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Abstract

Unconventional monetary policy (UMP) has had predictable effects. How exit plays out is scenario-dependent. Quantitative easing has had the predictable effect of encouraging currency depreciation and some partner countries may have attempted to offset these exchange rate effects. Korea presents a particularly interesting case: it is relatively small and relatively open and integrated, in both trade and financial terms, with the United States and Japan, two practitioners of UMP. Authorities have acted to limit the won's appreciation primarily against the currency of China, not the US or Japan. Nevertheless, Korea's policy is a source of tension with the US. Under legislation currently being considered, the currency manipulation issue could potentially interfere with Korean efforts to attract direct investment from the US and create an obstacle to Korea joining the Trans-Pacific Partnership.

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Introduction

In the wake of the Global Financial Crisis (GFC) the US Federal Reserve (“the Fed”) and several other central banks (including the Bank of Japan) adopted unorthodox and controversial monetary policies including quantitative easing (QE) and forward guidance known together as unconventional monetary policy (UMP). Considerable effort has been expended to try to understand the effectiveness of UMP, its spillovers onto other economies, and how the Fed and other central banks might unwind the policy and return to conventional monetary policy. The latter concern is particularly acute as the Fed’s return to exit from QE and return to positive policy rates (“liftoff”) appears imminent.

In this context, Korea presents a particularly interesting case: it is relatively small and relatively open and integrated in both trade and financial terms with the United States and Japan. Hence it would be a prime candidate for spillovers from UMP as practiced in the two larger economies as well as any fall-out that might accompany the Fed’s return to conventional monetary policy and the less imminent exit from QE by the Bank of Japan.

The evidence reviewed in this paper suggests that UMP has had fairly predictable effects on partner countries. How exit plays out is scenario-dependent and less certain, but if it occurs against a backdrop of robust growth in the US it should be benign, though not necessarily entirely so. QE has had the predictable effect of encouraging currency depreciation and some partner countries may have attempted to offset these exchange rate effects. In the case of Korea, it appears that the authorities have acted to limit the won’s appreciation against the Chinese RMB (not the US dollar or the Japanese yen). Nevertheless the country’s intervention policy has become a source of growing tension with the US, and was raised in the October 2015 meeting between Presidents Barack Obama and Park Geun-hye. If not addressed, under legislation currently before the Congress and likely to be enacted into US law, the currency manipulation issue could potentially interfere with Korean attempts to attract direct investment from the United States and create an obstacle to Korea joining the Trans-Pacific Partnership (TPP). More serious consultation between the two governments on the transparency and nature of Korean monetary policy and fiscal space and a realistic appraisal of North Korean how contingencies impinge on South Korean fiscal policy would be the place to start.

How We Got Here

The origins of the GFC reside in a witches brew of complex instruments, inadequate regulation, lax enforcement, and unethical, and in some cases outright criminal, behavior in major financial institutions.¹ At the core was the “originate and distribute banking model.” This approach involved securitization, the bundling and reselling of debt instruments, in many cases housing mortgages, which reduced the incentive of originators to exercise due diligence with respect to borrowers, since the originating institutions were not holding the underlying debts on their books. Loan quality predictably declined.

Although the initial warning signs appeared in Europe, the US was the epicenter of the crisis.² In March 2008 the government assisted in the takeover of the securities firm Bear Stearns by JP Morgan. After a period of relative calm, the crisis got into full swing in September 2008 with in quick succession, the entry into conservatorship the government-sponsored enterprises, housing agencies Fannie Mae and Freddie Mac, the failure of Lehman Brothers securities firm, the government-encouraged purchase of Merrill Lynch by Bank of America, and the rescue of insurer AIG. Additional bank reorganizations and bail-outs followed (Johnson and Kwak 2011).

The propagation of highly complex financial instruments, many related to the securitization of mortgage lending, was abetted by unusually low interest rates due to a variety of factors including the Asian savings glut and a bias toward monetary ease by the US Federal Reserve under the leadership of Governor Alan Greenspan. Low interest rates both facilitated borrowing in the first instance or primary sense, as well as encouraging excessive leverage among secondary market participants (Taylor 2009).

¹ This section draws on Noland (2009), Gagnon and Hinterschweiger (2013), and Stockton (2015).

² In July 2007, IKB, a mid-sized German bank came under pressure due to heavy exposure to US subprime assets and was recapitalized by its state-owned largest shareholder. The following year the British bank Northern Rock was nationalized and there were problems at the French bank BNL Paribas in both cases also connected to problems with mortgage-backed securities.

To make matters worse, the ratings agencies and regulators were asleep at the switch. In particular, the regulatory system of the US was revealed to be fragmented and inadequate, particularly with respect to the so-called “shadow banking system” comprised of non-bank financial institutions such as hedge funds. Abundant liquidity and regulatory lassitude enabled criminal frauds on a grand scale (e.g. the Madoff and Stanford scandals) as well as more garden variety scamming (e.g. Goldman Sachs’ Fabrice “Fabulous Fab” Tourre). Similar developments occurred in parallel elsewhere around the globe, particularly in the UK.

The crisis was propagated internationally through open capital markets exposing pre-existing weaknesses in financial sectors and participants outside the US. Examples would include the lack of capital adequacy of some European banks and real estate bubbles in Europe, as well as reliance on short-term foreign borrowing and potential term mismatches in Korean banks. And once the crisis got underway, rising interest rates exposed weaknesses in other segments of the US financial market, such as consumer lending and commercial real estate in the US.

One can imagine crisis response taking three forms: fiscal, monetary, and regulatory policy.³ Initially, the fiscal response in the US was forceful (at least as measured by expenditures), but inconsistent and ad hoc, complicated by the electoral calendar in the US and the political transition from the Bush Administration to the Obama Administration, and subsequently by a fundamental lack of consensus in a badly divided US Congress. The US adopted two fiscal stimulus packages at the federal level but prematurely reversed field in 2011, after the Republican Party took control of the House of Representatives in the November 2010 Congressional elections. This shift ushered in a period of heightened uncertainty and repeated “cliffhangers” as the Congress (primarily the Republican leadership of the House) and the Obama Administration repeatedly played chicken, culminating in a 16 day partial shutdown of the Federal government in 2013. Stockton (2015 page 47) observes that according to the Macroeconomic Advisers index, “the average level of fiscal policy uncertainty between the beginning of 2011 and the end of 2013 was more than 50 percent higher than the average over the 1986 to 2010 period.”

³ The regulatory response in the US, which is beyond the scope of this paper, took the form of the Dodd-Frank Act.

The inconstant and unpredictable fiscal policy forced a heavier than necessary reliance on monetary policy. In October 2008, the Fed, the European Central Bank, the Bank of England, and the Swiss National Bank began coordinated interest rate cuts. Soon the Fed faced the problem that it is impossible to push short-term policy rates below zero, “the lower bound.” In November 2008, the Fed initiated a policy of quantitative easing through large-scale purchases of long-term assets and forward guidance to try to influence market participants’ expectations as to the future path of interest rates (together termed unconventional monetary policy or UMP). This policy can be seen in figure 1, in both the ballooning of the Fed balance sheet as well as the compositional shift toward long-term assets.⁴ The Bank of England followed suit, initiating QE in January 2009. The European Central Bank started a limited QE program in May 2009.

The first round of US QE was expanded in March 2009 and continued through March 2010. A second round of QE was launched in November 2010 and lasted until June 2011. Third round of QE was implemented between September 2012 and October 2014.⁵ The preponderance of evidence concludes that unconventional monetary policy was indeed effective in lowering the yield curve. Stockton (2015 page 40) concludes, “Taken together, the monetary policy actions initiated between 2007 and 2014 arguably constitute the most aggressive and creative set of policy responses by the central bank in its 100-year history.”

Unfortunately, it was not enough. The US experienced its sharpest contraction since the Great Depression, with real GDP falling a cumulative 4.2 percent from its peak in the fourth quarter of 2007 to the trough in the second quarter of 2009. Unemployment, which had been around 6 percent in September 2008, rose to 10 percent in October 2009. The intervening period has seen a startling rise in disability applications and fall in labor force participation which may signal an unrecoverable reduction in economic potential and permanent damage to household welfare. Research suggests that fiscal policy tends to have more direct external spillovers. The

⁴ In September 2011 the Fed also launched Operation Twist in which it shifted the composition of the portfolio away from short-term securities and toward long-term securities in the expectation that this shift in relative demand would further flatten the yield curve by driving down long-term interest rates” (Stockton 2015 page 39).

