

CPB Memorandum

CPB Netherlands Bureau for Economic Policy Analysis



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The credit crisis and the Dutch economy 2009-2010

This memorandum provides an extensive summary of CPB's Central Economic Plan 2009, including the chapter on the causes and effects of the credit crisis and projections for the Dutch economy this year and next.

1 The credit crisis and the Dutch economy 2009-2010

The credit crisis has plunged the world economy into the deepest recession since World War II. In the second half of 2008, the credit crisis infected the rest of the economy in the Netherlands. The prospects for 2009 and 2010 have deteriorated in record time as a result of the collapse of the world economy and world trade. Because the number of job vacancies is still high and average purchasing power is rising relatively strongly, 2009 will not be experienced as a crisis year by everyone. Unemployment is rising rapidly however. The government finances have been thrown off balance: the surpluses on the budget estimated earlier have disappeared entirely from view and government finances are facing greater challenges for the long term as well. This calls for thorough analysis of the underlying causes and the effects. The current recession is of an entirely different nature from the one at the beginning of the nineteen eighties. Low profits and lack of incentives were the problems at that time. Now we are dealing with speculative bubbles resulting from a surplus of savings on the one hand and poor regulation and supervision on banking systems which failed to keep pace with financial innovation, on the other. This combination of macro and microeconomic factors led to the current crisis. The crisis could have substantial long-term effects on the level of prosperity.

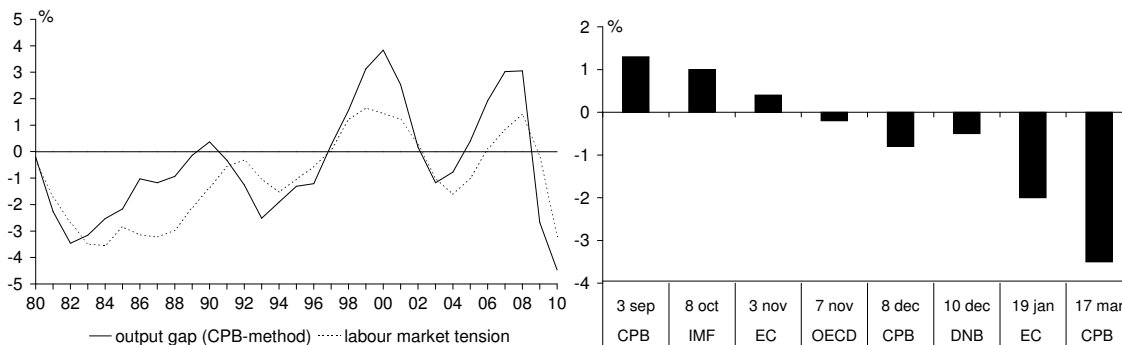
1.1 Summary and introduction

Outlook has undergone rapid turnaround

The economy still grew 2.0% in 2008 year-on-year but this was the result of 'statistical carry-over' from the growth at the end of 2007; economic activity has been shrinking since the second quarter of 2008. In September 2008, growth was still forecast to reach 1¼% in 2009. In the meantime the outlook has turned around entirely (see figure 1.1 for the consecutive deterioration in the projected for 2009 by the CPB and others). Over the course of six months, expected growth for 2009 has been adjusted downwards by an extraordinary 4¾% points, to a contraction of 3½%.

Although the Netherlands has a relatively large financial sector and this has had to cope with serious blows from the credit crisis, the crisis is mainly working its way through to the real economy through world trade. The international outlook turned around primarily in the last months of 2008, from a weakening economic cycle to a deep worldwide recession. To illustrate: Japanese exports to the EU were no less than 47% lower in January than in the same month a year earlier (see chapter 2 for a detailed explanation of the international developments). The world trade relevant for the Netherlands is expected to contract in 2009 by an unprecedented 9¾%. In the meantime the US housing market, where the crisis began, is still not showing any signs of recovery.

Figure 1.1 Projections of Dutch GDP growth for 2009 over time (September 2008 – March 2009, left) and estimated output gap (right)



Economy to contract in 2009 and 2010

The Dutch economy is expected to contract by 3½% in 2009. The last time the GDP of the Netherlands shrank was in 1982, by 1.2% at the time. The last time a contraction of more than 3% of GDP was recorded (except for during the war years) was in the nineteen thirties. Further contraction of the economy - by ¼% - is predicted for 2010. As such the Netherlands will be following a global recovery that is partly seen as the result of expansive budgetary and monetary policy.

The contraction in 2009 is largely the result of declining exports, which will fall by 11¾%. The worsening outlook will have immediate effects on investments. The investment ratio of the market sector is expected to fall sharply, to a historical low of 12¾% in 2010.¹

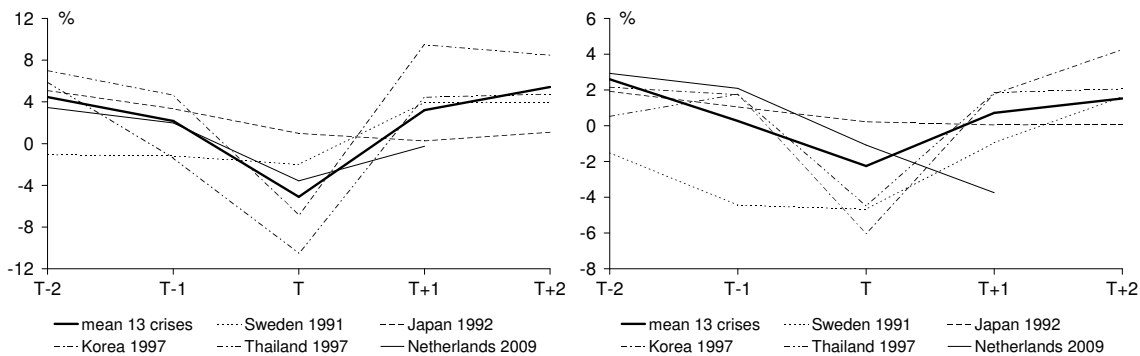
Consumption is expected to remain reasonably stable (limited contraction) in both 2009 and 2010.

Uncertainty remains great, but is declining in certain areas

In spite of substantial uncertainty, the current projection for 2009 is clearly less uncertain than earlier ones. That is of course due to the fact that part of the year has already elapsed. The outlook that emerges from the actual figures available is unequivocal: all lights are on red. The GDP volume in the euro zone contracted by 1.5% in the fourth quarter compared to the previous quarter, the largest contraction in fifty years. World trade collapsed at the end of 2008, the contraction was particularly great in December, according to the world trade monitor of the CPB. Unemployment began to rise once again in January after a long period of decline, while the number of job vacancies is rapidly falling. Unless a miraculously quick economic recovery takes place, significant economic contraction cannot be avoided in the Netherlands in 2009.

¹ The series starts in 1970.

Figure 1.2 Contraction of GDP (left) and employment (right) in projected for the Netherlands in a comparison with past financial crises².



The greatest uncertainty concerns 2010. Will the recovery be quickened / speeded up by consumers and manufacturers regaining confidence, partly thanks to ample budgetary and monetary policy? Or will recovery be delayed by protectionist measures or new setbacks on the financial or housing markets, for example? Figure 1.2 shows a comparison of the projection at hand (GDP growth and employment) with earlier crises. This shows that the pace of recovery varies greatly between financial crises as well. In the current *Central Economic Plan (CEP)* the recovery in 2010 is weaker than the average among the 13 financial crises described.

Two uncertainty scenarios are discussed in the text box, one in which recovery takes longer to start and one in which recovery sets in this year already. Furthermore, a major uncertainty is the influence of any supplementary Dutch policy measure aimed at fighting the recession. When this *Central Economic Plan* was completed, the Dutch government was still working on the preparations for a ‘package’ of crisis measures. In this case the uncertainty mainly concerns the effects for 2010; the effects for 2009 will most likely be more limited.

Inflation declining, but deflation not likely

In September 2008, persistently high inflation was projected for the near future. Only six months later and this nominal outlook has also changed entirely. For both 2009 and 2010 an increase to the consumer price index of just 1% is now projected. As a result inflation is below the definition of price stability of ‘below but close to 2%’ used by the ECB.

² Time T stands for the low ebb in the respective crises (for the Netherlands that is 2009 in the current projected). The line ‘average’ gives the average of the 13 crises as described in table 5.5.

