
# Latvia's Recession: The Cost of Adjustment With An "Internal Devaluation"

Mark Weisbrot and Rebecca Ray

February 2010

**Center for Economic and Policy Research**
1611 Connecticut Avenue, NW, Suite 400
Washington, D.C. 20009
202-293-5380
**www.cepr.net**

# Contents



## About the Authors

Mark Weisbrot is Co-Director, and Rebecca Ray is a Research Assistant at the Center for Economic and Policy Research in Washington, DC.

## Acknowledgements

The authors would like to thank Janis Oslejs, José Antonio Cordero, Jeffrey Sommers, John Schmitt, Dean Baker, and Dan Beeton for helpful comments.

# Executive Summary

The Latvian recession, which is now more than two years old, has seen a world-historical drop in GDP of more than 25 percent. The IMF projects another 4 percent drop this year, and predicts that the total loss of output from peak to bottom will reach 30 percent. This would make Latvia's loss more than that of the U.S. Great Depression downturn of 1929-1933.

This paper argues that the depth of the recession and the difficulty of recovery are attributable in large part to the decision to maintain the country's overvalued fixed exchange rate. With the nominal exchange rate fixed, the adjustment in the real exchange rate takes place through pushing down prices and wages. The IMF, which has a current loan agreement with Latvia, acknowledges this, referring to "the original program strategy of internal devaluation through wage and price declines."

But even after two years of recession, with unemployment hitting 22 percent, the real effective exchange rate has only dropped 5.8 percent from its peak.

The overvalued exchange rate hurts Latvia's tradable goods industries by making the country's exports more expensive, and its imports artificially cheap. It also harms the investment climate generally, causes spikes in interest rates when investors fear that the peg will collapse, as well as capital flight. The IMF projects that 2009 will see a total capital and financial account deficit of 4.2 billion euros, and that an additional 1.5 billion euros, or 9 percent of GDP, will leave the country in 2010.

An even bigger problem is fiscal policy, which the government has stated is pro-cyclical. An expansionary fiscal policy runs the risk of undermining confidence in the peg; it would also go against the effort to lower wages and prices for purposes of internal devaluation. The current IMF program, which the government has signed on to, calls for a fiscal tightening of 6.5 percent of GDP for 2010. This would be accomplished through a combination of spending cuts and tax increases. The IMF acknowledges that this fiscal tightening "will likely cause continued demand weakness through early 2010." [1]

Expansionary monetary policy also runs counter to the need to maintain the fixed exchange rate. Since the IMF is expecting "significant deflationary pressures for the next year or two," the inability to pursue expansionary monetary policy – and even tightening it, as happened various times last year – is another serious obstacle to recovery.[2]

The end result is that the economy is trapped in a deep recession in which all of the major macroeconomic policy variables – the exchange rate, fiscal policy, and monetary policy – are either pro-cyclical or cannot be utilized to help stimulate the economy. This makes it very difficult to get out of the recession.

In addition, as a result of the recession, the Latvian government is rapidly accumulating debt. From just 7.9 percent of GDP in 2007, Latvia's debt is projected at 74 percent of GDP for this year, stabilizing at 89 percent of GDP in 2014. This would put Latvia far outside the Maastricht

[1] IMF (2009b, 20).
[2] Ibid. (4).

debt/GDP limit of 60 percent of GDP for adopting the euro. The goal of adopting the euro has been one of the main arguments for making the sacrifices necessary to keep the peg.

Latvia's experience has been similar to that of Argentina from 1999-2002, which also suffered a deep recession as it tried unsuccessfully to adjust its economy under a fixed exchange rate regime. The government tried to maintain confidence in the peg through contractionary fiscal and monetary policies, and borrowing for interventions to support the currency. But with rising interest rates and a rising public debt burden, this proved impossible. At the end of 2001, the government defaulted on its debt and by January 2002 it abandoned the peg. It is worth noting that, despite widespread consensus that the Argentine economy would experience prolonged economic problems after its default and devaluation, and the collapse of its banking system, the economy contracted for just one quarter before beginning a robust recovery in which it grew by 66 percent over six years.

In comparison, the IMF's projected recovery for the Latvian economy is weak, just 13.9 percent for the four years 2010-2014.

A devaluation would have significant negative balance sheet effects, because about 89 percent of Latvian residents' debt is in foreign currency (mostly euros). However, there is much that the government could do to mitigate the damage from a devaluation. It could allow households who borrowed in foreign currency for their mortgages to redenominate these debts into local currency at the pre-devaluation fixed rate, as was done in Argentina. In the housing sector, this redenomination could be limited to owner-occupied housing, and the amount of coverage could be limited to the price of the median home, or some additional fraction above that. Of course such a plan would imply losses for the banks holding these mortgages; however the government could subsidize these losses as necessary to share some of the burden.

If a devaluation is done in a planned way, rather than holding the peg until it collapses under a speculative attack, a better outcome is likely. It is important to note that there are also serious balance sheet effects of continuing along the present course, as indicated by the rise in non-performing loans – as the recession continues, increasing numbers of borrowers cannot pay off their loans due to falling incomes and unemployment. Despite the problems associated with devaluation, the risks of continuing indefinitely along the present course would appear to be greater.