⁵ See Fawley and Neely (2013), Gagnon and Hinterschweiger (2013), and Stockton (2015) for additional detail.

uneven implementation of fiscal policy not only was disadvantageous domestically, but arguably hurt foreign countries as well.

The subsequent tepid recovery, reminiscent of Japan's lost decades, was consistent with the historical pattern of slow recoveries in other post financial crisis episodes (Reinhart and Rogoff 2009). Perhaps owing to schadenfreude, during the early stages of the GFC there was wishful thinking about "decoupling," the idea that Asia would be able to maintain its growth rates, even as the US and Europe slowed. Instead, Asia was impacted through both the real and financial channels, as a combination of slowdown in the US and Europe and depreciation of the US dollar led to a substantial, sustained increase in US net exports.⁶

And while the Fed was the most aggressive in implementing QE, it did not invent the policy. Faced with years of deflation and anemic growth, Japan had attempted a kind of precursor policy to QE beginning in March 2001 when it switched its main operating target from the uncollateralized overnight call rate to the quantity of bank reserves, before reverting to the previous policy in March 2006 (Fawley and Neely 2013). A QE policy was initiated in a limited fashion in 2008, then more fully in 2010, and implemented more aggressively starting in April 2013, following the appointment of Haruhiko Kuroda as governor of the Bank of Japan the previous month (Figure 2). QE contributed to a depreciation of the yen, an increase in corporate profitability and stock prices, but not so much to export volumes (figure 3).

Not all central banks adopted QE. As shown in figure 4, while the balance sheets of some central banks (most notably the Fed, the Bank of England, and the Bank of Japan) have ballooned with purchases of long-term securities, the ECB's implementation of QE has been less resolute. The People's Bank of China, the Chinese central bank, and the Bank of Korea have continued to implement conventional monetary policies. Their balance sheets have grown fairly steadily during this period, with the Bank of Korea balance sheet showing the smallest growth by far of the six central banks depicted in figure 4.

Spillovers

⁶ One upside for most of Asia associated with the weakening of global growth was the fall in commodity prices, particularly of oil, and the improvement in the terms of trade acted as a kind of automatic stabilizer, cushioning the external shock.

Given the unprecedented nature of the policies understandable concern has centered on how unconventional monetary policies might affect other countries. Several channels are frequently cited. First, as noted in the previous section, the maintenance of domestic demand in countries aggressively implementing UMP sustains their demand for imports, directly affecting partner countries through the trade channel. Second, the maintenance of low interest rates for a sustained period would encourage risky behavior and potentially even financial market bubbles as investors engaged in an increasingly desperate “search for yield.” Such arguments are sometimes made with respect to capital inflows into emerging markets, the so-called “wall of money.” A third channel which in some sense is a byproduct of the first two, is the impact on asset markets that may go beyond the standard links to parity conditions and trade flows. Finally, while QE is undertaken for domestic policy objectives, not to gain unfair advantage in international trade, the policy could have the effect of driving down the exchange rate and in some sense amount to a beggar-thy-neighbor policy. However, many macro models and empirical studies find that the domestic demand and exchange rate effects roughly offset each other, so that there are no net effects on trade balances. This point is usually cited by advocates of UMP against beggar-thy-neighbor policy charge.

Economists have long analyzed the cross-border spillover impact of monetary policy via exchange rates, bond yields, and stock prices, and associated capital flows.⁷ Much of this work involves highly complex statistical techniques applied to high frequency data, often taking the form of “event studies” where the researcher attempts to isolate and extract from the time-series the influence of various drivers on outcomes.

Traditionally a tightening of monetary policy in a major country would be associated with an appreciation of its currency. That exchange rate movement in turn would have several effects on other countries. *Ceterus paribus*, in terms of trade, the appreciation would make imports cheaper in the tightening country, boosting foreign income by increasing foreign exports.

⁷ While this discussion focuses on monetary transmission channels, it should not be forgotten that fiscal policy confers spillovers as well, and these may be relatively larger. The overreliance on monetary policy as a byproduct of the dysfunctional political economy of fiscal policy in several of the large countries implicitly meant that positive spillovers were less than they might otherwise have been.

However, from the standpoint of the foreign country, the currency depreciation would raise the cost of imports, and might induce the foreign central bank to tighten to stave off inflation.

One would normally expect that a tightening in one country would encourage capital inflows into that country and out of the others (indeed this is how the exchange rate movement would be effectuated.) One would expect this to manifest in movements in local stock and bond prices which in turn affect the ability of local firms to invest.

Availability of liquidity and willingness for banks to lend internationally may constitute yet another channel, including through international bank lending and portfolio flows through use of the US dollar (or other major currencies whose central banks might tighten) as funding and investing currencies.

If the banks or firms in the non-tightening country hold debts in the currency of the tightening country, then a balance sheet effect would come into play, in which the domestic resource cost of servicing the foreign debt would increase.

Last but not least, evidence suggests that UMP has sustained domestic demand beyond what would have been the case if central banks had just lowered the short-term funds rate to zero and done nothing more (Chung et al. 2011). Much weaker advanced economy output, and potentially much lower inflation, may well have had negative consequences for countries like Korea that could easily have swamped the currency spillovers.

In some sense what matters is the net effect of these various forces. Does enhanced competitiveness and rising foreign demand outweigh capital outflow, possibly declining local financial asset prices, and a negative balance sheet effect generating an overall positive impact? Or do the negative factors predominate?

How these effects play out is not scenario-independent: if the tightening was undertaken in response to robust growth then it will tend to reinforce the relative price and demand effects through the trade channel; if it were taken in response to some kind of inflation shock or financial market distress, those income effects could be attenuated, and the capital flow and balance sheet effects could loom relatively larger. Indeed, in the era of UMP there is some thought that changes in risk premia have become larger and pure changes in perceived risk may exert a significant impact on observed outcomes. This concern has become particularly acute since the May 2013 “taper tantrum” when global financial markets experienced significant

volatility in response to Fed Chairman Ben Bernanke's announcement that the Fed would begin tapering its purchases of assets under the existing QE framework.

By and large existing studies have found that on balance tightening in the US or Europe is normally associated with exchange rate depreciation, inflation and output contraction in other countries, while a loosening of monetary policy has the opposite effect (cf. Fukuda et al. 2013, Georgiadis 2015, and IMF 2015a). These magnitude of these effects are correlated with various country characteristics including the degree of trade and financial openness, exchange rate flexibility, flexibility of labor markets, and other factors.

However, there is some thought that such effects may be different in the era of UMP and considerable recent research has been devoted to examining this possibility. Although the frameworks and nomenclature differ somewhat from study to study, in general, because in the era of UMP central banks operate do not primarily by adjust policy rates, and emphasis has been put on forward guidance, these studies have devoted effort to what might be thought of as effects via a real or market channel in which monetary policy affects outcomes by reflecting changes in the underlying economy or via portfolio rebalancing and the Fed's (and other central banks) communications about the long-term outlook for the economy (particularly important in light of extended forward guidance under UMP), and a signaling effect associated with information with respect to future short-term policy rates.

Four recent studies (Chen et a. 2014, Gagnon 2015, Glick 2015, IMF 2015a) and that have examined these issues come to similar conclusions. The IMF spillover report (based in part on Chen et al.) examines the possible impact of real shocks, money shocks, and risk shocks. Real shocks in US lead to higher capital inflows and an increase in industrial production in emerging markets (like China) and non-systemic advanced countries (like Korea), while money shocks do the opposite. The Fund hypothesizes that the real shocks leads to capital inflows in the emerging markets and non-systemic advanced countries for two reasons: first, the shock in the US leads to appreciation (and then the usual trade effects) and second because the improvement in the US lowers the risk premium on investment. They believe the second factor is more important. Where the fund sees current risks globally is with respect to balance sheets, but do not cite either China or Korea as being problematic in this regard. The Korean case will be discussed in more detail in the next section.

Chen et al., Gagnon, and Glick attempt to tease out real or market effects versus announcement or signaling effects and compare responses under conventional monetary policy (CMP) and unconventional monetary policy (UMP) and some instances between the pre-taper period of QE and the situation after May 2013. The studies find no evidence of a diminution of these effects in the UMP period and there is some evidence that they have become more pronounced.

Gagnon examines daily data on US bond yields, exchange rates, foreign bond yields and stock prices from January 2006 through July 2015, distinguishing between effects on typical trading days and Fed Open Market Committee (FOMC) days. Increases in US interest rates are general associated with increases in foreign interest rates, depreciation of foreign currencies, and increases in foreign stock prices. The effects appear to be large, and greatest stock prices.