Table 1.1 Key figures for the Netherlands, 2006-2010

	2006 ^a	2007	2008	2009	2010	
^c Private sector excluding health care, mining and quarrying and real estate.						
^d Market sector excluding banking and insurance companies..						
International items						
Relevant world trade volume	9.4	6.7	0.9	- 9¼	1½	
Import price goods	3.8	1.7	4.0	- 8¼	- 2	
Export price competitors	3.4	1.5	3.7	- 3¼	- 2¼	
Crude oil price (Brent, level in \$ per barrel)	65.2	72.5	96.9	44	44	
Exchange rate (dollar per euro)	1.26	1.37	1.47	1,32	1,32	
Long-term interest rate (level in %)	3.8	4.3	4.2	3¾	3¾	
Demand and foreign trade (volume)						
Gross domestic product (GDP)	3.4	3.5	2.0	- 3½	- ¼	
Private consumption	0.0	(3.0)	2.1	- ¼	- ½	
Public demand	8.3	(2.2)	3.3	2	1	
Gross fixed investment, private non-residential	10.4	4.8	9.8	- 10¾	- 12	
Exports of goods (non-energy)	9.5	7.3	1.4	- 11¾	1½	
of which domestically produced	5.1	5.0	- 1.6	- 10¾	¼	
re-exports	14.2	9.5	4.3	- 13	2¾	
Imports of goods	9.9	6.8	4.2	- 9¼	0	
Wages, prices and purchasing power						
Export price goods (excluding energy)	1.6	1.5	1.6	- 2½	- 2	
Price competitiveness ^b	- 0.3	- 1.9	0.1	1½	0	
Consumer price index (CPI)	1.1	1.6	2.5	1	1	
Contractual wages market sector	2.0	1.8	3.5	3	1½	
Compensation per employee market sector	2.5	(2.8)	3.4	4	3	
Purchasing power, average all households	2.4	1.8	0.1	2	¼	
Labour market						
Labour force (persons)	1.2	(0.9)	1.6	1.5	½	- ½
Employment (> 12 hours/week)	2.2	(2.0)	2.6	2.1	- 1	- 3¾
Unemployment rate (level in % of labour force)	5.5		4.5	3.9	5½	8¾
Unemployment (x 1000)	413		344	304	420	675
Market sector ^c						
Production	4.6		4.4	2.4	- 5½	- ¾
Labour productivity	2.4	(2.7)	1.8	0.8	- 3¼	5½
Employment (labour years)	2.1	(1.9)	2.6	1.6	- 2¼	- 6
Price gross value added	- 0.6		0.6	1.5	2¾	1½
Real labour costs	3.1	(3.4)	2.8	2.8	1¼	1½
Levels in %						
Labour share in enterprise income	77.8		78.5	80.1	84½	81¼
Profit share (of domestic production) ^d	13.8		15.2	14.5	9½	12¼
Public finances						
General government financial balance (EMU balance) (% of GDP)	0.6		0.3	1.0	- 2.8	- 5.6
Gross debt general government (EMU debt) (% of GDP)	47.4		45.7	58.1	56.6	62.1
Taxes and social security contributions (% of GDP)	39.1	(38.0)	38.9	39.1	39.1	39.3
^a Figures in parentheses are corrected for financing shifts resulting from the introduction of the Prolongation of Obligation to Pay Salary (Sickness) Act (Wet VLZ) and the Healthcare Insurance Act (ZVW).						
^b Export price competitors minus export price domestically produced goods.						

For the euro area and the United States, (short) periods of price declines are even projected. This falling inflation is not however a vicious circle of falling prices and wages (deflation). Inflation is under pressure from a strong decline in fuel, gas and electricity prices and as a result will approach zero in mid 2009 for a time. The underlying inflation (corrected for, among other things, energy prices) remains stable in the Netherlands however, at around 2%.

Paradox: purchasing power increases during deep recession

The drastically lower inflation is not yet immediately visible in the average contract wage increases in the market sector. Because many collective labour agreements have already been concluded for 2009 and some even for 2010, the average wage increase throughout the projected period will remain above inflation. This means that the purchasing power will rise for most households in 2009 and remain on level in 2010. If someone loses his or her job, there is of course a significant loss in purchasing power - and unfortunately hundreds of thousands of people will lose their jobs in 2009 and 2010. Nor does the calculation of the static purchasing power take into account capital losses.

Although the projection assumes that pension funds will be hardly able, if at all, to index pensions this year and next, the group of those aged 65 and over will also see purchasing power improve this year on average, partly thanks to the increase to the General Old Age Pension (AOW), the elderly person's tax credit and the care allowance for single people. The inability to index will have just as much effect on the accrued pension entitlements of the current workforce incidentally, but this group will only feel this later once they have retired. In 2010 the purchasing power of those 65 and over will remain the same on average. The outlook is different for those 65 and over with a relatively high supplementary pension: they will suffer more from the inability to index and will lose purchasing power in both years.

Effects of the credit crisis on the government financing in the longer term

The government budget balance for 2010 is considerably worse in the current projection than in the CPB assessment at the beginning of the government term: a deficit of 5.6% GDP instead of the surplus of 1.0% GDP in 2010 calculated at the time.^a Consequently, and as a result of the interventions in the financial sector, the EMU debt will amount to 62% GDP next year, 22 percentage points higher than assumed when the coalition agreement was signed. The most important cause for the rapid deterioration of the projections is the exceptionally large adjustment of the economic growth predictions. At the moment it cannot be determined which effects will be structural and which cyclical and temporary. Roughly speaking there are two channels through which long term government finances can be influenced: effects on assets and the influence on structural growth.

The financial position of the government, households and pension funds has deteriorated significantly as a result of the credit crisis. Experience from past financial crises teaches that it can take a long time before the government finances are once again in order. Purely as a result of the deterioration of the actual budget balance in 2009 and 2010, the debt in 2010 will be about 10 percentage points higher. Nor is it very likely that the EMU balance in 2011 will once again reach the surplus projected in the coalition agreement.

Because of the weaker financial position of households and pension funds, tax revenues will be under pressure. If pension funds increase their premiums or lower pension payments, that will lead to a loss in tax revenue, both directly (via income tax and company tax) and indirectly (via lower VAT). Lower household assets also lead to lower direct (box 3) and indirect tax revenues. Tentative calculations indicate this would lead to a total structural tax loss of about 0.3% GDP.

If GDP growth (and therefore GDP level) structurally lags behind the assumptions at the beginning of the government term, this will have substantial effects on the government finances. To illustrate: with an expenditure ratio of about 40% in the initial situation, a GDP level that is 1% lower means that the expenditure ratio increases 0.4 of a percentage point with unchanged expenditure. If the loss in GDP is not compensated, without supplementary measures the expenditures as a percentage of GDP remain structurally higher, without higher government income balancing this out. If this happens the budget balance will deteriorate (structurally) to the same degree. Although the different channels are difficult to quantify at the moment, virtually all signs are pointing in the same direction. The challenges for the government finances in the long term have become significantly greater as a result of the crisis.

^a Actualisatie Economische Verkenning 2008-2011 [Updating the Economic Outlook 2008 – 2011], September 2007.

Heavy blows to the labour market

A period of strong employment growth and a shortage on the labour market will come to an end in 2009. This applies for the market sector, where employment is expected to decrease by 2¼% in 2009 and as much as 6% in 2010. In government and particularly in the healthcare sector employment will rise during both years. The result is that unemployment is expected to increase to on average 420 thousand people in 2009 and 675 thousand people in 2010, or 8¾% of the working population. Percentage-wise, unemployment was still higher at the beginning of the nineteen eighties and in the nineteen thirties.

Uncertainty scenarios

The central projection assumes that after the 'crisis year' of 2009, a very cautious economic recovery will start in the course of 2010. It is conceivable, however, that the economic stimulus packages as proposed in the United States and Europe will foster a faster recovery. Scenario A shows the effects of a relevant world trade volume that develops more favourably from the second half of this year than taken into account in the central projection. At the same time this scenario assumes that the confidence of the Dutch consumer will recover to some extent, so that consumer expenditures increase even more. The more successful development abroad enables Dutch manufacturers to boost exports. The extra production that this would result in attracts investments and stimulates employment. Together with regained confidence, this latter aspect leads to higher private consumption than taken into account in the central projection. Cumulatively (for 2009 and 2010) the GDP volume in 2010 would turn out to be 1.4% higher. The EMU balance would improve by 0.5 of a percentage point in 2010 in comparison to the basis projection. That does mean that even in this favourable scenario the government deficit would come to about 5% of GDP.