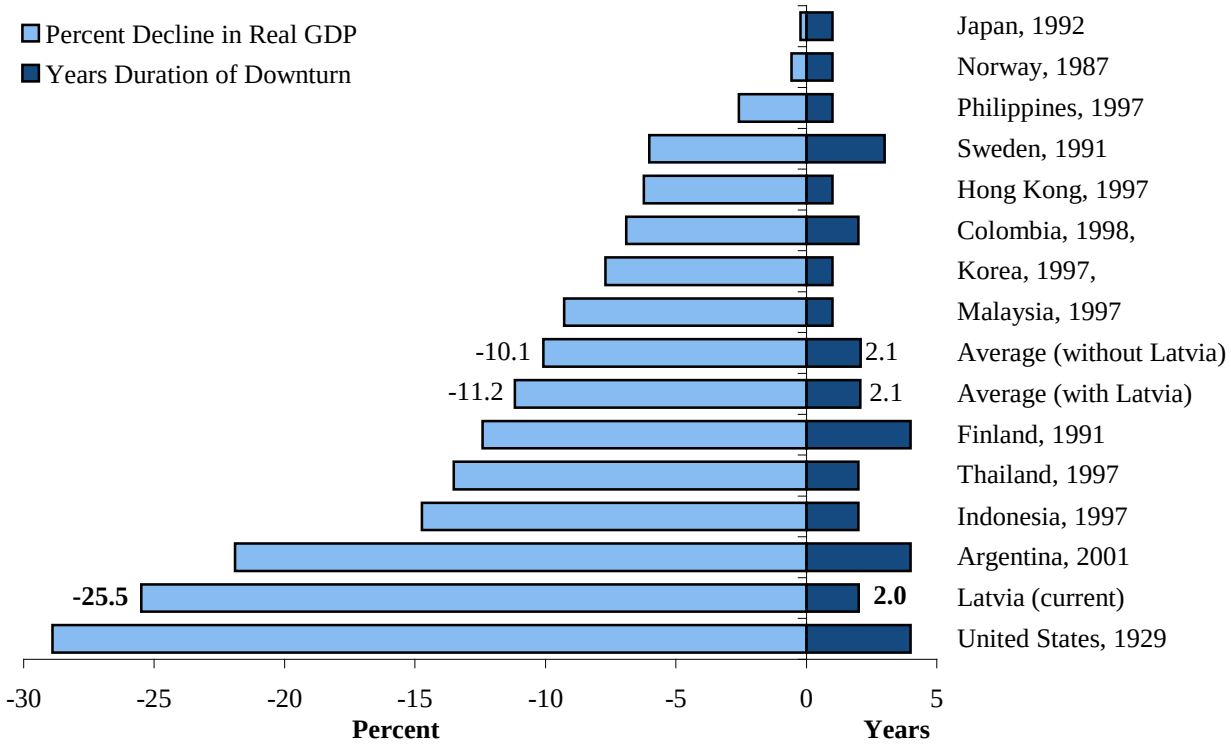
# Introduction

The Latvian economy went into recession at the beginning of 2008 and has since lost an estimated 25.5 percent of GDP, making it the worst two-year decline on record. Figure 1, adapted from Reinhart and Rogoff (2009), shows the Latvian loss of output in comparison with past economic crises. The Great Depression downturn of 1929-1933 in the United States is steeper at 29 percent, but that is over a four year period. The IMF is now projecting that Latvia's GDP loss will be 30 percent from peak to trough, which would be worse than the loss of output for United States for 1929-1933.

It is worth noting that the recession that comes closest to Latvia's 2008-2009 loss of output, although it took nearly four years, is that of Argentina in 1998-2002. As can be seen in Figure 1, GDP in Argentina during that time collapsed by 22 percent. During that time, Argentina was pursuing a similar policy: in response to external shocks, it attempted to maintain an overvalued exchange rate, with the peso fixed at one peso to one dollar. As discussed below, adjustment under the peg proved impossible; instead, the pegged exchange rate eventually collapsed after three and a half years of recession.

This paper argues that the difficulties associated with adjustment under a fixed exchange rate regime has in Latvia – as in Argentina – deepened the recession and made recovery extraordinarily difficult.

**FIGURE 1**
**Economic Crises: Lost Output**




Sources: IMF (2010), Reinhart and Rogoff (2009), and authors' calculations.

# Latvia's Recession

The collapse of Latvia's economy has been severe by any measure. In addition to the record loss of output noted above, the labor market has been devastated. Unemployment increased from 5.3 percent in the fourth quarter of 2007, to more than 22 percent today.[3] The IMF predicts that "[m]ore than 10 percent of employees, including 20–30 percent of those in central government administration, are expected to lose their jobs through 2011." [4] Credit to households and the private sector, which had been growing at rates as high as 90 and 70 percent, respectively, collapsed into negative territory. Overdue and non-performing loans, which were at less than 0.5 percent before the crisis, rose to 7 percent (and over 8 percent for household loans) by the end of 2009.[5]

It is true that Latvia had an unsustainable, bubble-driven growth, with excessive borrowing, prior to the collapse. Credit to households grew by more than 60 percent annually from 2002-2006.[6] The current account deficit passed 22 percent of GDP in both 2006 and 2007. The real estate bubble, as in many countries, was a significant part of the story – including speculators "flipping" houses and, in Latvia, not even having to pay capital gains taxes on their profits.[7] All of these conditions made a serious recession almost inevitable.

It is worth noting that the pegged exchange rate is part of the problem of the expansion that led to the collapse. It was an essential part of what allowed so much domestic borrowing to take place in euros. It is currently estimated that 89 percent of Latvian residents' debt is in foreign currency.[8] Because the peg was widely believed to be permanent and inviolable, households and firms borrowed at very low interest rates, as if there were no exchange rate risk. Banks, led by foreign financial institutions, made the loans, also acting as if there were no exchange rate risk. However, once the global recession hit and the foreign banks began retrenching from Latvia, exchange rate uncertainty became palpable and had enormous impact on the economy, as will be seen.

However, even given that the bubble growth and current account deficit implied that some adjustment was inevitable, the question is: how much economic decline is required in order to adjust to a sustainable growth path? The fact that Latvia's losses are so extreme by any historical comparison indicates that policy errors have been made. There were many bubble economies in the world before the world recession of 2008 – including the United States with its $8 trillion housing bubble. But none have suffered the magnitude of losses experienced by Latvia.

## Adjustment Under a Fixed Exchange Rate Regime

An economy that has to adjust to external shocks, or has been spending internationally beyond its means, or has an overvalued currency, or some combination of all of these – as in the case of Latvia – will often accomplish this at least partly through a fall in the value of its currency. The currency

[3] This is Eurostat's standardized unemployment rate, as reported in IMF (2009a). Methodology can be found at (http://epp.eurostat.ec.europa.eu).
[4] IMF (2009b, 21)
[5] IMF (2009b, 19).
[6] See Cordero (2009) for a discussion of the boom and collapse.
[7] For more on Latvia's real estate and capital gains taxes, see IMF (2006) and UNECE (2001).
[8] IMF (2009b, 11).

depreciation will generally improve the trade balance[9] (even if there is some time lag), by making imports more expensive and exports cheaper on international markets. The improvement in the trade balance would add some stimulus to the economy.

Of course this adjustment has costs. Imports become more expensive, which implies some real reduction in living standards. There are also balance sheet effects: firms and households (as well as the government) that borrowed in foreign currency will have an increased debt burden as a result of the fall in the exchange rate. In the case of Latvia, where 89 percent of private debt is in foreign currency, the Central Bank has argued that a devaluation would actually be contractionary because of these balance sheet effects and related impact on the economy. This argument is addressed below; but first, let us look at how adjustment – and potential economic recovery – can take place while maintaining the peg.