In general, the interest rate effect is larger on normal trading days, which he interprets as reflecting economic fundamentals, and smaller on FOMC days which reflect a mix of real and announcement effects. There are exceptions, however, where the movement in interest rates is larger on FOMC days, which Gagnon interprets as possibly signaling a “risky” country. Korea is one: Gagnon estimates that a one percentage point rise in US interest rates generates a 0.29 percentage point rise in Korean rates on normal days, and a 0.42 percentage point rise on FOMC days. Japan and China exhibit less responsiveness to changes in US interest rates.

With respect to exchange rates, the Korean and Chinese currencies depreciate modestly in response to increases in US bond yields, while the Japanese yen (and the Swiss franc) exhibit perverse movement, appreciating in response to a US interest rate rise. One possible explanation is that these are essentially safe have currencies: when interest rates rise in the US, investors pull their money out of weaker parts of Europe and Asia, and deposit funds in Switzerland and Japan, respectively.

Foreign stock prices generally rise in response to increases in US bond yields, particularly on normal trading days which Gagnon interprets as reflecting improved fundamentals in the US. One exception is China where the stock market declines slightly when the yield increase occurs on an FOMC day. Gagnon does not uncover statistically significant differences in the CMP and UMP periods.

Glick obtains similar results, though he finds that the exchange rate effects are more pronounced during the UMP period. He also makes the point that “non-announcements” can have an impact: both the Korean won and Japanese yen appreciated in response to 17 September 2015 “non-announcement” easing surprise when the Fed decided not to begin liftoff.⁸

Chen et al. employ the most elaborate techniques, distinguishing between CMP, and UMP before and after the taper announcement in May 2013. They find in general that the spillover effects are larger in the UMP period and that the impact of signal surprises were bigger than the impact of real or market surprises. They also uncover some evidence that the magnitude of these effects has increased in the post-taper period. This suggests that we should be prepared for significant reactions when the Fed finally does exit QE and begins its liftoff.

Liftoff

While UMP appears to have addressed the critical issues facing the US and other crisis economies during the GFC, it carries risks and the consensus is that the Fed and other central banks should return to conventional policies as soon as warranted. In his 2012 Jackson Hole speech Fed Chairman Ben Bernanke identified these as the impairment of certain securities markets as Fed purchases in effect crowded out private agents; growth of an overly large balance sheet could undermine public confidence that the Fed would be able to successfully exit QE; maintenance of low interest rates for a sustained period could induce excessive risk; and lastly that the Fed could incur financial losses if interest rates were to rise unexpectedly, adding to the fiscal burden (Bernanke 2012).⁹

⁸ Although the focus of this analysis is the impact of UMP developments in China also have spillover effects. Glick points out that in response to the RMB depreciation of 11 August 2015, the Korean won depreciated more than any other currency, while the Japanese yen appreciated more than any other currency. According to his statistical analysis, the won (and the Taiwanese dollar) depreciated more than would be explained purely on the basis of trade linkages.

⁹ It is worth re-emphasizing that these risks were magnified by political dysfunction in the US. As Stockton assesses, “a more predictable and less contractionary fiscal policy would have allowed the Federal Reserve to ease back more promptly from their unconventional policies, mitigating any potential adverse side effects” (Stockton 2015 page 48).

The Fed is expected to begin raising interest rates at its final meeting of 2015 in December, or sometime during the Spring of 2016. As Stockton observes “Long-term interest rates likely to rise in anticipation of Fed tightening much as they did when the Fed began to talk about the start of QE tapering in the spring of 2013... Policymakers and market participants should be prepared for bouts of heightened volatility as the process of policy normalization proceeds” (Stockton 2015 p.51). In terms of current conditions, the IMF Stability Report has observed a rotation of risks from developed countries such as those of the Eurozone to the emerging markets, where the key risks are liftoff (and expected balance sheet strains in some economies), weak commodity prices, and uncertainties involving China (IMF 2015b). Eventually the other central banks that have implemented UMP will also liftoff. From the standpoint of Northeast Asia, the Bank of Japan will be the most relevant in this regard, though Japanese exit from QE does not appear imminent.

How this all plays out is scenario-dependent. The most benign scenario would be one in which the liftoff is motivated by robust growth in the US. While there might be some transitory financial market volatility in this scenario, the evidence reviewed in the previous section suggests that it would likely be accompanied by dollar appreciation and more demand for exports from Northeast Asia.

One can mechanically apply the econometric estimates reviewed in the previous section to obtain an illustrative benchmark of the magnitudes of these effects. For example, if interest rates were to rise three percentage points (a three percent real interest rate plus a two percent rate of inflation, the latter already reflected in current market expectations) the dollar might appreciate by something like five to ten percent—not a gigantic move, but one that would shift relative prices if sustained. Depending on the extent to which the yield curve flattened (which would convey information about the expectations of future growth prospects) the boost to foreign output could be on a similar order of magnitude to the rise in long-term rates. Foreign stocks would rally.

But it’s important to remember that even this simple calculation is context dependent. If the US liftoff occurs in a context of weak or weakening growth in Europe, Japan, and/or China, then there would likely be pre-existing pressure on the dollar and the US trade balance. The

additional impetus for appreciation and expansion of the trade deficit would occur against this backdrop and could become a political issue as discussed below.

There are even less benign alternatives, however: an unanticipated bout of inflation could prompt the Fed to raise rates, a development which compared to the robust growth scenario would be associated with weaker aggregate demand in the US, as will a greater degree of financial market volatility globally. Beneficial spillovers would be attenuated.

Probably the worst scenario would be a liftoff motivated by financial stability concerns, where rising rates and slumping aggregate demand in an already low-inflation environment could push the US closer to deflationary trap similar to that observed in Japan for twenty years.

From this perspective, Korea presents the most interesting case in Northeast Asia: it is relatively small, relatively open in both trade and financial terms, and integrated with both the US and Japan, and its recent economic history demonstrates that it is sensitive to these developments.

Korea was badly hit by the 1997-98 financial crisis in significant part due to high levels of corporate leverage and enormous currency and term mismatches in its pattern of borrowing and lending (Noland 2000). While the post-crisis reform and reorganization of the financial sector represented a marked improvement, events during the GFC revealed the country's continuing vulnerability to financial shocks emanating from abroad.

In 2008, Korea had the largest negative net foreign currency asset to trade ratio of any country in Asia (Gagnon 2014). External debt ramped up from \$188 billion in 2005 to \$426 billion or 175 percent of GDP in third quarter of 2008 (Lee and Rhee 2012).

The composition of capital inflows was heavily weighted toward bank loans which are more volatile than direct or portfolio investment flows (Jeanne 2014 Table 2). Short-term external debt (maturity of less than one year) grew even more rapidly than external debt overall, rising from \$66 billion in 2005 to \$190 billion during the third quarter of 2008, equivalent to 45 percent of GDP, similar in magnitude to the level reached during the 1997-98 crisis. In the third quarter of 2008, the ration of short-term debt to reserves reached 79 percent (Lee and Rhee 2012). Korean banks had dealt with potential currency mismatch issues by hedging but ended up creating foreign currency term-mismatches by borrowing short and lending long (Gagnon 2014).

The quantitative analysis of these imbalances is complicated by a number of factors which were at times misunderstood or misconstrued once the crisis was in train. Roughly half of the short-term foreign currency debt was incurred by local branches of foreign banks; short-term indebtedness by Korean banks and corporate borrowers was only about half of the headline number (Lee and Rhee 2012). If they have access to the central bank discount window of the currency in which they are borrowing then it should not be much of an issue. Another \$39 billion of the borrowing and hedging were associated with the shipbuilding industry which is characterized by long lead times in production which generate dollar revenue streams once the ships are placed into operation.

Nevertheless, once the crisis got started, Korea experienced an extraordinary “sudden stop” of capital inflows largely due to a collapse in bank loan roll-over rates, equivalent to -11.8 percent of GDP between the fourth quarter of 2008 and the first quarter of 2009. As illustrated in figure 5, the magnitude of this shock was larger than what Korea experienced during the 1997-98 crisis. The won-dollar exchange rate plunged from 1030.1 at the end of May 2008 to 1467.8 on 28 October, a 42.5 percent depreciation (Figure 6). Credit default spreads widened from 91 bps in early August to 675 bps on 27 October (Lee and Rhee 2012). The capital account deficit reached \$43 billion or more than 20 percent of GDP. In Asia, only Malaysia experienced a bigger fall in capital inflows, and in the Malaysian case this was partly due to capital flight by domestic residents (Jeanne 2014 Table 3).