Nor can the opposite, a deeper and longer lasting deterioration of economic conditions, be ruled out. World trade volume could further decline as a result of protectionist measures and financial institutions could come under further pressure as debtors are unable to honour their obligations because of the poor economic situation. Scenario B therefore shows the effects for the Dutch economy if the growth of relevant world trade in 2009 ends up being 0.9 percentage point lower than assumed in the central projection, and even 6.0% lower in 2010 (cumulatively 6.8% lower) This initially puts pressure on exports. Less exports means less production. GDP growth would then be 0.2% lower in 2009 and even 1.8% lower in 2010 (cumulatively the GDP would then be 2.1% lower in 2010). In that case the Dutch economy would undergo significant contraction two years in a row.

Effects of

A: More favourable development of the relevant world trade and increasing consumer confidence

B: Disappointment development of relevant world trade

	A		B	
	2009	2010	2009	2010
	cumulative deviations in %			
Relevant world trade volume	1.0	3.9	- 0.9	- 6.8
Import price goods	0.0	0.0	0.0	0.0
Long-term interest rate (level in %)	0.0	0.0	0.0	0.0
Crude oil price (Brent, level in \$ per barrel)	0.0	0.0	0.0	0.0
Contractual wages market sector	0.1	0.6	- 0.1	- 1.0
Consumer price index (CPI)	0.0	0.1	0.0	- 0.2
Gross domestic product (GDP), volume	0.3	1.4	- 0.2	- 2.1
Private consumption, volume	0.3	0.9	- 0.1	- 0.7
Gross fixed investment, private non-residential, volume	1.1	5.4	- 0.8	- 6.8
Exports of goods (non-energy), volume	0.8	3.0	- 0.7	- 5.6
Employment (labour years)	- 0.1	0.6	0.1	- 0.5
Labour share in enterprise income (level)	- 0.4	- 0.6	0.3	1.4
EMU balance (level, % GDP)	0.1	0.5	0.0	- 0.7

Government finances thrown off balance

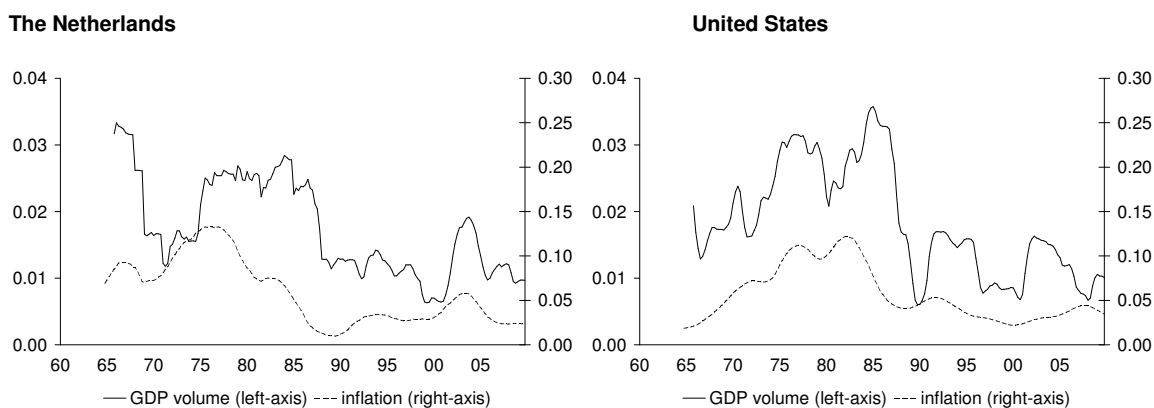
A deficit of 2.8% GDP is now expected for 2009. In 2010 the deficit will grow even more, to 5.6% GDP. Given current policies, in both years the reference value (of a deficit of 2% GDP) and the quantitative expenditure ceilings will be substantially exceeded, as will the 3% deficit limit from the Stability and Growth Pact in 2010. The automatic stabilisers are relatively strong in the Netherlands, which means that the tax revenues will fall quickly, while unemployment expenditure (under the WW and WWB laws) will rise relatively quickly. There are also other factors that contribute to the deterioration of the EMU balance: the natural gas profits will fall from 2.4% GDP in 2008 to 1.1 % GDP in 2010 and the deficit of local governments will increase. The effects on the government finances in the (medium to) long term are difficult to quantify, but could potentially be substantial (see text box).

2 The credit crisis – causes and effects

2.1 Macroeconomic factors

In the nineteen sixties and seventies, inflation gradually became unmanageable. Traditional Keynesian economic theory predicted a positive correlation between GDP growth and inflation. The nineteen seventies, however, were characterised by high inflation and low economic growth (stagflation). This was due to the fact that trade unions demanded and received higher wages and companies passed on these higher wages by charging higher prices. Trade unions foresaw this reaction and therefore increasingly incorporated the anticipated inflation in their wage demands, as a result of which inflation rose even further. Automatic price indexing and the linking of wages and benefits aggravated this problem. From the nineteen eighties onward, the volatility of inflation and of production growth has decreased in almost all rich countries. This phenomenon is called the *Great Moderation*. The decline in the volatility in the Netherlands is strongly connected with neighbouring Belgium and with the United Kingdom and United States (see figure 2.1). This is due to strong trade relationships (both direct and indirect via other countries) and a relatively similar labour market policy.

Figure 2.1 Volatility of GDP volume growth and of inflation 1960-2007^a



^a Volatility is measured using a 'rolling sample' of 20 quarters. Every observation reflects the standard deviation of the past 20 quarters. The observation of 1965-I is therefore the standard deviation of growth figures (compared to the same quarter in the previous year) of 1960-I through 1965-I.

The *Great Moderation* started after policy changes in the nineteen eighties, which took the form of a sharp increase in the interest rate, cutbacks in government financing and termination of automatic linking mechanisms. Central banks became more independent, the European Central Bank was established and monetary policy focused on low, stable inflation.³ The Netherlands has pursued a trend-based budget policy since 1994, in which cyclical fluctuations are at the expense of the state debt. This creates an automatically anti-cyclical policy and stabilises the effect of economic shocks. The introduction of part-time work on the labour market contributed to the flexibility of the market.

In addition to these policy changes, structural changes also contributed to the *Great Moderation*. Globalisation has tied the Netherlands more closely to the rest of the world. Production processes in the emerging services sector are also more flexible than in industry. The result is that the economy has become less dependent on inventory.⁴ The importance of oil to our economy has decreased significantly. The sensitivity to oil price fluctuations has also declined as a result.⁵ Note however, that it cannot be ruled out that coincidence also contributed significantly to the decrease in volatility.⁶

Thanks to lower volatility, consumers, businesses and financial intermediaries run less risk. Consumers maintain smaller buffers for leaner economic times and are willing to take on more debt, businesses take greater risks, which results in additional investments, and financiers lend more to consumers and businesses. A disadvantage of the lower volatility is that it is often wrongly assumed that the low degree of uncertainty is permanent, and consequently risks are underestimated. This underestimation of risks formed the overture to a number of speculative bubbles that hit the world economy in the first decade of the twenty-first century.

International imbalances in the run-up to the credit crisis

The current crisis is the result of an explosive combination of macroeconomic imbalances⁷ and a regulatory framework for financial markets that failed to keep pace with financial innovations. The macroeconomic imbalances contributed to the formation of the bubbles on the housing and securities markets that constituted the overture for the credit crisis.⁸

³ L. González Cabanillas and E. Ruscher, The Great Moderation in the euro area: What role have macroeconomic policies played? Economic Papers 331, European Commission, 2008.

⁴ For indications for the United States, see J. Kahn, M. McConnell and G. Perez, On the causes of the increased stability of the U.S. Economy, *FRBNY Economic Policy Review*, 2002, p. 183-202.

⁵ See O. Blanchard and J. Gali, The macroeconomic effects of oil shocks: why are the 2000s so different from the 1970s? NBER working paper 13368, 2007.