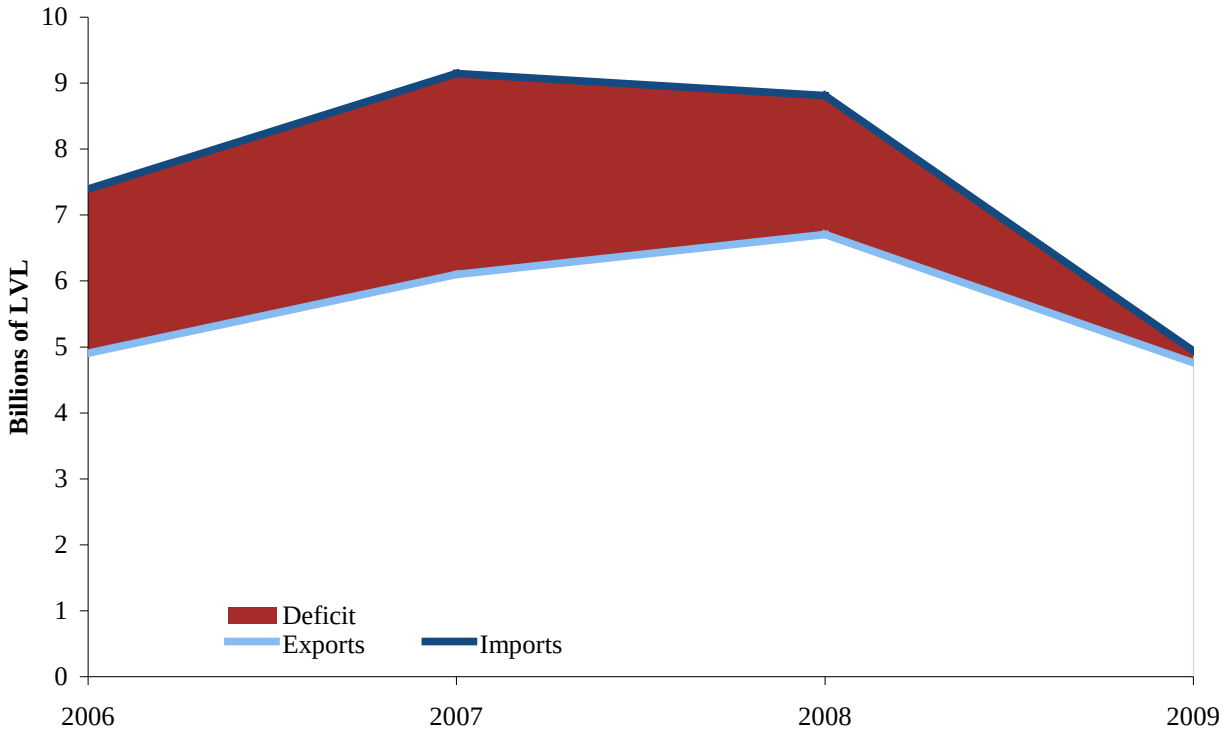
With regard to the trade and current account balance, the adjustment takes place through the contraction of the economy. Since imports depend on domestic demand, and exports depend on the demand of other countries, if the country's economy shrinks fast enough relative to its trading partners, the trade balance will improve. This adjustment has actually taken place in Latvia, as can be seen in Figure 2. The recession has brought about a collapse of imports that is so steep that it has nearly eliminated the trade deficit, which started 2008 at 2.1 billion lats, or 13 percent of GDP. As Figure 2 shows, the trade deficit was nearly eliminated even though there was also a sharp drop-off in exports, partly because of the world recession.

This does not, however, eliminate the problem of the over-valued currency. As the IMF notes in its most recent review, "trading partner currencies have depreciated sharply, and the real exchange rate remains overvalued, suggesting that a current account problem may reemerge once the economy returns to growth." [10] But perhaps more importantly, the overvalued currency – to the extent that it is perceived as such – presents other, more severe problems (see below).

With the nominal exchange rate fixed, the adjustment in the real exchange rate takes place through pushing down prices and wages. The IMF acknowledges this, referring to "the original program strategy of internal devaluation through wage and price declines." [11]

[9] Provided that the Marshall-Lerner condition is met, i.e. the absolute value of the price elasticities of imports and exports must sum to greater than one.
[10] IMF (2009b, 37).
[11] Ibid. (5).

**FIGURE 2**
**Latvia: Trade in Goods and Services (Seasonally Adjusted)**

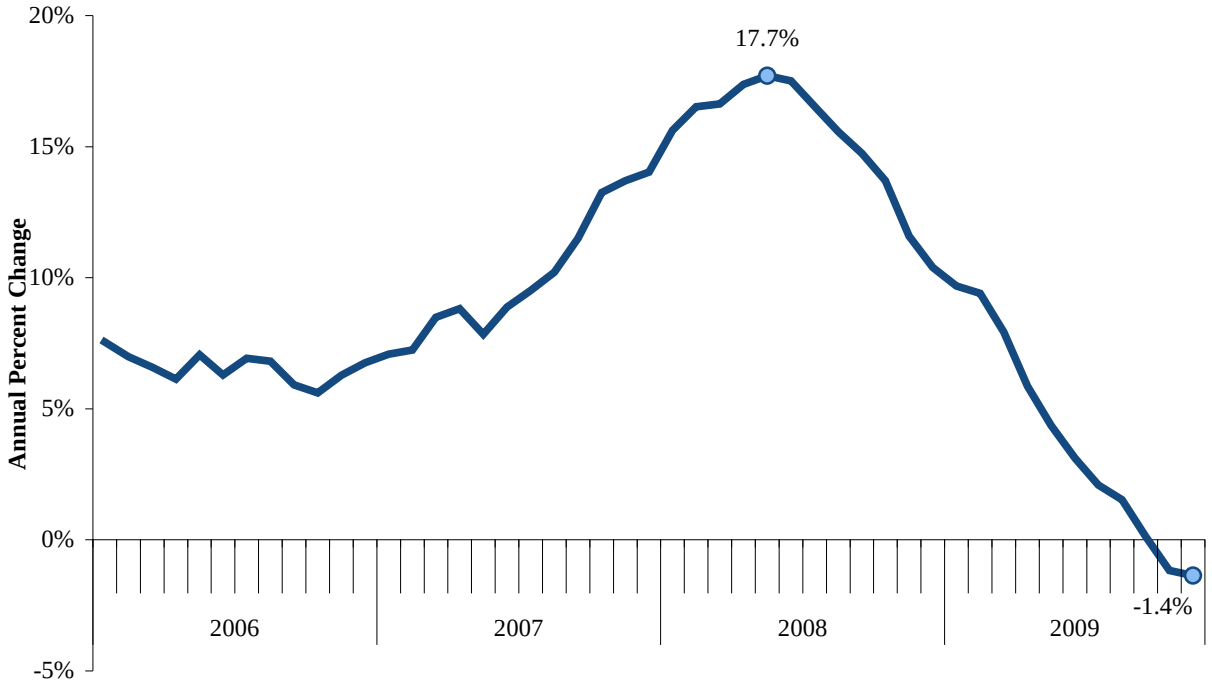



| | | | | |
|---|---|---|---|---|
| | | *Billions of Lats* | | |
| Exports | 4.9 | 6.1 | 6.7 | 4.8 |
| Imports | 7.4 | 9.1 | 8.8 | 4.9 |
| Balance | -2.5 | -3.0 | -2.1 | -0.2 |
| | | *Percent of GDP* | | |
| Exports | 43.9% | 41.2% | 41.4% | 36.6% |
| Imports | 66.2% | 61.8% | 54.4% | 38.0% |
| Balance | -22.3% | -20.6% | -13.0% | -1.4% |

Source: IMF (2009b).