Korea is a highly open economy with a trade share in excess of 100 percent of GDP. The year-on-year growth rate of Korean exports went from 27 percent in the third quarter of 2008 to -9.9 percent in the fourth quarter, to -24.9 percent in the first quarter of 2009 and the stockmarket fell by nearly 30 percent (figures 7 and 8, respectively), on the same order of magnitude as during the 1997-98 crisis. Some of this income and export slowdown would have occurred simply due to the contraction in world trade, so cannot be interpreted as a pure indication of the Korean crisis, nevertheless it certainly informed the authorities’ and public’s reaction to the crisis.

While Korea had accumulated substantial reserves in the aftermath of the 1997-98 crisis as a method of self-insurance, the government eschewed activating the Chiang Mai Initiative

Multilateralization agreement, and confidence was not restored until the country concluded a \$30 billion swap agreement with the Fed.

Once the immediate crisis period passed, the government began expanding macroprudential measures. Among these the government imposed restrictions on forward derivatives trading in excess of real transactions starting 1 January 2010; increase the ratio of mid- to long-term loan financing to mid- to long-term lending on foreign loan portfolios to 100 percent; set ceilings on banks' foreign exchange derivative contracts relative to bank capital; blocked a range of financial institutions from investing in foreign-currency bonds issued "for purposes of overseas use;" and imposed a stability level on noncore foreign exchange liabilities of banks.¹⁰

These moves signaled that the Korean authorities were aware of the mismatch issue and was trying to address it. Nevertheless, Korean corporates continued to rely heavily on short-term debt (Gagnon 2014 Table 8) and during the May 2013 taper tantrum when it experienced the largest exchange rate depreciation of any emerging market (Glick 2015).

This perceived vulnerability has conditioned the response of Korean authorities since. Calvo and Reinhart (2000) coined the term "fear of floating" to describe currency market interventions by authorities afraid that the exchange rate was moving too far too fast. The received wisdom is that the 1997-98 Asian crisis was due in part to authorities trying to maintain pegged or quasi-pegged exchange rates for too long.

Recent research suggests a growing comfort with floating by Asian central banks. Brooks (2015) calculates an index of exchange market pressure and then analyzes the extent to which central banks have permitted this pressure to be passed through to actual exchange rate changes, examining the pre-QE, pre-taper QE, and post-taper periods. In general he finds a dwindling aversion to floating but with a few countries—India, Taiwan, and Korea lagging. In the case of Korea, Brooks estimates that fear of floating has grown in each successive period.

He then disaggregates episodes of appreciation and depreciation. The results are striking: both Korea and Taiwan exhibit a strong asymmetry, permitting much more pass-through during

¹⁰ However, as observed by the US Treasury, in June 2015, "Korea announced a series of steps to facilitate capital outflows, which would reduce underlying pressure for won appreciation stemming from its current account surplus" (US Treasury 2015 page 23).

periods of depreciation pressure relative to periods of market pressure to appreciate. Using a somewhat cruder model, Pontines and Siregar (2010) also obtain the result that Korea asymmetrically fears appreciation, and find that the degree of aversion to appreciation is the same whether they use the US dollar or the Chinese RMB as the reference currency. Perhaps it is not coincidental that Korea and Taiwan are highly integrated with China, and as noted earlier, appear to be quite sensitive to movements in the value of the Chinese RMB. Indeed, Subramanian and Kessler (2013) find that the Korean won and Taiwanese dollar more closely track the Chinese RMB than the US dollar.

This pattern has not gone unnoticed. Under Section 3004 of the Omnibus Trade and Competitiveness Act of 1988, the US Treasury is required to submit to the Congress semiannual reports addressing “whether countries manipulate the rate of exchange between their currency and the United States dollar for purposes of preventing effective balance of payments adjustment or gaining unfair competitive advantage in international trade” (US Treasury 2015 page 2). This language parallels language in the International Monetary Fund (IMF) Articles of Agreement. In February 2013, the G-20 membership (including the United States, China, Japan, and Korea) committed to refraining from competitive devaluation and not targeting exchange rates for competitive purposes. This commitment was most recently reaffirmed in September 2015 by the G20 finance ministers and central bank governors.

Korea figures prominently in the most recent Treasury report (October 2015) though neither it nor any other country is identified as a currency manipulator. The Treasury bill of particulars has five components: maintenance of a large current account surplus; an undervalued currency; intervention in the currency market to limit appreciation; the existence of fiscal space to address some of the underlying issues (though Treasury officials will admit that one’s assessment of how much fiscal space exists is contingent on how much is effectively set aside to deal with North Korea contingencies); and lack of transparency about intervention. Treasury argues based on its own analysis and that of the IMF, that the won is undervalued, and that through the first half of 2015, the Bank of Korea has intervened to limit the won’s appreciation. However, and this is critical for Treasury’s bottom line, it recognizes that the last large interventions (July-August 2015) were to support the won (i.e. on the “right” side of the market from Treasury’s perspective). Treasury concludes that “Given its undervalued currency, Korea

should not intervene in the foreign exchange market to limit the won's appreciation should market pressure for appreciation return, and limit its intervention in the foreign exchange market to the exceptional circumstance of disorderly market conditions" (US Treasury 2015 page 24).

Others are less circumspect. Bergsten and Gagnon (2012) establish four criteria for determining if a country is an exchange rate manipulator: "(1) Their foreign exchange reserves at year-end 2011 exceeded six months of goods and services imports...; (2) Their foreign exchange reserves grew faster than their GDP between 2001 and 2011; (3) Their current account was in surplus on average (as a share of GDP) between 2001 and 2011; and (4) They had gross national income per capita in 2010 of at least \$3,000, which is roughly the median of 215 countries covered by the World Bank's Atlas method rankings" (Bergsten and Gagnon 2012 page 5). Korea, along with ten other countries (excluding oil exporters, but including China and Japan) made the list.¹¹

Bergsten and Gagnon (2012) suggest several policies to address what they regard as a significant macroeconomic issue affecting the United States. As a precursor, the US should try to obtain voluntary commitments to refrain from currency intervention. They observe that emphasizing the joint or coordinated nature of such a commitment insofar as a number of the countries that they identify as currency manipulators (including Korea) manage their floats vis the RMB, and they face common concerns about loss competitiveness if they appreciate and their rivals do not. However, if the US is unable to obtain voluntary commitments to abstain from intervening to limit appreciation, should select from a menu of four new policies: "First, it will undertake countervailing currency intervention (CCI) against countries with convertible currencies by buying amounts of their currencies equal to the amounts of dollars they are buying themselves, to neutralize the impact on exchange rates. Second, it will tax the earnings on, or restrict further purchases of, dollar assets acquired by intervening countries with inconvertible currencies (where CCI could therefore not be fully effective) to penalize them for building up these positions. Third, it will hereafter treat manipulated exchange rates as export subsidies for

¹¹ Bergsten and Gagnon (2012) recognize that for national security reasons Korea might want to hold reserves in excess of what might be deemed necessary on strictly economic grounds. The Bennet-Hatch-Carper amendment, discussed below, includes a national security waiver which could be relevant in the Korean case.

purposes of levying countervailing import duties. Fourth, hopefully with a number of other adversely affected countries, it will bring a case against the manipulators in the World Trade Organization (WTO) that would authorize more wide-ranging trade retaliation” (Bergsten and Gagnon 2012 page 1).

The growing restiveness of the US Congress, reminiscent of the atmosphere of the late 1980s which gave rise to Section 3004 in the first place, over these concerns surfaced dramatically during 2015 Congressional debates over the authorization of trade promotion authority (TPA) which was linked to the imminent conclusion of negotiations over the Trans-Pacific Partnership (TPP) agreement. Unprecedented legislation was proposed directly conditioning trade policy on currency concerns.¹² In the end, the TPP agreement commits all TPP countries “to avoid unfair currency practices and refrain from competitive devaluation. TPP countries will publicly report their foreign-exchange intervention and foreign reserves data,” some for the first time. “Officials from all TPP countries will consult regularly to address macroeconomic issues, including to engage on efforts to avoid unfair currency practices.” The declaration confirms the TPP countries “will avoid manipulating exchange rates to gain an unfair competitive advantage over other Parties.” Commits those countries “to take policy actions to foster an exchange rate system that reflects underlying economic fundamentals and to avoid persistent exchange rate misalignments” and “to refrain from competitive devaluation and targeting exchange rates for competitive purposes” (Joint Declaration 2015). Were Korea to join TPP, the currency market intervention reporting would go beyond current practice, but it would not seem to be too heavy a lift.

