations between nations, or even trade wars. This is a question of doing what is necessary to preserve the system we have, not to fine-tune the course of adjustment over the next few years. It is right for both long-term stability and short-term performance for central banks to do more now.

So current monetary policymakers just have to ask themselves what makes sense. The data seem to me pretty conclusive, in the sense that if it was going to be a recovery that either was inflationary through capacity constraints or consistent with high interest rates and credit growth, in contrast to the usual pattern of post-financial crisis stagnation, it would have been evident by now. Absent that kind of surprise, the analysis of mainstream macroeconomics should apply, as it did in Japan in the 1990s and in the United States and Europe in the 1930s, and a whole host of other cases. Historical experience tells us that inflation is not a threat. If anything, it should be unsurprising that it has already taken more monetary stimulus for longer than we expected to try to get inflation safely onto a consistent near-target path, and we are not there yet.

Instead, comparable experience tells us that persistent high unemployment and output gaps are the major threat to both price stability and to our long-term potential, that persistently slow growth erodes aggregate supply and future growth, that a globally synchronized downturn for 50 percent of the world economy is going to be worse than one that hits only one country or region, and that a great deal of unconventional monetary stimulus will be needed to have a major impact when the financial system remains dysfunctional and risk aversion is very high. That is the case for doing more now.

32. While hyperinflation did a lot to bring down the Weimar government, monetary stabilization in Germany was successful in 1923. The coming to power ten years later of the National Socialists, previously a fringe party, followed persistently high unemployment and slow growth, and played off a popular perception that policymakers were unresponsive to those problems. See O'Rourke (2010) and Tooze (2006, 2010).

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