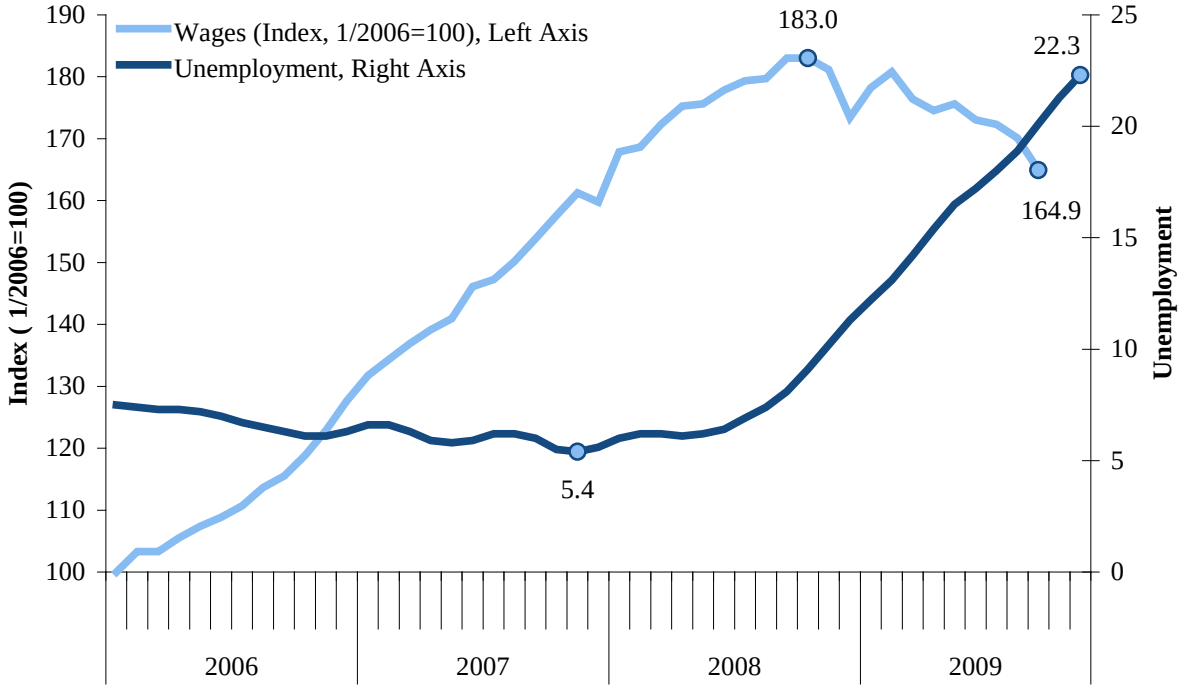
The problem is that such an internal devaluation may require a long period of rising and steep unemployment. As can be seen in Figure 3, even after the economy had gone though two years of recession, with unemployment hitting 22 percent and a real GDP contraction of more than 25 percent, the real effective exchange rate – which had appreciated by 38 percent from 2006 to its peak in March 2009 – has only dropped 5.8 percent from its peak. This is partly because of declines in the nominal exchange rate of Latvia's trading partners, but also because of the limited amount of deflation and nominal wage declines. As can be seen in Figure 4, the monthly year-over-year change in the consumer price index, while declining precipitously from a peak of 17.7 percent in May 2008, just crossed into negative territory in the last quarter of 2009, after nearly two years of recession. Nominal wages have fallen about 10 percent since December 2008, as shown in Figure 5.

**FIGURE 4**
**Latvia: Consumer Price Index, Year-Over-Year Change**




Source: IMF (2010).

**FIGURE 5**
**Latvia: Nominal Wages and Unemployment Rate, Seasonally Adjusted**

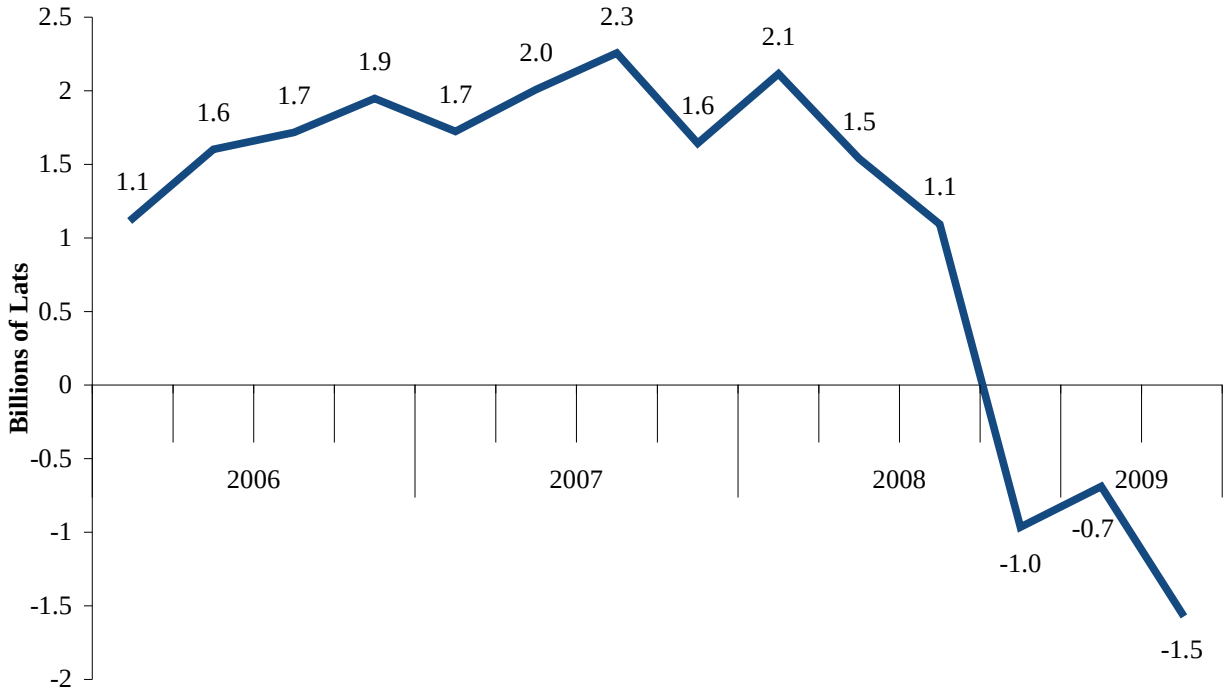



Note: Wages data show nominal gross wages, public and private sectors.
Source: European Commission (2010) and Latvijas Statistika (2010).

By these measures it is clear that, despite two years of the world's deepest recession, most of the authorities' desired adjustment has been lacking. What are the consequences of maintaining the fixed exchange rate under these conditions? First, there is the direct impact of an overvalued currency on the tradable goods sectors. As noted above, although trade has been balanced because of the collapse of imports, exports have also declined sharply and it is not clear how much they can recover without a currency depreciation. The IMF takes note of this problem in their last (October 2009) review of Latvia's loan agreement, stating that "It will take time before Latvia becomes cost competitive enough to attract investors into manufacturing and other tradable sectors." [12]

But the impact of the overvalued lats on the tradable goods sector is perhaps the least of the problem. The perception that the currency is overvalued, and that the peg will have to be abandoned at some point, causes a number of other problems. One of these is capital flight. Figure 6 charts the monthly balance of the capital and financial account, showing a net outflow of 2.2 billion lats for the first half of 2009. The IMF projects that 2009 will see a total capital and financial account deficit of 4.2 billion euros (2.9 billion lats), and that 1.5 billion euros (1.1 billion lats), or 9 percent of GDP, will leave the country in 2010.