While some of the currency proposals failed in the Congress, the eventual compromise which permitted the passage of the TPA legislation has opened the door for the Bennet-Hatch-Carper amendment to the Customs and Enforcement Bill which was passed in parallel with TPA.¹³ The Bennet-Hatch-Carper amendment has three components: a definition of currency

¹² This discussion of US politics draws on Bergsten (2015). See that source for additional detail.

¹³ The proposed Portman-Stabenow amendment, which would have required “enforceable disciplines” on “negotiating objectives” in the TPP itself failed narrowly in the Senate. It is worth noting that Sen. Rob Portman (R-Oh) is a former US Trade Representative. The Schumer-Graham amendment which authorizes the imposition of countervailing duties against exports of

manipulation, a protocol for “enhanced engagement” (i.e. consultation) with trade partners deemed currency manipulators, and a menu of remedies if consultation fails.

On the first issue, the amendment requires Treasury as part of its existing semiannual exchange rate reports to conduct “enhanced analysis” of major trade partners that have “a significant bilateral trade surplus with the United States... a material current account surplus and... engaged in persistent one-sided intervention in the foreign exchange market.” It then mandates that “the President, through the Secretary of the Treasury shall convene enhanced bilateral engagement with each country for which an enhanced analysis ... is included in the report...” If, after one year, the President determines that the situation has not been rectified, it specifies that the President “shall” take “one or more” specified actions. These include prohibiting “the Overseas Private Investment Corporation from approving any new financing;” excluding that country from government procurement; instructing the US Executive Director at the IMF to advocate for enhanced surveillance of that country; and lastly, instruct the USTR “to take into account” “in assessing whether to enter into a bilateral or regional trade agreement” with that country, “the extent to which that country has failed to adopt appropriate policies to correct” currency undervaluation and trade imbalances.

These provisions have implications for Northeast Asia, possibly Korea in particular.¹⁴ While China has been the centerpiece of concern in the run-up to the Congressional debate, its own adjustment, followed by market turbulence, a slowing of growth, and intervention to offset depreciation, means that the country is unlikely to be cited as a currency manipulator soon. And while Japan’s QE policy has contributed to a depreciation of the yen, from the American perspective this is a “market-driven” exchange rate movement, not one generated by intervention in the currency market per se. So Japan is also unlikely to be cited as a currency manipulator.

currency manipulators passed in the Senate but is strongly opposed by the House Republican leadership and is expected to be dropped in conference.

¹⁴ As Bergsten (2015) observes, the US auto assemblers were the prime political driver behind these legislative proposals, driven by competitiveness concerns primarily vis-a-vis Japanese producers, but Korean assemblers as well. The Ford Motor Company was particularly active in this regard. It is worth recalling that Ford was twice blocked in its attempt to purchase Kia during that company’s denationalization (Noland 2000), and was a vocal opponent of the KORUS free trade agreement.

Korea is a different matter, however. At times it has run huge current account surpluses, which in a world of inadequate aggregate demand can be seen as shifting output and jobs from deficit countries. In principle, the objectives of the US and Korean governments are aligned: President Park has made reducing reliance on external demand and shifting the economy toward domestic demand a primary goal of her economic policy. Both the US and Korean governments would like to see Korean surpluses come down in an orderly fashion. Korea has implemented fiscal stimulus. But Korean households are heavily indebted and consumption has not been very responsive to the stimulus.

Moreover, Korea was named a currency manipulator in the first Treasury report in 1988 and is once again in the crosshairs. Indeed, if Treasury comes under pressure to “do something” to forestall more rash initiatives in the Congress, Korea and Taiwan are likely to be at the top of the list. In this regard, the Treasury recognition that the last major Korean interventions in the market (July-August 2015) were to support the won, is likely to forestall imminent action. At this point, Treasury’s main focus is to improve transparency and discuss the use of fiscal space. Further out on the horizon, if as expected, the Bennet-Hatch-Carper amendment becomes law, it could undercut Korea’s efforts to attract direct investment from the US and interfere with Korea’s ability to join TPP as part of the next round of entrants (Schott 2015).¹⁵

Some commentators (e.g. Bergsten-Gagnon 2012, Bergsten 2015, and implicitly, US Treasury 2015) have drawn a normative distinction between the exchange rate movements that occur as a byproduct of QE and those produced by direct interventions in the currency markets. From a Korean perspective, this may well be a distinction without a difference: larger, richer countries adopt UMP in response to self-inflicted wounds, but when smaller, poorer, more open countries move to dampen the exchange rate implications of the spillover, under legislation currently contemplated by the US Congress, they are threatened with exclusion from government procurement markets and preferential trade deals.

¹⁵ With regard to government procurement, the legislation includes a provision that exempts signatories to the Government Procurement Agreement, of which Korea is one, from the exclusion from government procurement remedy. This remedy could still apply to China, however.

As indicated previously, the US and Korean governments have a shared goal in seeing Korea's reliance on external surpluses attenuate. One would hope that there is scope for cooperation. But this occurs against a backdrop in which many in the US regard surplus countries of stealing output and jobs, while many in Korea see the country as victimized by crises which have their origins in larger, richer countries.

Under these circumstances, the resistance of Asian countries to the inclusion of exchange rate provisions in trade agreements is understandable, and, if the perspective embodied in the Bergsten-Gagnon-Treasury line were to prevail, laudable. Nevertheless, the issue is not going away, and from the standpoint of enlightened self-interest, it behooves Korea to come to some kind of accommodation with the US on the issue. More open and frank consultations than have transpired thus far on transparency and the nature of Korean monetary policy and fiscal space and a realistic appraisal of North Korean contingencies would be the place to begin.

Conclusions

The Global Financial Crisis has its origins in the United States and Europe. Unsteady implementation of fiscal policy responses forced an overreliance on monetary policy. The world has now entered uncharted territory in the aftermath of the crisis. The Fed and several other major central banks around the world have adopted unconventional monetary policies, and in the case of the Fed, appear to be at the cusp of exiting UMP and re-entering a world of positive interest rates. Liftoff by the Bank of Japan appears less imminent, though hopefully will occur eventually under benign circumstances.

That process of liftoff is likely to be accompanied by spillovers which will be felt in Northeast Asia due to trade and financial linkages with the US. The specifics of how this all plays out are partly a function of scenario (a robustly growing US is the most optimistic situation) and conditions elsewhere. Exit from QE under robust growth conditions may be accompanied by financial market turbulence, but in the end should confer positive spillovers on Northeast Asia.

Korea presents an interesting case because it is relatively small and relatively open and integrated in both trade and financial terms with both the United States and Japan. It appears that

the Bank of Korea targets the exchange rate with the RMB and intervenes to dampen appreciation. (This paper has focused on unconventional monetary policy, but developments in represent China an independent but related source of uncertainty.) Although Korean exchange rate intervention may reflect underlying concerns over competitiveness vis-a-vis China and similarly situated third countries like Taiwan, not the United States, this behavior has landed Korea front and center in US political debates over currency manipulation. There is no better evidence of the importance of this issue than the fact that President Barack Obama raised the currency issue with President Park Geun-hye at their meeting in October 2015.

Despite the country's current account surpluses, Koreans tend to see themselves as victims of a crisis that has its origins in policy mistakes and questionable if not criminal behavior in larger, richer countries. A successful US exit from QE is likely to contribute to dollar appreciation vis-à-vis the won, and a widening of the bilateral merchandise trade deficit. While these would be predictable outcomes of a successful macroeconomic adjustment, ironically they may also contribute to political frictions and complicate the implementation of trade policy. While one can question the justness of this emerging American view, from a standpoint of enlightened self-interest it would be advisable for Korea to reach some accommodation with the US on this issue. As part of this process of engagement, the US government needs to recognize explicitly that in its northern neighbor South Korea faces the world largest contingent liability, a situation that justifies the accumulation of larger reserves than would be justified on conventional economic grounds alone. Likewise Korea should be prepared for a more serious engagement between the two governments than has occurred to date on transparency and the nature of Korean monetary and fiscal policies.