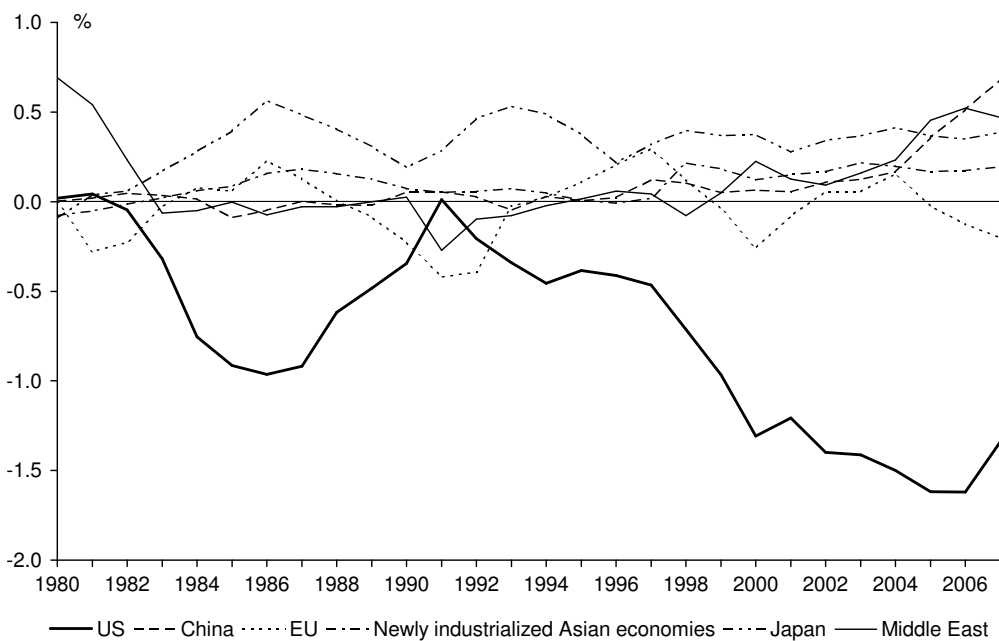
⁶ Smets, F. and R. Wouters, 2007, Shocks and Frictions in the U.S. Business Cycle: A Bayesian DSGE Approach, *American Economic Review*, vol 97. no. 3., 2003, p. 586-606.

⁷ See R.J. Caballero, E. Farhi and P.-O. Gourinchas, Financial Crash, Commodity Prices and Global Imbalances, NBER Working Paper 14521, 2008. The CEP 2007, p.140 also points out the risks of these imbalances on the balance of payments which could be the Achilles heel of today's successful globalisation.

⁸ Just like most past financial crises, this crisis was preceded by a combination of 'financial liberalisation' and 'significant credit expansion'. See Kaminsky and Reinhart, The twin crises: the causes of banking and balance-of-payments problems,

Since the beginning of this century, emerging economies in Asia and oil producing countries have had large surpluses on their current accounts. The absence of any form of formal social security and old age facilities in China led to a large savings needs. In the emerging economies and oil producing countries the financial markets are not able to invest all savings and incoming foreign currencies properly. In essence, claims on future output are traded on a financial market. The credibility of these claims requires a well developed legal system with clearly defined ownership rights. The Asia crisis of 1997 made it clear that this was lacking in these countries, so the savings had to find a destination elsewhere. The savings found their way to the United States, where the deficit on the current account rose to more than 6% of GDP in 2005.

Figure 2.2 Current account as percentage of the world GDP



Source: own calculations on the basis of the International Monetary Fund, World Economic Outlook Database, October 2008.

The abundant supply of capital led to an underestimation of financial risks and a historically low interest rate in the United States. The excess capital caused house prices and share prices to rise dramatically and led to speculative bubbles. Blanchard and Watson demonstrated that even in a world of only rational investors, speculative bubbles are not excluded.⁹ As long as everyone assumes that share yields will exist tomorrow, investors will continue to invest, so that the

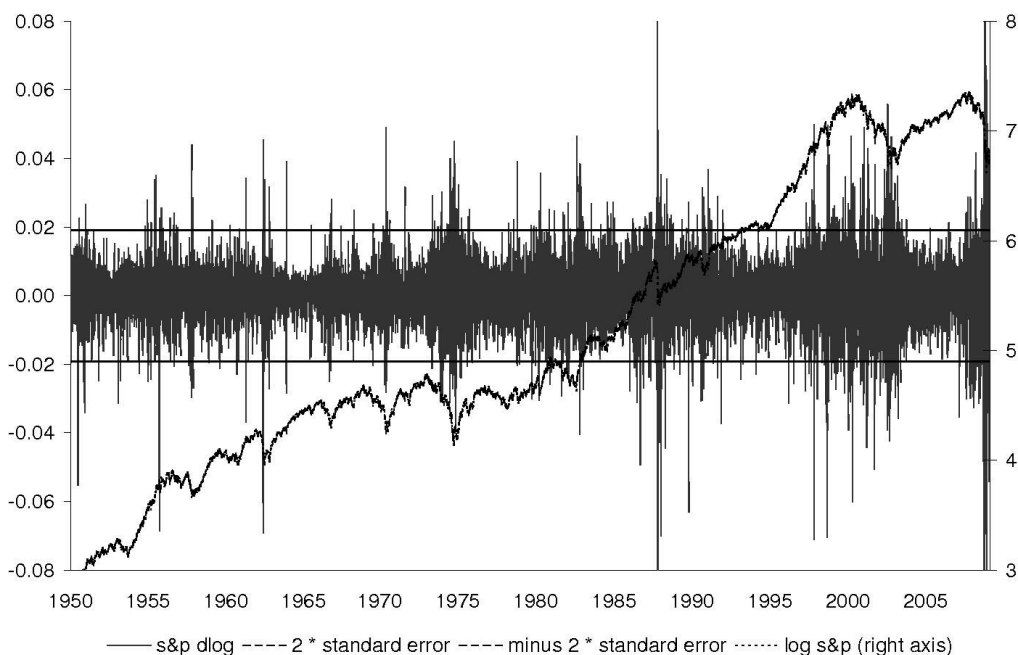
American Economic Review, **89**, p. 473-500, 1999, and Allen and Gale, Bubbles and crises, *Economic Journal*, **110**-460, p. 236-255, 2000.

⁹ O.J. Blanchard and M.W. Watson, Bubbles, Rational Expectations and Financial Markets, NBER Working Paper 0945, 1982.

expected yield is in fact realised. Everyone knows that an end must come to this game at some point, but no one knows when. When the poor quality of the mortgage loans issued came to light in the summer of 2007, the bubble burst.

The formation and deflation of the bubble was the prelude to a period of great uncertainty: when will the bubble burst? And how far will these effects resonate in the prices of other property titles? The bigger the bubble, the greater the uncertainty about the magnitude of the collapse. A bubble seldom collapses at once. There is usually a prolonged period of major uncertainty. Figure 2.3 shows that this happened after earlier share price falls as well, such as in 1962, 1974, 1984 and 1998.

Figure 2.3 Standard & Poor's, 1950-2009



The bursting of the bubble had enormous economic effects since the asset positions of banks were affected, while earlier financial crises had mainly affected the assets of businesses. Businesses can only get credit by putting up collateral. A drop in the value of property titles erodes the value of their collateral. A drop in the value of property therefore diminishes the creditworthiness of businesses and consequently has strong negative macroeconomic effects.¹⁰ In contrast to the internet bubble of 2002/2003, the current crisis swept away the equity capital of the banking sector. Because of the leverage of banks, every euro in equity capital can be loaned out several times by attracting the money of deposit holders. A reduction in equity

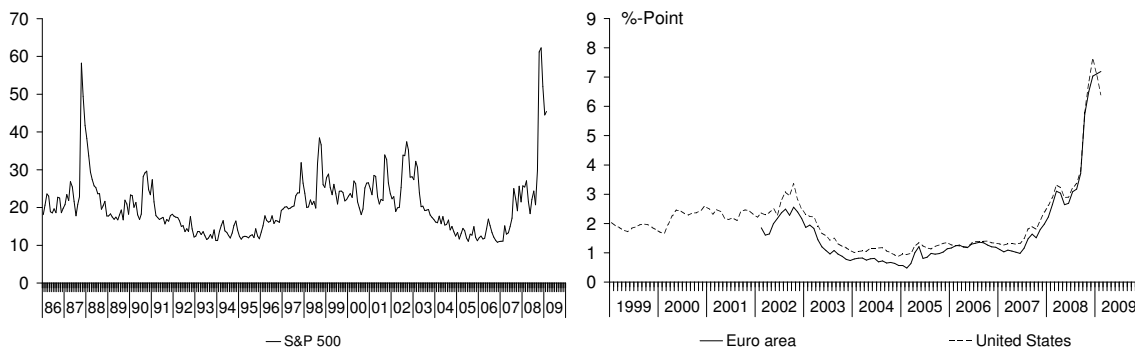
¹⁰ B. Bernanke and M. Gertler, Monetary policy and asset price volatility, NBER Working Paper 7559, 2000. See also the earlier discussion in the *CEP 2008*.

capital therefore has a far greater effect on the functioning of the capital market than an impairment of business assets.