**FIGURE 6**
**Latvia: Capital and Financial Account, Seasonally Adjusted**




Source: IMF (2010).

Of course capital flight will ebb and flow with confidence in the peg; but as the recession continues, it is difficult to imagine that it will stabilize completely. The uncertainty over the exchange rate harms the entire investment climate. It also leads to spikes in the interest rate for lat-denominated

[12] Ibid. (20).

debt, for example between the April 2008 and March 2009, when it rose from 8.8 to more than 18 percent.[13]

Perhaps an even bigger problem is fiscal policy, which the government has stated is pro-cyclical.[14] An expansionary fiscal policy runs the risk of undermining confidence in the peg; it would also go against the effort to lower wages and prices for purposes of internal devaluation. The current IMF program, which the government has signed on to, calls for a fiscal tightening of 6.5 percent of GDP for 2010. This would be accomplished through a combination of spending cuts and tax increases. The IMF acknowledges that this fiscal tightening "will likely cause continued demand weakness through early 2010." [15]

Then there is monetary policy. The policy interest rate is currently at 4.0 percent, despite the depth of the recession and inflation running at -1.4 percent year-over-year in November 2009.

The IMF's October 2009 review states:

> [IMF] Staff expressed concerns at the lowering of reserve requirements in late 2008, which had created excess lats liquidity, and cuts in official interest rates in January, March and May. Though these had limited effects on market rates they sent the contradictory signal that monetary policy was being loosened, which was not consistent with the need to defend the peg.[16]

In other words, expansionary monetary policy in the midst of a steep recession runs counter to the need to maintain the fixed exchange rate. Since the IMF is expecting "significant deflationary pressures for the next year or two,"[17] the inability to pursue expansionary monetary policy – and even tightening it, as happened various times last year[18] – can be a serious obstacle to recovery.

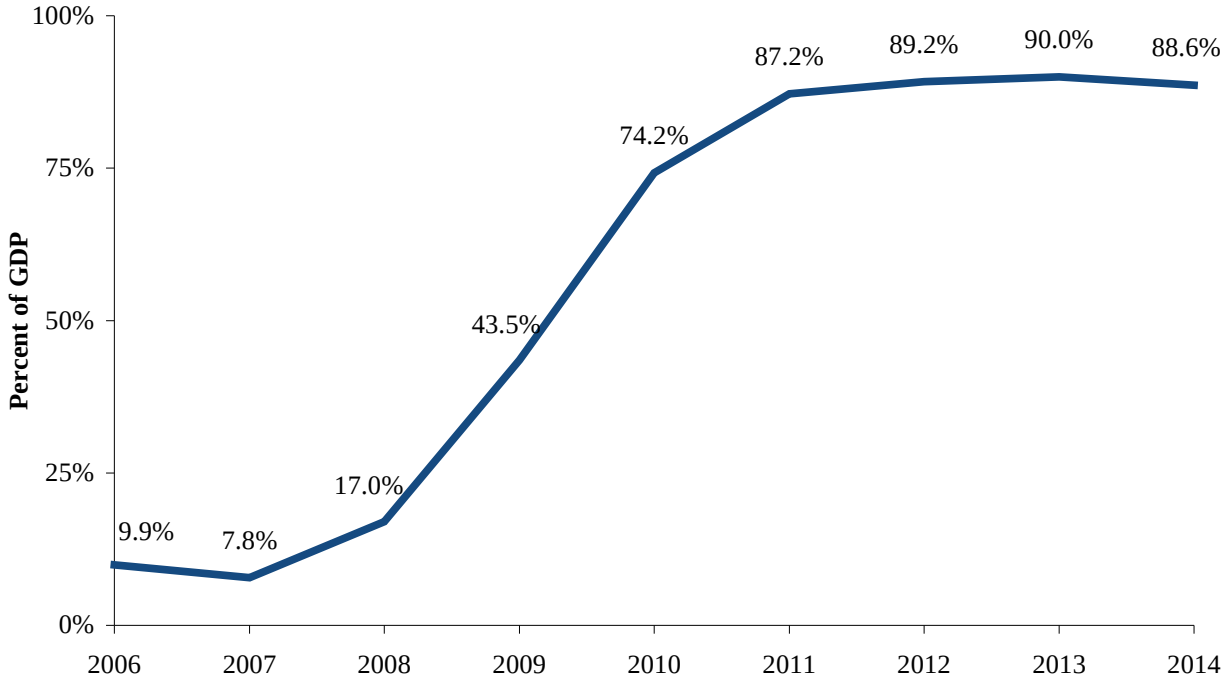
The end result is that the economy is trapped in a deep recession in which all of the major macroeconomic policy variables – the exchange rate, fiscal policy, and monetary policy – are either pro-cyclical or cannot be utilized to help stimulate the economy. This makes it very difficult to get out of the recession.

Another problem of the adjustment process is Latvia's rapidly rising public debt. Figure 7 shows public-sector debt as a percentage of GDP, with IMF projections from 2009 to 2014. The debt has grown from 7.9 percent of GDP in 2007 to a projected 74.2 percent of GDP for this year. It is expected to stabilize at 89 percent of GDP in 2014. This is assuming that the government sticks to the IMF program – something that the IMF itself is not all that confident about. It also assumes that, if the program is adhered to, that it has the desired effects. Recall that IMF projections for 2009 made in January (of 2009) were for a 5 percent decline in GDP, far less than the 18 percent drop that materialized.[19]