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Figure 1

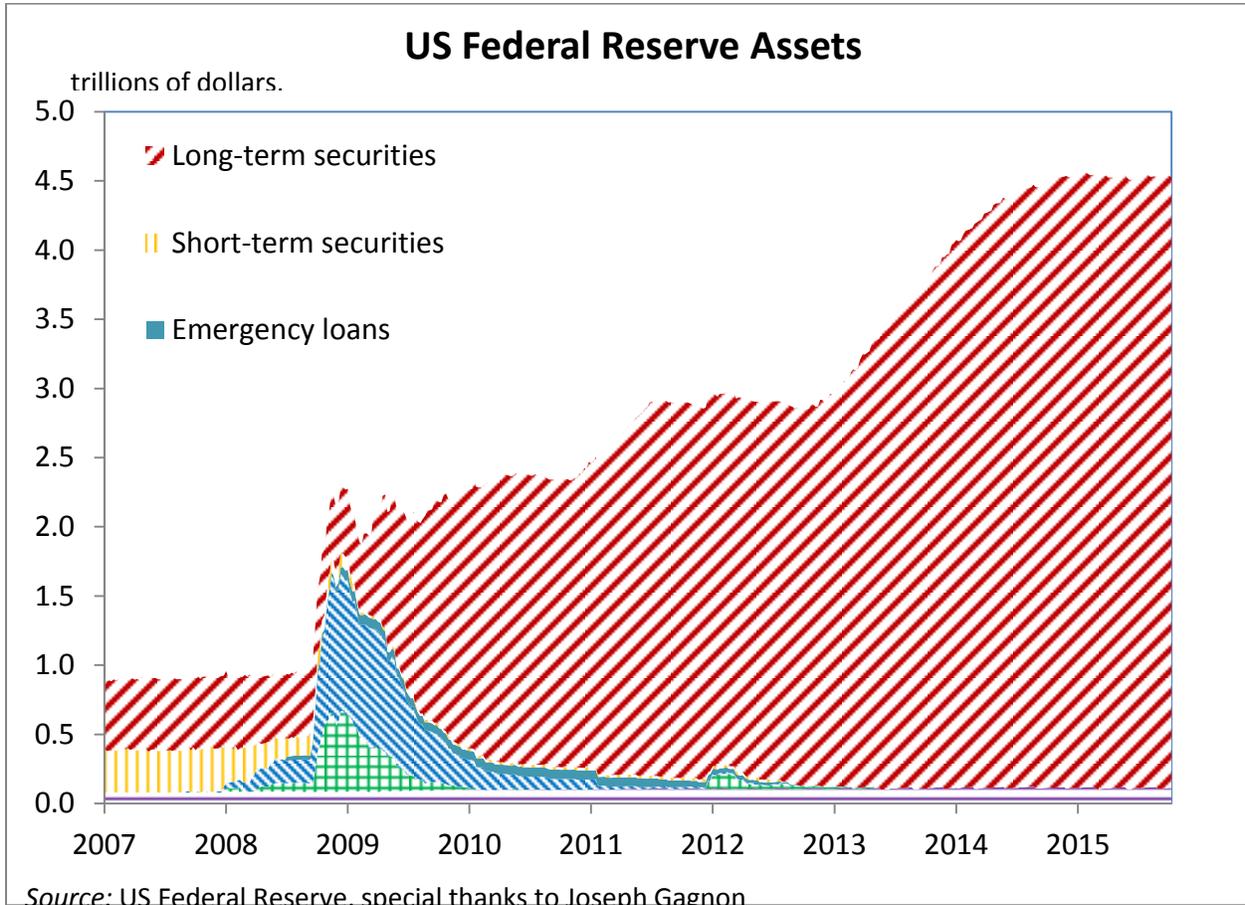


Figure 2

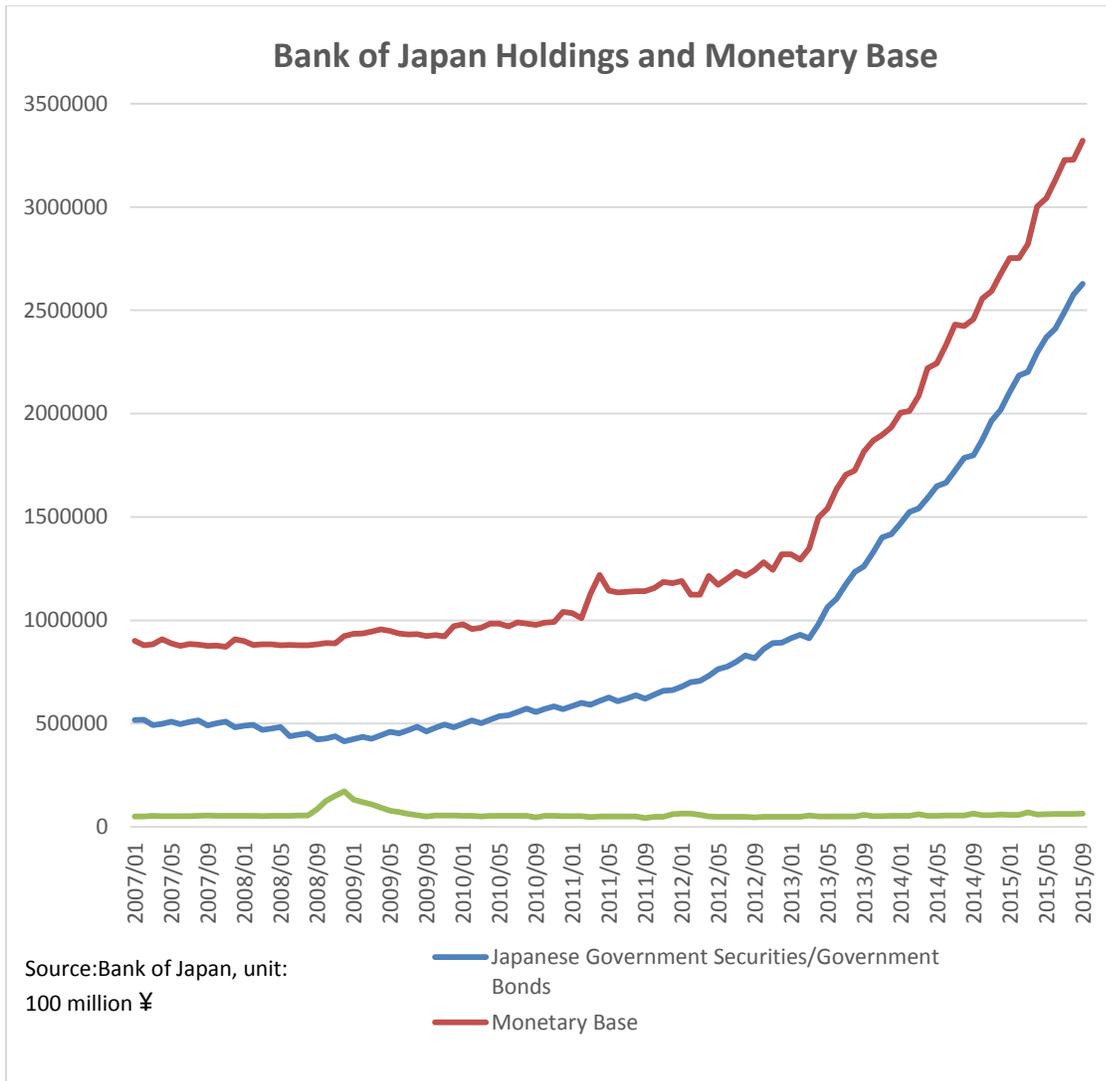