Macroeconomic policy implications

Budget policy must prevent a Keynesian drop in demand. Figure 2.4 shows that financial markets have been in great turmoil since the bankruptcy of Lehman Brothers on 15 September 2008. The left panel shows the volatility on the stock market (in fact a cut-out from figure 2.3 for the period from the beginning of 2007). This shows how much the actual investment risk has decreased since then, to levels unprecedented in the last 60 years. The right panel shows that this risk translated into much higher risk premiums for corporate bonds, as much as 7 to 8%. The business sector can only obtain capital at extremely high costs, both for own and borrowed capital.

Figure 2.4 Volatility of the share market (left) and risk premium on corporate loans (right)



The available savings cannot find their way to the business sector: demand and supply of capital cannot reach each other. A classic case of Keynesian drop in demand could ensue, in which economic activities are scaled down so far that the level of savings will once again be in line with the investment demand. The normal solution for a capital surplus is to lower the interest rate, but this would be less effective given the currently low money market interest rate. An alternative is that the government could withdraw the savings and itself invest (for example in infrastructure) or use it as collateral or to furnish security for the business sector.

International imbalances will most likely persist. These imbalances do not necessarily have to lead to new bubbles and subsequent crises. Monetary policy will have to focus more on macro-financial stability, and governments will have to devote more attention to the dangers of major structural capital flows between countries. After all the negative effects of the formation and deflation of bubbles are too great to ignore.¹¹ Identifying bubbles is not a simple matter however. The risk of new speculative bubbles arising will therefore continue to exist. Since the high leverage of banks means a banking crisis has much greater real effects than a regular

¹¹ International Monetary Fund, Lessons of the global crisis for macroeconomic policy, 19 February 2009.

financial crisis, speculative bubbles must be prevented from infecting the balance sheets of banks. Financial markets must therefore be organised in such a way that banks are only exposed to the risk of deflating bubbles to a limited degree. This is the subject of the next section.

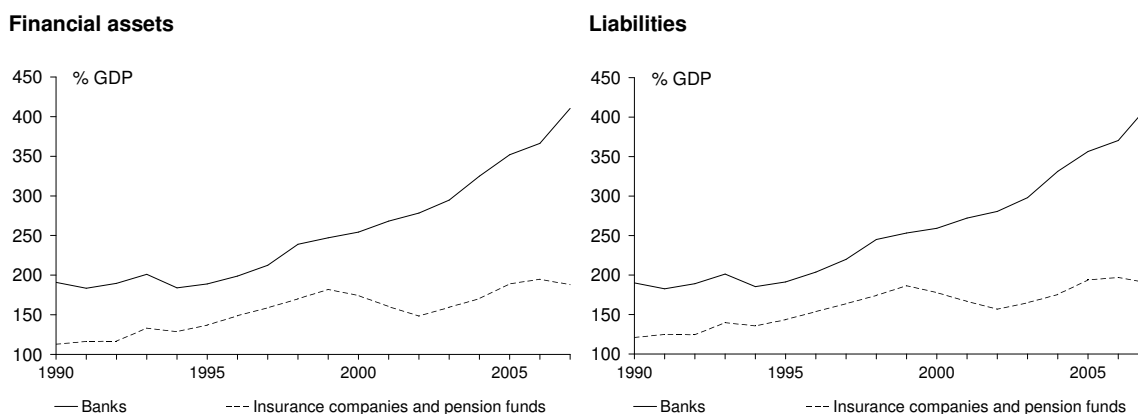
2.2 Microeconomic factors: the Dutch financial markets and the credit crisis

The Dutch financial sector, which has undergone rapid growth and internationalisation over the past decades, has been hard hit by the financial crisis. The discussion on the best structure and regulation, once the financial markets have calmed down, is in full swing. The scope and execution of regulation will have to change. In these efforts, however, we must not lose sight of the fact that properly functioning financial markets are essential for economic growth.

Looking back at the last quarter century

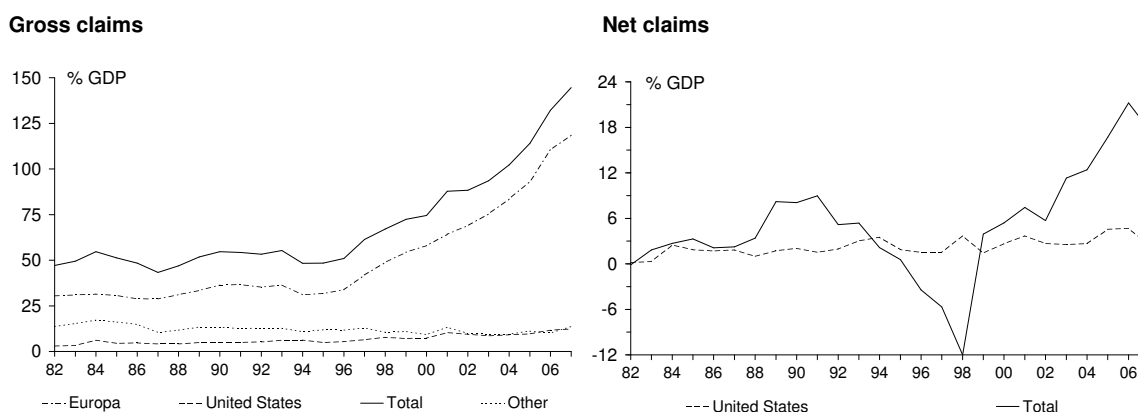
The financial markets have grown enormously as a result of the deregulation of financial markets, internationalisation, rapid development of information technology (IT) and increased prosperity. This excessive growth is evidenced by the relatively strong growth in the balances of financial institutions in the 1990-2007 period (see figure 2.5)

Figure 2.5 Assets and liabilities of financial institutions, 1990-2007



Source: CBS, National accounts.

Figure 2.6 Foreign claims held by Dutch banks, 1982-2007^a

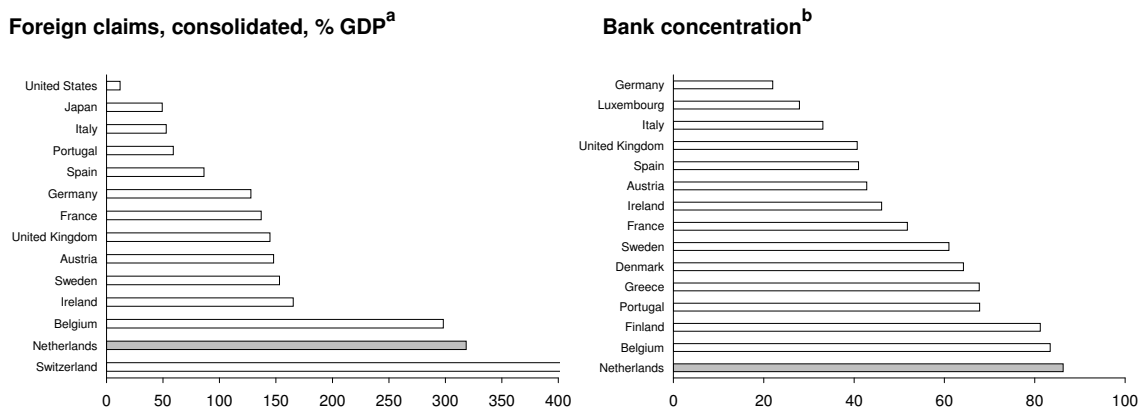


^a Limited breaks in the series in 1986, 1998, 2000, 2003 and 2006.

Source: DNB.

In addition, the financial sector has become strongly internationalised in the past quarter century (figure 2.6). Banks' claims on parties abroad mainly arose after 1996 because of the explosive increase in claims on the rest of the European Union. This was due to the introduction of the internal European market for banking services in 1993 and the introduction of the (scriptural) euro in 1999. The claims on the United States are much smaller than those on the rest of Europe (12% GDP in 2007), but still proved of poorer quality. Finally, figure 2.7 shows that the Dutch financial sector is relatively large from an international perspective.