---

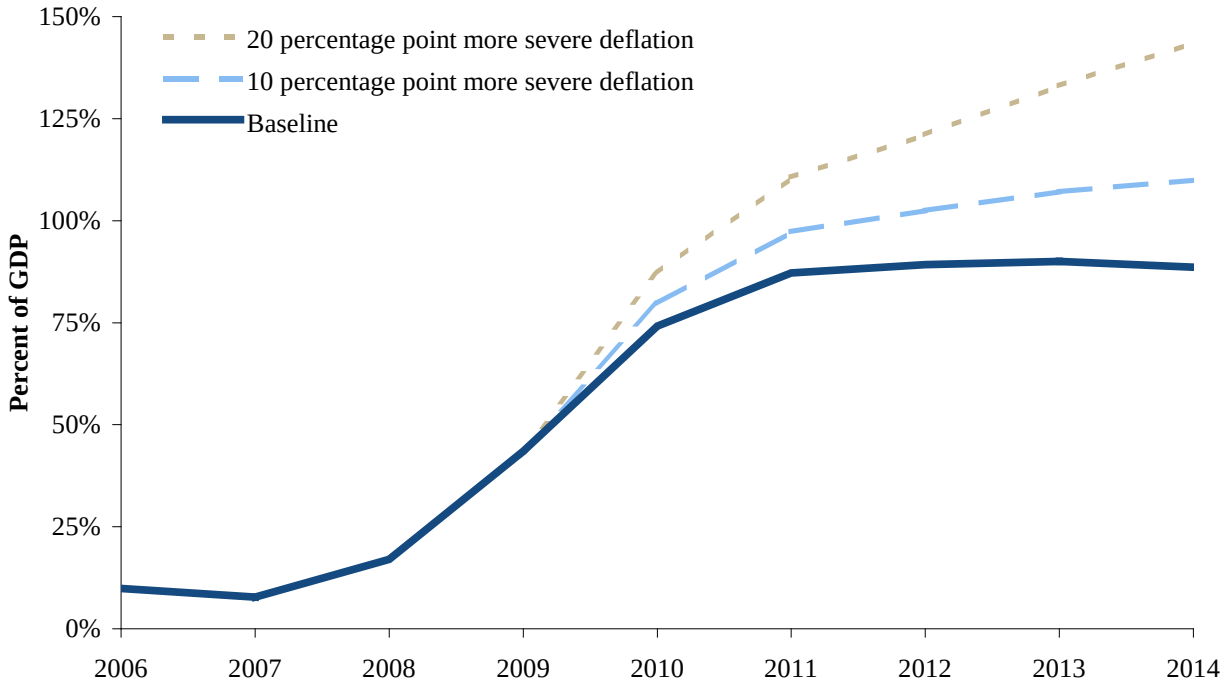
[13] IMF (2009b, 21) and Latvijas Banka (2009).
[14] Rutkaste (2010). Rutkaste is Deputy Head of the Monetary Policy Department and advisor to the Governor of the Latvia's Central Bank.
[15] IMF (2009b, 20).
[16] Ibid. (33).
[17] Ibid (4).
[18] IMF (2009b, 16, 33)
[19] IMF (2009a, 45).

**FIGURE 7**
**Latvia: Public-Sector Debt, as a Percentage of GDP**




Note: Data for 2009 onward are projections.
Source: IMF (2009b, 68).

**FIGURE 8**
**Latvia: Public-Sector Debt Projections, as a Percentage of GDP, Under Various Deflation Scenarios**




Source: Ibid. (30).

This rapid debt build up poses at least two problems. First, one of the most important arguments for subjecting Latvia to all this pain in order to keep the peg has been the promise of adopting the euro when the crisis is past. The Central Bank has announced a goal of euro adoption by 2014.[20] But the Maastricht limit for joining the Eurozone is 60 percent of GDP. So Latvia faces the prospect that after years of economic contraction and stagnation, it will not get the reward that was supposed to justify the pain.

Second, the deflation that the country is now experiencing – and which is part of the government's program of internal devaluation – has the potential to seriously exacerbate the public debt problem. Figure 8 shows the program projection for debt as a percentage of GDP under various deflation scenarios. With 10 percentage points more deflation, the debt-to-GDP ratio rises much more rapidly and does not stabilize by 2014.

There are other social and long-term economic costs to a prolonged and deep recession accompanied by budget cuts. The World Bank has expressed concern about two of the measures that are part of the current austerity package: the cuts in pensions, since many retirees are poor; and education cuts. According the IMF, the Bank is worried that:

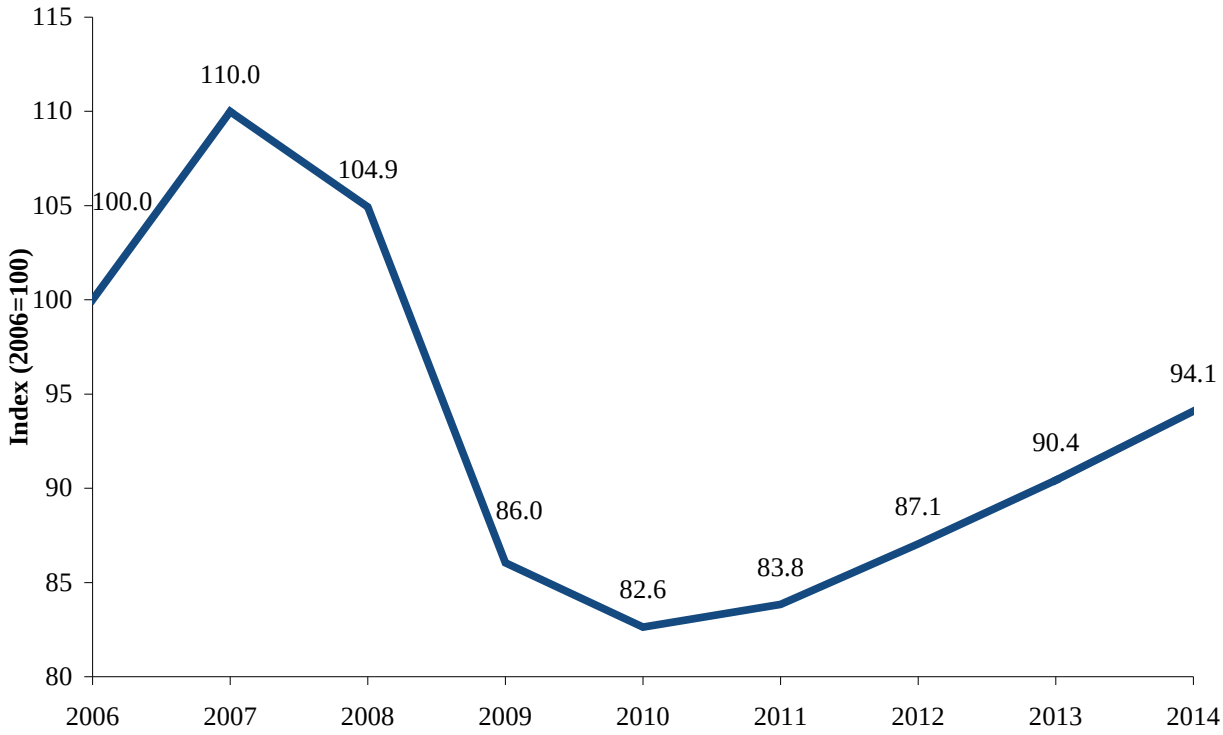
> sharp cuts in teacher wages will discourage new entrants to the teaching profession, worsen the quality of education, and undermine long-term growth. Limiting schooling for 5- and 6-year olds will have a regressive impact on poorer families and would be inconsistent with Latvia's objectives of converging with EU levels of educational achievement.[21]

In addition, since Latvians can work in other countries in the European Union, many are leaving the country. This increases the dependency ratio (the ratio of retirees and children to the working-age population) and will worsen long-term demographic and budget problems.