Figure 3

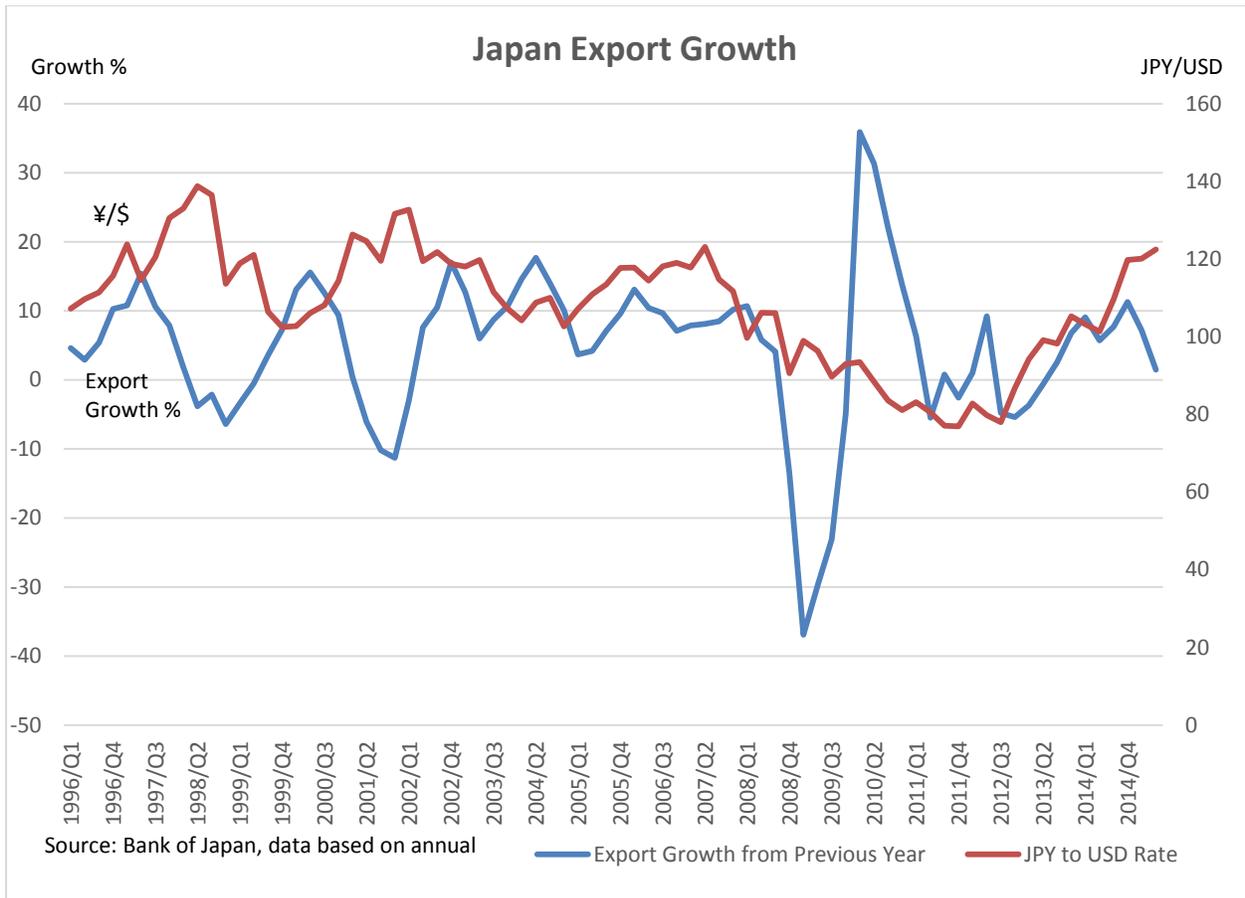


Figure 4

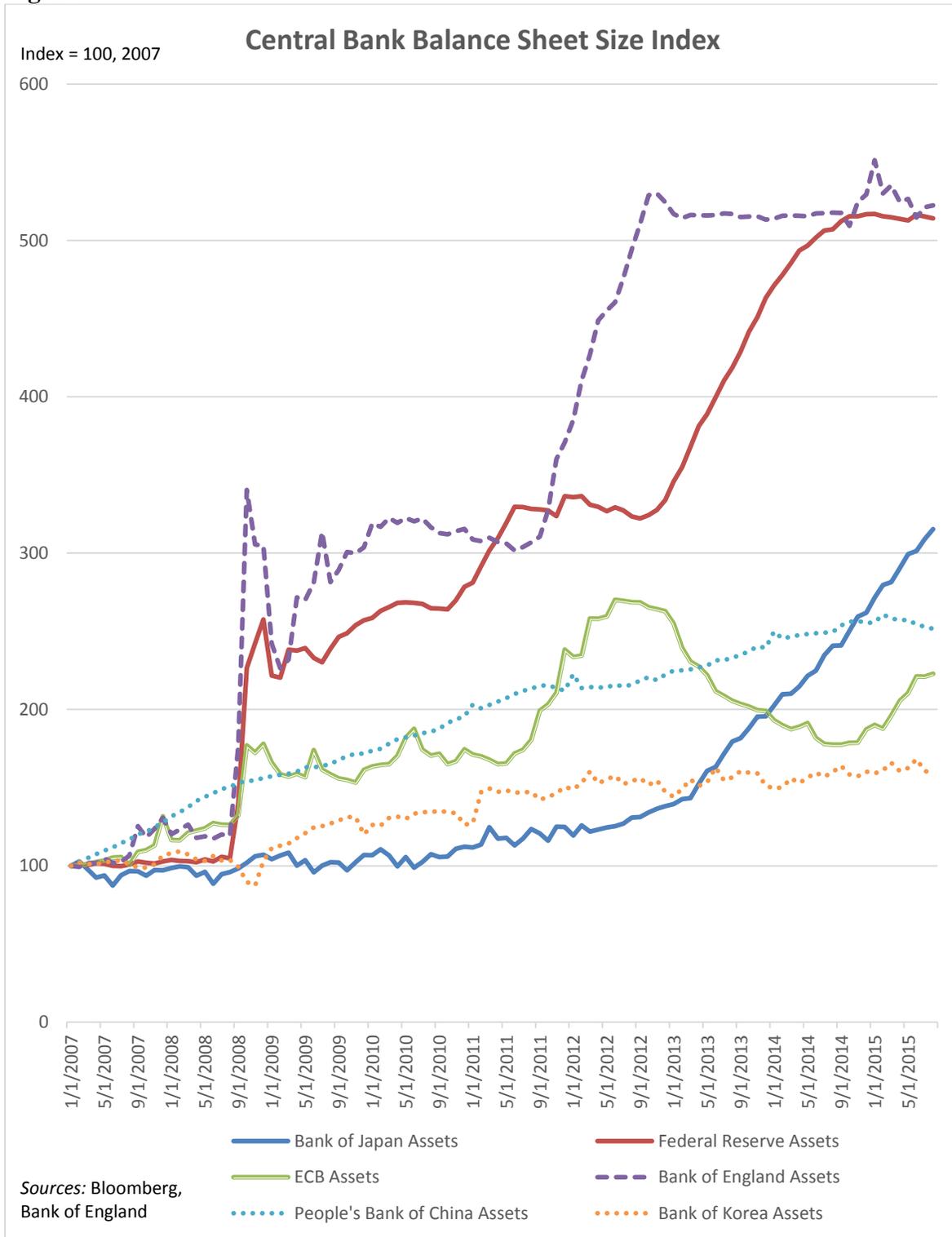


Figure 5