Figure 2.7 Dutch banks from an international perspective, 2007



^a Switzerland runs to 599.

^b Share of five largest banks in total assets.

Source: Bank for International Settlements (BIS) and ECB

Properly functioning financial markets stimulate economic growth

Properly functioning banks aggregate and manage the savings of businesses and households and ensure that this scarce capital makes its way to companies with the most profitable investments.

The available empirical literature indicates that countries with banks that function better, or financial markets that function better, indeed have higher economic growth on average.¹²

Levine and Zervos (1998) find that liquidity and the size of credit are significantly and positively correlated to the future level of economic growth, productivity growth and capital growth.¹³ Properly functioning banks and financial markets stimulate the growth primarily because business can more easily secure credit for profitable investments. Mainly businesses that have difficulty getting financing for profitable investments profit from this.¹⁴

¹² G. Rajan and L. Zingales, Financial systems, industrial structure and growth, *Oxford review of economic policy*, vol. 17, no. 4, 2001; R. Levine, Finance and Growth: theory, evidence and mechanisms, *handbook of economic growth*, eds : P. Aghion and S. Durlauf, 2006.

¹³ R. Levine and S. Zervos, Stock markets, bonds and economic growth, *American Economic Review*, 1998. According to the authors an increase in the relative size of credit by 0.5 would lead to 0.7 of a percentage point more growth.

¹⁴ Rajan, R.G. and L. Zingales, Financial dependence and growth, *American Economic Review*, 1998.

The role of securitisation

Why did the relatively limited losses on the mortgage market cause a worldwide banking crisis?

This was due to the way in which financial institutions used securitisation, incorrect risk estimates of securitised products by rating agencies, the failure of risk management at banks, pro-cyclic effects of regulation and excessive leverage of financial institutions combined with the drying up of markets for short-term financing.¹⁵

Securitisation entails that banks bundle outstanding loans such as mortgages, chop the bundles up into packages, and sell on the right to the (prioritized) cash flows generated by these packages to investors like pension funds, hedge funds and other banks. Securitisation makes it possible to trade and diversify the specific credit risk on the loans, thus lowering the risk premium on the loans. This is a positive effect. Securitisation was also, however, a means of evading regulation. The market for securitised products and credit insurances has been growing explosively since 2000. After the crisis broke out, banks sometimes had to take the bad loans back onto their balance sheets. In other cases they emerged to have invested in their own securitised mortgages.

Another negative effect of securitisation is that moral hazard can increase as a result. The selling on of bundled mortgages and other loans prompted banks to be less vigilant as to whether their customers could in fact continue to pay those mortgages and loans; it also prompted them to grant loans to people and businesses that could not in fact pay them. Banks and bank managers who purchased securitised products did not take the trouble to carry out a thorough risk analysis of these products and the underlying mortgages. The manner in which bank managers were remunerated played an important role in this. In good times they received exceptionally high bonuses when profits were up. The fact that these profits were possible thanks to the high risks incurred was overlooked.

The valuation of securitised products was based on ratings from rating agencies. These agencies underestimated the risks of these products. This occurred for several reasons. First of all there were conflicts of interest. Ratings agencies were paid by the banks whose products they were supposed to evaluate and the agencies were becoming increasingly dependent on these advisory services for their income.¹⁶ The valuation of these products also relied largely on complex models that estimate credit risks on the basis of recent (economically prosperous) years.

Since banks must value their assets at market value, a decrease in the market value of these assets creates a loss at the expense of their own equity. If their own capital dips too low because of the decrease, banks either have to increase their own capital or reduce the amount of outstanding loans (by selling more or less liquid loans), or temporarily stop loaning money.

¹⁵ Bijlsma, M. and W. Suyker, 2008, De kredietcrisis en de Nederlandse economie in acht Frequently Asked Questions, CPB memorandum 210.

¹⁶ The market for credit ratings is also strongly oligopolistic, there are really only three major players worldwide: Moody's, Standard & Poor's and Fitch.

This can aggravate a crisis. A flywheel effect can also occur if markets are illiquid. In illiquid markets the sale of loans leads to "fire sales," in which banks are forced to sell assets at low prices.

The Special Purpose Vehicles (SPVs) that facilitate securitisation financed their long-term obligations with short-term funds, comparable to a homeowner who has to extend his mortgage week by week. Banks did this to an increasing degree as well. This manner of financing is based on the presumption that financial markets are liquid enough to make refinancing possible. During the current crisis it emerged that such markets can dry up when it becomes clear that some borrowers are on the brink of bankruptcy, but no one knows exactly who. Banks and investors who temporarily want to have some money left over no longer want to loan money to other banks or SPVs because they are afraid they won't get it back. As financing markets dried up, the crisis spread like an oil slick to banks that were not yet facing difficulty.

Consequences of the credit crisis for Dutch financial institutions

The worldwide credit crisis has dealt a heavy blow to Dutch financial institutions. Government intervention was unavoidable. The deposit guarantee scheme was extended, new bank loans were guaranteed and capital was made available. The Dutch state had paid 16.8 billion euros for Fortis/ABN AMRO by the end of January, and extended 13.75 billion euros in capital to various banks.¹⁷ In total this adds up to 5% of the Dutch GDP. Note that these costs are higher than the initial costs of bail-out operations in Sweden and Norway at the beginning of the nineteen nineties (see box).

Table 2.1 Costs of nationalising banks in Norway, Sweden and Finland in the 1990s

Fiscal costs of nationalisation and other crisis measures		
	Gross costs	Actual costs
Finland	9.0% (1997 GDP)	5.3% (1997 GDP)
Norway	3.4% (NPV, 2001 GDP)	- 0.4% (NPV, 2001 GDP)
Sweden	3.6% (1997 GDP)	1.9% (NPV, 1997 GDP)

Source: T. G. Moe, J. A. Solheim and B. Vale (eds.), *The Norwegian Banking crisis*, Norges Bank Occasional Paper 33, 2004.

The problems in the financial sector are accompanied by a decrease in the growth of credit.¹⁸

This turnaround is also caused however by the cyclical downturn, which causes the demand for

¹⁷ At the beginning of February the capital injections totalled 10 billion euros for ING, 3 billion euros for AEGON, and 0.75 billion for SNS REAAL.

¹⁸ The outstanding bank credit to businesses dropped in December compared to the previous month (partly due to seasonal effects), after minimal increases since August. The total credit issuing to other residents (total excluding government and MFIs) decreased up to 3.7% compared to a year earlier, from 5.4% at the end of 2007. The cyclical downturn presumably

credit to decline. The situation continues to be precarious for many Dutch financial institutions, as evidenced by the extremely high insurance premiums against bankruptcy on their bonds.

Policy implications for the financial sector

In order to keep disruption of the market to a minimum, it is wise to reduce the interests in banks as quickly as possible, in line with the Dutch government's plan, although this will not succeed from one day to the next in the current circumstances.

The regulation and supervision of the financial sector will be in need of reform after this crisis. Supervision will have to concentrate more on the stability of the financial system as a whole: macro-prudential supervision (supervision that focuses on system risk rather than the risk of individual banks).¹⁹ Another reason to regulate the market for credit risk is that banks insure risks which they themselves can exert influence on. Centralised registration and handling of transactions can play a role in this. This leads to more standardisation and transparency.

The risks that banks are exposed to will have to be better assessed and regulated. Banks also need to strengthen their risk management. Contra-cyclical capital requirements (lower during a contraction and higher during expansion) can help to fight snowball effects. In determining risk, regulators have become strongly dependent on rating agencies and banks themselves. It is important in any event that the market for ratings functions properly. Conflicts of interest diminish the reliability and transparency of the ratings of bundled loans.²⁰ It is therefore logical to regulate these advisory activities.

The internal governance of banks will have to be re-examined, with an emphasis on bank managers' payment incentives. Banks rewarded their employees for realising quick profits without correcting sufficiently for the risks that stem from this. Regulating the bonuses of bank managers, by requiring a strong long-term component for example, is therefore an important supplementary instrument for regulating risk. It is important that policymakers also realise that financial incentives can be useful for employees as long as they are properly designed.

International coordination of supervision, regulations and government intervention on the financial market is necessary. Rules with regard to bankruptcies, guarantees of deposits and even solvency requirements differ from country to country. International agreements on this make supervision easier and more effective, thus making intervention necessary less often. An important question is how guarantees should be financed. Specifically, this financing must be

also contributed to the turnaround in the credit growth. For the rest, empirical studies have shown that it is complicated to ascribe the development in credit to supply or demand factors.