It is also worth looking at the projected growth scenario under the current program. Figure 9 shows the IMF growth projections through 2014, under program assumptions – which in the recent past have proved over-optimistic. These projections show Latvia with a GDP in 2014 that has still not caught up with 2006. For the four years of recovery beginning this year, the Fund is projecting just 13.9 percent cumulative growth – an unusually poor recovery from such anenormously deep recession.

[20] Latvijas Banka (2009).
[21] IMF (2009b, 46).

**FIGURE 9**
**Latvia: Real GDP**




Note: Data from 2009 onward are projections.
Source: IMF (2009b and 2010).

# Argentina's Experience with Adjustment Under a Fixed Exchange Rate

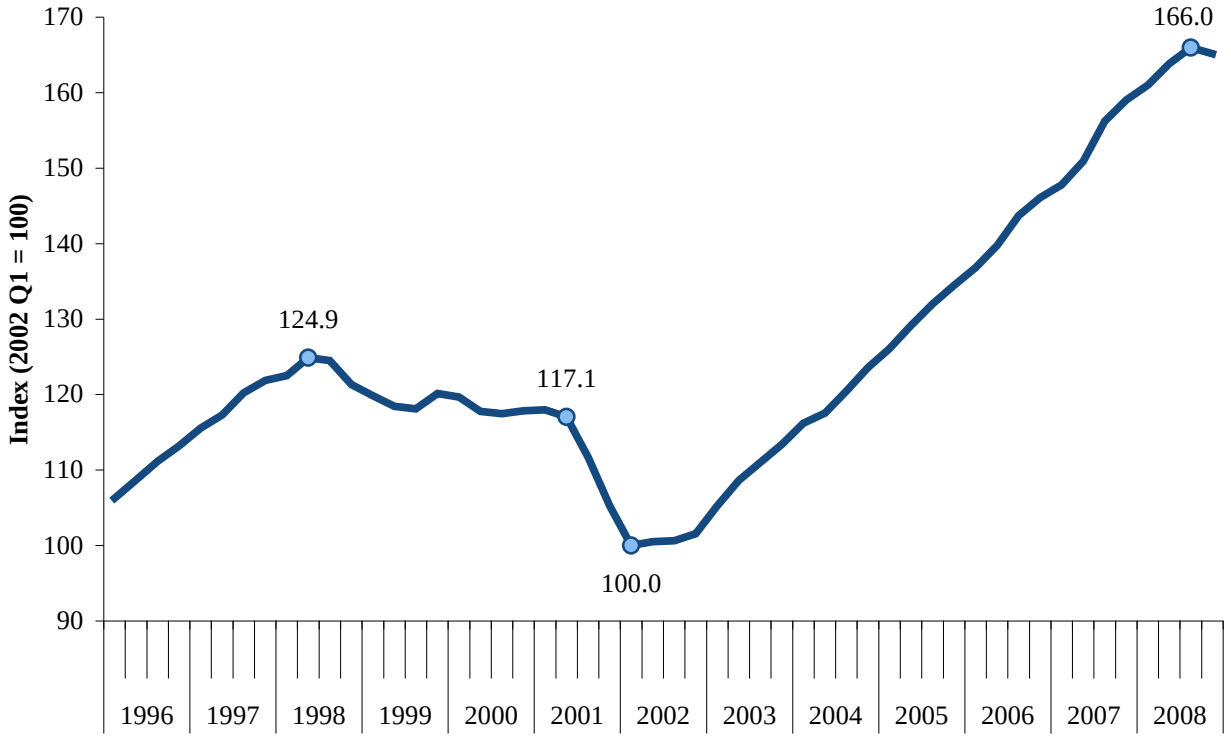
It is worth briefly comparing Argentina's experience from 1998-2002 with Latvia's current situation. Argentina's recession began in mid-1998, and the government was committed to keeping the peg. The economy had been hit by a number of external shocks, including financial "contagion" from the Asian economic crisis. The government tried to maintain confidence in the peg through contractionary fiscal and monetary policies, and borrowing for interventions to support the currency. But with rising interest rates and a rising foreign public debt burden – and therefore a worsening current account – this proved impossible. At the end of 2001, the government defaulted on its debt and by January 2002 it abandoned the peg.

Although there are differences in the circumstances, both crises starkly illustrate the most important difficulties of adjustment under a fixed exchange rate regime. Most importantly, in Argentina, as in Latvia, the government could not use any of the expansionary macroeconomic policies that were needed to get out the recession. The weakened confidence in the peg, in both countries, also had serious harmful effects on the overall investment climate and promoted capital flight. In the Argentine case, the country found itself politically unable to submit to the austerity demands of the IMF, and defaulted on its debt. Latvia has also seen its public debt soar during the recession, but it started from a much lower base. It is conceivable that it can continue borrowing, cutting spending, and supporting the peg for some time – since the amounts that the EU and IMF are willing to lend in this case are very large relative to Latvia's GDP. But it is still not clear how it will return to normal growth.

It is also worth noting that Argentina's currency collapse was combined with a record $100 billion default on its debt, and a collapse of the financial system. The consensus opinion was that the Argentine economy would be in serious trouble for years to come. There were also predictions of hyperinflation. However, after the default and currency collapse in January 2002, the Argentine economy contracted for only one quarter. Although this one quarter showed a steep drop of 5 percent of GDP, the economy then began a robust expansion in which it grew 66 percent over six years.[22] (Compare this, on an annualized basis, to the 13.9 percent growth in Figure 9 that the IMF is projecting, optimistically, for the first four years of Latvia's recovery, should it begin in 2011). Argentina's GDP collapse under the fixed exchange rate regime, and recovery after devaluation, is shown in Figure 10. The Argentine expansion was not export led; only in the first 6 months did net exports make a positive contribution to GDP growth[23]. The economy did get a boost from capital inflows, due to the devaluation, something that presumably would also happen in Latvia. But mostly the devaluation enabled the government to pursue the macroeconomic policies that were needed for recovery.[24]

[22] Weisbrot and Sandoval (2007).
[23] See Table 1, Weisbrot and Sandoval (2007).
[24] For more details of the Argentine recession and recovery, and the policies involved, see Frenkel (2007) and Frenkel and Rapetti (2007).

**FIGURE 10**
**Argentina: Real Quarterly GDP, Seasonally Adjusted**




Source: INDEC (2010).