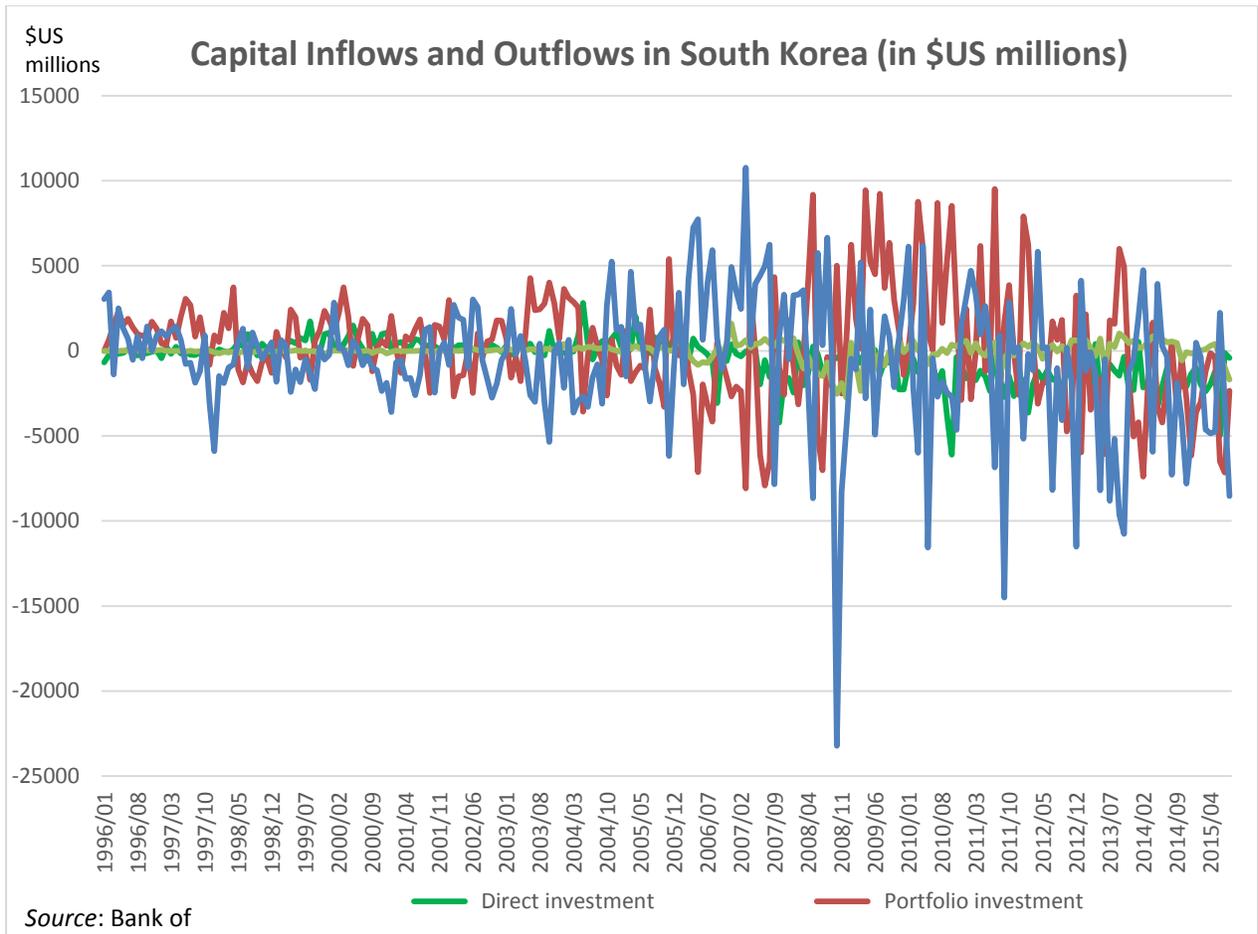


Figure 6

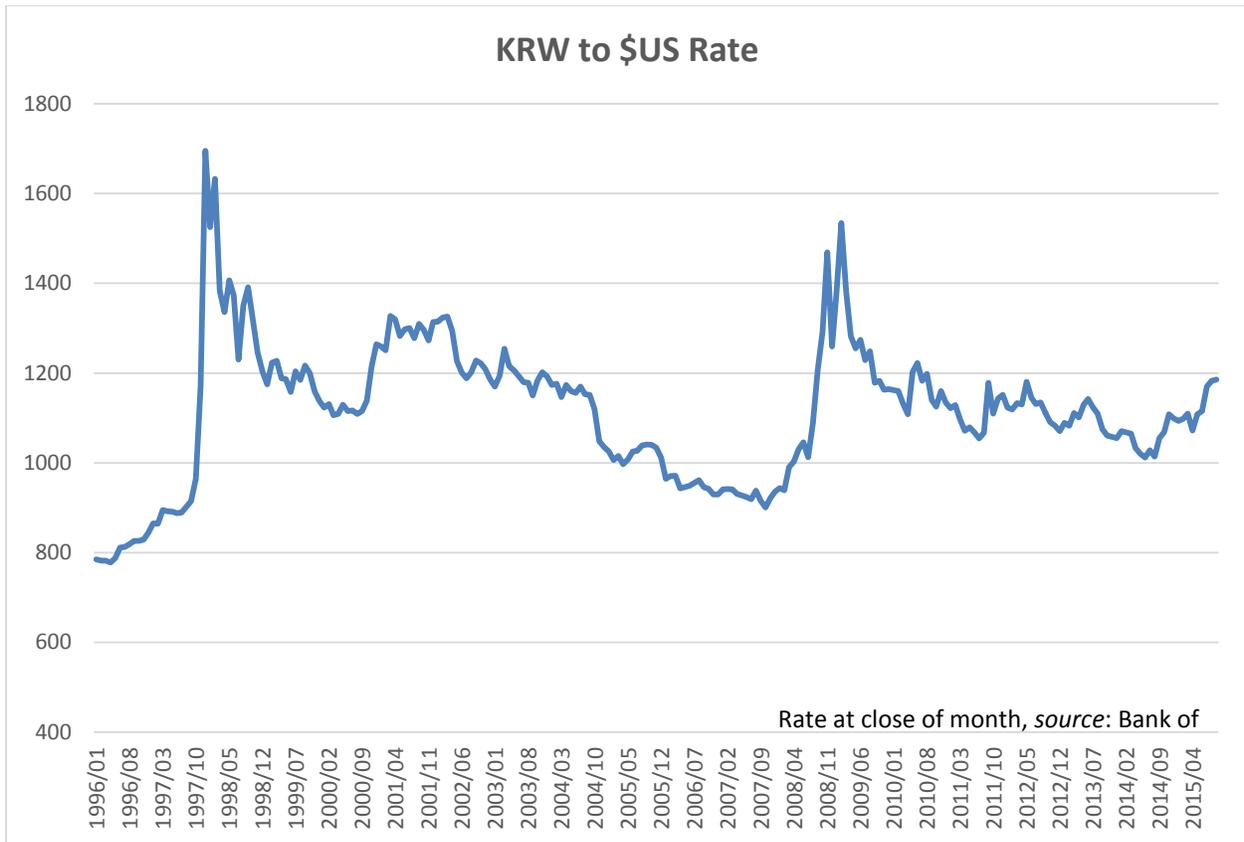


Figure 7

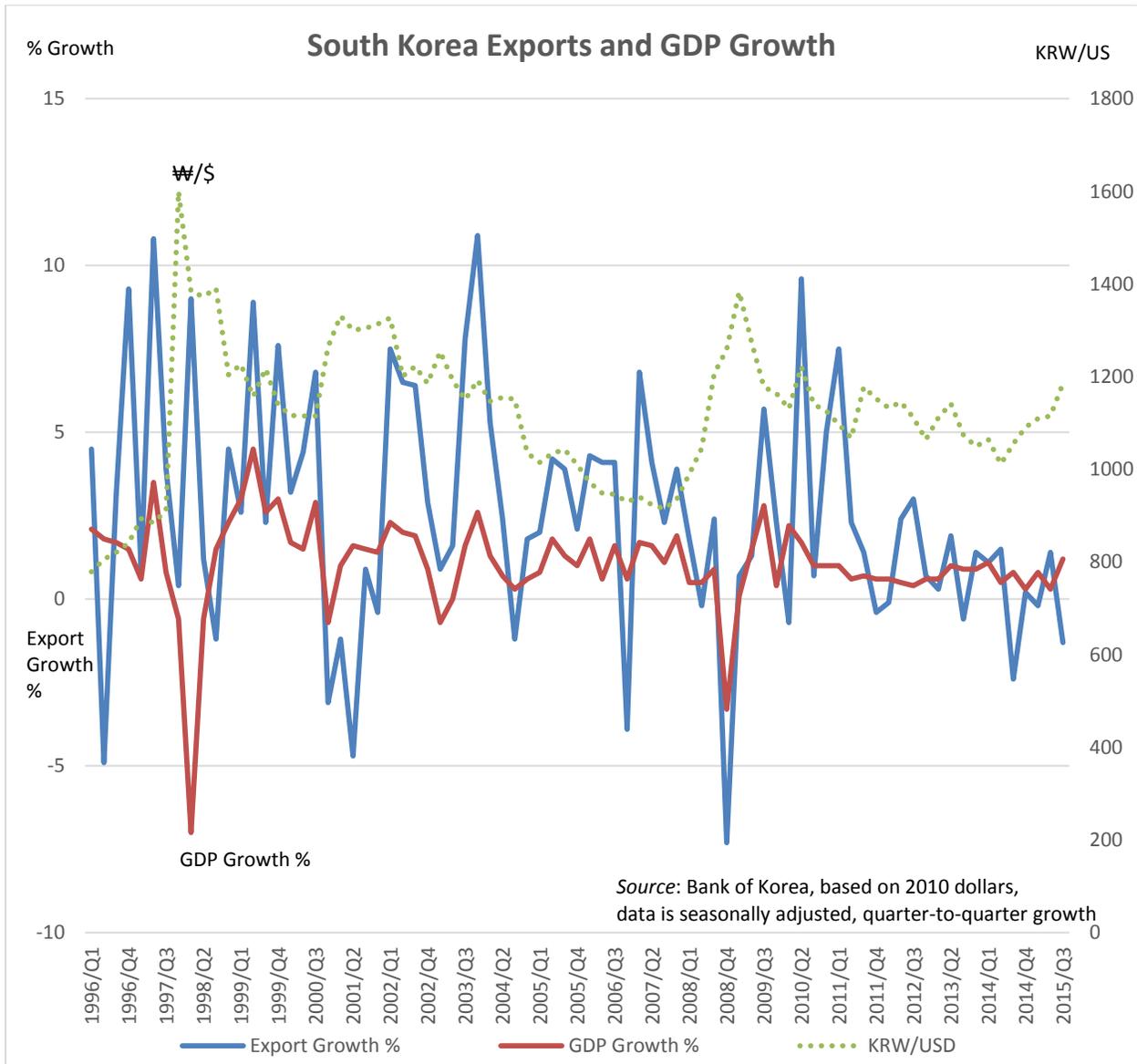


Figure 8