¹⁹ M. Hellwig, Systemic risk in the financial sector: an analysis of the subprime-mortgage financial crisis, Max Planck Institute for Research on Collective Goods Preprint, 2008/43. 2008; M.K. Brunnermeier, Deciphering the 2007-08 credit crunch, Journal of Economic Perspectives (forthcoming).

²⁰ J. Tirole, Leçons d'une crise, TSE notes 1-12, 2009.

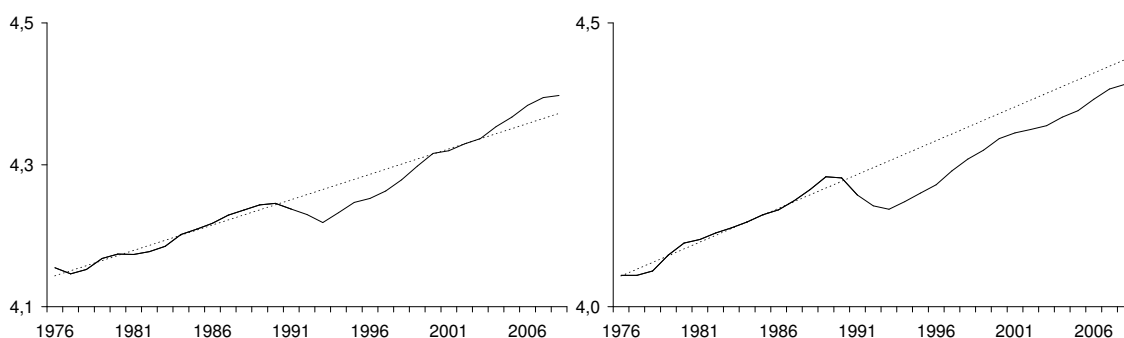
tenable if a claim on it is made, and must not lead to cross subsidies between risky and less risky banks.

2.3 Effect of the credit crisis on economic growth in the longer term

An analysis of major financial crises in the past shows that the level of production sometimes remains permanently lower. It is not automatic therefore that the economy will return to the level of the previous trend.

This section lists the results of a number of past financial crises. The analysis is an expansion of Reinhart and Rogoff (2009), who set out an overview of the effects of financial system crises.²¹ In estimating potential growth, it is mainly important to know to what extent these effects will be permanent. In other words, does the economy return to the old trends after such a crisis? In order to sketch out the effects in the longer term, the economic growth per capita can be looked at. Figure 2.8 and 2.9 show the outcomes for several characteristic crises in the past.²² A trend line (the dotted line) is drawn in the figures, showing the continuation of the growth path had the crisis not occurred. In most cases (nine out of thirteen), the GDP per capita did not reach the level of this trend line again after the crisis. This crisis has a negative effect on the level of production, which in most cases is not compensated by higher growth in the decade after the crisis ends. Sweden is one of the exceptions, where production a few years after the crisis ended emerged to be higher than according to the old trend line.

Figure 2.8 Logarithm of GDP per capita^{23,24} in Sweden and Finland



²¹ C.M. Reinhart and K.S. Rogoff, The aftermath of financial crises, NBER Working Paper, no 14656, 2009.

²² The data come from The Conference Board, Total Economy Database, January 2009.

²³ BBP per capita measured in 1990 US\$ (converted using Geary Khamis PPPs).

²⁴ By using the logarithm of a variable, the distance for doubling on the vertical axis always remains the same. A series with a constant growth rate is then depicted as a straight line.

Figure 2.9 Logarithm of GDP per capita in Hong Kong and Indonesia

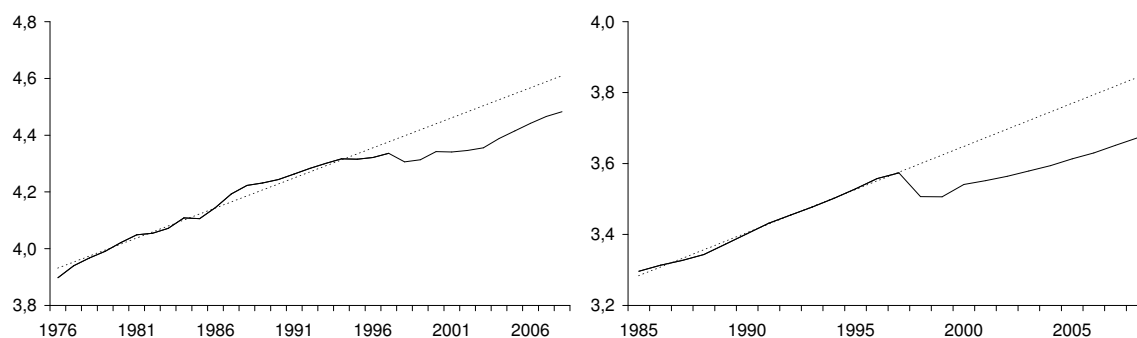


Table 2.2 shows the growth per capita before and after the end of the crises from Reinhart and Rogoff (2009) (except for the US depression in the nineteen thirties). In an ‘average financial system crisis’ there is a significant difference in level of production that is not compensated by higher growth after the crisis.

	10 year up to peak	10 years after nadir ^b	Change from peak to nadir
	Changes per year in %		Level in % GDP
Spain (1977)	4.9	2.5	0.5
Japan (1992)	3.3	0.8	0.0
Norway (1987)	3.1	2.9	-0.6
Philippines (1997)	1.5	2.7	-2.7
Sweden (1991)	1.7	2.8	-6.0
Hong Kong (1997)	3.3	4.2	-6.7
Colombia (1998)	2.0	3.2	-7.0
South Korea (1997)	6.7	5.0	-7.5
Malaysia (1997)	6.8	4.1	-9.3
Finland (1991)	3.2	3.5	-12.4
Thailand (1997)	8.0	4.2	-13.6
Indonesia (1997)	5.9	4.3	-14.4
Argentina (1998)	2.6	7.6	-21.5
United States (1929)	2.0	9.2	-28.8
Average	3.9	4.1	-9.3

^a Peak is the last year with positive growth, nadir is the last year with contraction. When no contraction took place, nadir is the year with the lowest growth in GDP per capita.

^b Or as many years as are available in the data set for recent crises.

Effects on employment and labour productivity

It is possible to further deconstruct the effects on total production. Table 2.3 splits the effects on GDP into employment and labour productivity. After the end of the crisis, the growth in employment on average barely turns out higher. The rise is insufficient to return to the old growth path for employment in a period of 10 years. After the end of the crisis, labour productivity increases for some countries less quickly on average, both per hour and per worker. In the underlying figures however it can be seen that in roughly half of cases the productivity rises in fact faster than before the crisis.

	Growth 10 years before peak	Change from peak to nadir	Growth 10 years after nadir	Change from peak to 10 years after nadir
	Change in % per year	Level in % GDP	Change in % per year	Level in % GDP
9 countries^b				
GDP	4.4	- 5.3	4.2	- 6.7
of which worked hours	1.1	- 6.5	1.4	- 3.6
Labour productivity per hour	3.3	1.5	2.8	- 2.8
.of which number of workers	1.4	- 4.6	1.7	- 1.7
Labour productivity per worker	3.0	- 0.6	2.5	- 4.8
13 countries^c				
GDP	5.3	- 6.2	4.6	- 13.6
of which number of workers	1.7	- 3.0	1.8	- 2.0
Labour productivity per worker	3.6	- 3.0	2.8	- 11.3

^a For the peak and nadir the same years are used as in table 2.2. GDP and productivity figures are once again in 1990 US\$ (converted using Geary Khamis PPPs).

^b The countries are: Spain (1977), Japan (1992), Norway (1987), Sweden (1991), Hong Kong (1997), Colombia (1998), South Korea (1997), Finland (1991) and Argentina (1998). No data on hours worked are available for the other crises.

^c These are the same countries as in table 2.1 except for the United States.

Relevance for the Dutch situation

To what extent are these results relevant for the Netherlands and the current credit crisis? A relatively high number of the countries in table 2.1 are emerging economies. These countries were busy catching up on growth. Part of the lower growth rate can be due to the slowdown of this catch-up effect. In addition there are great differences in the outcomes among the countries. That is true both for the loss in production and the growth path after the end of the crisis. It cannot be said which path is most likely for the Netherlands. For that we would need to know more about the underlying mechanisms.