## Problems Associated With Devaluation

One downside of devaluation is the increase in inflation that results from the increase in import prices. With regard to this problem, Latvia is in a much better position to devalue now than it has been in the past few years. First, as described above, inflation is negative, and deflation is a significant potential threat to economic recovery. So increased inflation would have important positive effects. The probability of a devaluation leading to a sustained inflation that is high and persistent enough to be economically damaging is low. In this regard it is also helpful that, as a result of the recession, imports are now projected at 31.8 percent of GDP, down nearly half from 61.8 percent in 2007.[25]

The more important problem involves the balance sheet effects of a devaluation. Most of the borrowing in the run-up to the crash was in foreign currency (mainly euros). This includes mortgage borrowing. About 89 percent of residents' debt is in foreign currency.[26] The Central Bank's argument is that a devaluation would set off a chain of loan defaults so large that it would cause a financial collapse, and the net result of the devaluation would be contractionary.[27]

While the balance sheet effects represent a serious problem, there is much that the government could do to mitigate the damage from a devaluation. First, it could allow the households who

[25] IMF (2009b, 50).
[26] IMF (2009b, 11).
[27] Rutkaste (2010).

borrowed in foreign currency for their mortgages to redenominate these debts into local currency at the pre-devaluation fixed rate. This is what was done in Argentina.[28] In the housing sector, this redenomination could be limited to owner-occupied housing, and the amount of coverage could be limited to the price of the median home, or some additional fraction above that. Of course such a plan would imply losses for the banks holding these mortgages; however the government could subsidize these losses as necessary to share some of the burden. Since there are sizeable costs associated with foreclosure, some of these losses would be avoided in such a plan.

According to Latvia's central bank, Latvian banks have set aside more than $1 billion lats, or more than 8.4 percent of GDP, in loan loss provisions.[29] If this is accurate, then it seems that the banks are already prepared to absorb much of the potential losses from the devaluation.

The government might also have to use exchange controls and other macro-economic policy tools to stabilize the exchange rate in the wake of the devaluation, as were successfully used in Argentina after the collapse of the peg there.[30]

The point here is not to develop a plan for managing the devaluation, but to note that there are various possibilities to deal with the balance sheet effects. This could be done in various ways, depending on how the government decides to distribute the burden of these losses. If it is done in a planned way, rather than holding the peg until it collapses under a speculative attack, a better outcome is likely. It is also important to note that there are also serious balance sheet effects of continuing along the present course, as indicated by the rise in non-performing loans – as the recession continues, increasing numbers of borrowers cannot pay off their loans due to falling incomes and unemployment.

# Conclusion

The fall-off in Latvian GDP over the last two years has broken world-historical records, and it is not clear when the economy will recover. This paper has argued that the decision to maintain the pegged exchange rate has led to pro-cyclical macroeconomic policies and other important negative effects that have inhibited economic recovery. Although there are negative balance sheet effects from a devaluation, and these are quite significant in Latvia due to the large amount of borrowing in foreign currency, the risks of continuing indefinitely along the present course would appear to be greater.

[28] For more on the effects of redenomination on domestic debt and investment trends, see Calomiris (2007).
[29] Titarenko (2010).
[30] See Frenkel (2007) and Frenkel and Rapetti (2007) for discussions of measures taken by the Argentine government.

# References

Calomiris, Charles. 2007. "Devaluation with Contract Redenomination in Argentina." *Annals of Finance* III:1 (January), 155-192. Also published as NBER Working Paper No. 12644. http://www.nber.org.proxygw.wrlc.org/papers/w12644.pdf?new_window=1.

Cordero, Jose. 2009. "The IMF's Stand-by Arrangements and the Economic Downturn in Eastern Europe: The Cases of Hungary, Latvia, and Ukraine." Washington, DC: Center for Economic and Policy Research, September. http://www.cepr.net/documents/publications/imf-2009-09.pdf.

European Commission. 2010. "Eurostat." Online database. Accessed 29 January, 2010. http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database.

Frenkel, Roberto. 2007. "Argentina: The Central Bank in the Foreign Exchange Market." Washington, DC: Center for Economic and Policy Research, February. http://www.cepr.net/documents/publications/argentina_2007_02.pdf.

Frenkel, Roberto and Martín Rapetti. 2007. "Argentina's Monetary and Exchange Rate Policies after the Convertibility Regime Collapse." Washington, DC and Amherst MA: Center for Economic and Policy Research and Political Economy Research Institute, April. http://www.cepr.net/documents/publications/argentina_2007_04.pdf.

IMF (International Monetary Fund). 2006. "Republic of Latvia - 2006 Article IV Consultation Mission Preliminary Conclusions." https://www.imf.org/external/np/ms/2006/060606a.htm.

IMF (International Monetary Fund). 2009a. "Republic of Latvia: Request for Stand-By Arrangement—Staff Report; Staff Supplement; Press Release on the Executive Board Discussion; and Statement by the Executive Director for the Republic of Latvia." IMF Country Report No. 09/3, January. http://www.imf.org/external/pubs/ft/scr/2009/cr0903.pdf.

IMF (International Monetary Fund). 2009b. "Republic of Latvia: First Review and Financing Assurances Review Under the Stand-By Arrangement, Requests for Waivers of Nonobservance of Performance Criteria, and Rephasing of Purchases Under the Arrangement." IMF Country Report No. 09/297, October. https://www.imf.org/external/pubs/ft/scr/2009/cr09297.pdf.

IMF (International Monetary Fund). 2010. "International Financial Statistics." Online database. Accessed 28 January 2010. http://www.imfstatistics.org/imf/.

INDEC (Instituto Nacional de Estadística y Censos de la República Argentina). 2010. "Producto Interno Bruto (PIB)." Online Database. Accessed 2 February 2010. http://www.indec.gov.ar/principal.asp?id_tema=616.

Latvijas Banka. 2009. "Press conference by Ilmars Rimsevics, Governor of the Bank of Latvia." 10 September. http://www.bank.lv/eng/main/all/sapinfo/pressconferences/2009/sept/.

Latvijas Banka. 2010. "Statistics." Online database. Accessed 29 January 2010. http://www.bank.lv/eng/main/all/statistics/.

Latvijas Statistika. 2010. "Statistical Databases." Accessed 29 January 2010. http://www.csb.gov.lv/csp/content/?lng=en&cat=355.

Reinhart, Carmen and Kenneth S. Rogoff. 2009. "The Aftermath of Financial Crises." NBER Working Paper No. 14656. http://www.nber.org/papers/w14656.

Rutkaste, Uldis. 2010. "Iekšējās korekcijas scenārija priekšrocības un līdzšinējais progress Latvijā." Presented at the conference "Latvija uz sliekšņa: parādu verdzība vai ekonomikas atveseļošana." Riga, 13 January. http://nri.lv/lv/public/blogs/view?ns1_sys_primary_key=identifier:108.

Titarenko, Deniss. "Devaluation: Does the Latvian Banking System Need Shock Therapy?" Riga: Latvijas Banka, 18 January. http://www.bank.lv/eng/main/all/sapinfo/commentary/stability_of_the_lats/shock_therapy/index.php?104483.

UNECE (United Nations Economic Commission for Europe). 2001. "Land (Real Estate) Mass Valuation Systems for Taxation Purposes in Europe." Geneva and Moscow: UNECE Working Party on Land Administration and Federal Land Cadastre Service of Russia, November. http://www.unece.org/hlm/documents/2002/hbp/wpla/mass.valuation.pdf.

Weisbrot, Mark and Luis Sandoval. 2007. "Argentina's Economic Recovery: Policy Choices and Implications." Washington, DC: Center for Economic and Policy Research, October. http://www.cepr.net/documents/publications/argentina_recovery_2007_10.pdf.