The most important reservation, however, is the local character of the crises studied. In all of these cases the crisis hits a single country or a small group of countries. The current credit

crisis has a global character and affects all countries. Devaluation and adjustment of the interest rate were solutions available to most of the countries studied. That is not an option now for the Netherlands. As a small, open economy, the Netherlands is extremely sensitive to developments abroad. In the current situation, there is the risk that countries will opt to protect their own economies and take protectionist measures. That can be damaging for international trade and the functioning of the markets, with the corresponding effects on economic growth in the long term.

3 Policy conclusions

As discussed above, this crisis is entirely different from the recession of the first half of the nineteen eighties, when wages were too high and profits too low, when the difference between benefits and wages was so small that it was hardly worth one's time to work, from a financial perspective, when inflation was unmanageable and the government finances were structurally out of control. So, the policy response to the current recession must also differ from that of the nineteen eighties therefore.

A Keynesian stimulus policy could be an adequate response to such a drop in demand, but it must satisfy certain conditions, namely the three Ts: *Timely*, *Targeted* and *Temporary*. *Timely* in this case means that the policy must take effect as quickly as possible because the drop in demand is taking place on a massive scale. This is often a problem with stimulus policy; most measures require long preparatory phases and as such do not have an effect until the crisis has past. Considering the nature of the current crisis, this is less of an issue: it is fairly certain that the Netherlands will still be in an economic slump next year.

That the policy be *targeted* is an even more difficult requirement. A large part of the effects of stimulus policy on the effective demand get diverted abroad, via imports from other countries. For this reason there is a tendency to focus a stimulus policy primarily on typical national industries that are hard hit by the crisis, like construction. Conversely, countries also benefit from the stimulus policy elsewhere. Without the supplementary packages in Germany, the United Kingdom and the United States, for instance, the contraction in the Netherlands in 2009 and 2010 would be another half to whole percentage point more severe in a rough estimate. European coordination can lead to a policy package that is better for every country, since countries can then better withstand the temptation to focus their packages specifically on their national industries. In assessing the 'contribution' from each country, it must be taken into account that part of the stimulus policy operates via the automatic stabilisers. These have been fleshed out relatively well in the Netherlands via the trend-based budget policy. A rough estimate teaches that without supplementary measures, the Dutch effort is comparable in size to that of Germany, France and the United Kingdom, but substantially smaller than that of the United States. *Targeted* also means effective in the sense that it remains essential to only carry out those plans that show a positive cost-benefit analysis.

In order to avoid structural burdening of the government finances, the last requirement, that the measures be *temporary*, is perhaps the most urgent requirement in the current situation. If no changes are made to policy, the prospects for the government finances will turn around at a fast pace; an EMU balance of -5.6% is expected for 2010. This deficit will not just work itself away in the subsequent years. The recent pace of contraction in world trade (about 5% per month) and the rapid downward adjustments of the GDP growth projections for 2009 make it

clear that it is now impossible to make a pronouncement on the GDP for the long term with any degree of certainty. However, an analysis of countries that have experienced a financial crisis in the past shows that GDP will probably end up permanently at a lower level than was the case before the crisis. In that case, without countermeasures the government expenditures as percentage of GDP will also be permanently higher. Account must also be taken of the interest charges on the additional state debt that will necessarily accrue during these. It would therefore be wise to take measures now that do give the prospect of recovering sustainable government finances in the long term, but that do not lead to additional drops in demand at the moment. That is also important for financing government debt, since financial markets must retain confidence in the tenability of the Dutch government finances. From that perspective it is of course also good to take measures that promote the growth capacity in the longer term.

What would be a fitting wage development in light of the foregoing? The projected assumes that as a result of rising unemployment and decreasing inflation, wage increases is projected to be limited to an average increase of 1% in new contracts. Policy-induced additional wage moderation (on top of what is presumed will happen 'on its own') leads in the short term to a reduction in the domestic demand and only in the somewhat longer term to more export and less import, and with that to more employment.²⁵ Extra wage moderation is therefore not an answer to the drop in demand in the short term: the estimated effect on GDP and employment is extremely limited in the first two years, while the risk of deflation increases. Moreover in this situation of massive overcapacity, wage moderation in the Netherlands would be directly at the expense of the economic prospects of our trade partners.

At the same time there is a risk that labour productivity will permanently end up at a lower level. This would have to be translated into lower wage costs in the long term. With a long-term wage moderation development as taken into account in this projected, that seems to have already been achieved however.

The current crisis resembles that of the nineteen thirties in numerous respects. At the time, protectionism caused lasting damage as the system of international trade was unable to recover after the cyclical crisis. In a certain sense the lack of coordination in the stimulus policy is also a form of protectionism, in that under the guise of better targeting, mainly domestic sectors are stimulated. The international institutions that have since been created give reason for some hope that the world will manage the current crisis better than it did that of the nineteen thirties, so

²⁵ See H.C. Kranendonk and J.P. Verbruggen, *SAFFIER; Een 'multi purpose'-model van de Nederlandse economie voor analyses op korte en middellange termijn*, CPB Document 123, page 65, 2006.

that world trade is not needlessly damaged. Within Europe the internal market, in combination with the European institutions, provides some footing in any event.²⁶

A specific sector in this respect is banking. Financial crises usually prompt the banking sector to withdraw to within national borders. One of the reasons for this is that in these uncertain times, banks must secure the coverage of a credible government, if even for the sole fact that account holders might otherwise be tempted to pull out their money. Recapitalisation by the government can hopefully ensure that credit issuing continues. At the same time such a retreat to the home country leads in the long term to loss in prosperity as the possibilities for international risk spreading decrease, inevitably resulting in higher capital costs. The report from the De Larosière commission on regulation and supervision of the financial sector presumes that a fully integrated system, including regulations for dividing the costs between countries in the event banks need support, is not feasible for the time being.²⁷ That is unfortunate, since it is in the best interest of all member states that such a system be established.

More generally the reorganisation of the banking sector remains an important priority. The problems at the banks are what prompted the current crisis. In order to emerge from this crisis, these problems must be solved. At the same time, via its shareholdership the government suddenly has a new role, for which it most certainly was not prepared. It is worthwhile in this context to draw lessons from the experiences of Sweden.

In sum, the credit crisis begs international coordination on a European or even a world level in at least four different areas. First is fiscal policy. A certain degree of cooperation is necessary, as fiscal stimulation in one country has positive consequences for others. Second, protectionism must be avoided. Stating good intentions does not suffice, coordinated sanctions against offenders are necessary to successfully fight protectionist reflexes. Third, regulation and supervision should be harmonized on a European level, at a minimum, and there is a need for arrangements on burden sharing of the cost of supporting the financial sector. The fourth point has not yet been addressed above. In addition to a policy for rescuing the financial sector, thought has to be given for a coordinated European response in case a E(M)U member state unexpectedly finds itself in substantial financial problems. A number of countries by now has to pay a substantial premium on their government bonds. In each of these four areas political integration is not yet synchronous with financial sector developments. International policy coordination is not easy. It is indispensable, however.

²⁶ According to an earlier analysis the extra goods trade by the Internal Market contributed about 4 to 6% to the GDP of the Netherlands. This measurement pertains to 2005. See: *The Internal Market and the Dutch Economy*, CPB Document 168, September 2008.

²⁷ Report from the High Level Group on Financial Supervision in the EU, published on 25 February 2009.

However hard the credit crisis hits the Dutch economy, for many people the effects will remain limited for the time being. The banks have been kept afloat, which is to say that all account holders (except for those who held very large deposits at Icesave) have been spared the effects of the crisis. The shareholders of many banks have all but lost their entire investment however. As a result of the fall in share prices, the coverage ratios of pension funds have declined sharply, so that pensions are not expected to be indexed in the coming years. As a result of the lower inflation, the effects for purchasing power are relatively mild in most cases, at least for those who manage to keep their jobs. As time goes on, the effects of the crisis on the real economy will become more noticeable however, particularly on the labour market. Unemployment will rise sharply to levels that we have not seen in the Netherlands since 1994. Especially young people, immigrants and unskilled workers will feel the effects of this. Focused initiatives to keep these groups oriented to the labour market by means of training or internships are therefore a good way of targeting the stimulus policy, for the short and long term.