

DNB Occasional Studies
Vol.12/No. 1 (2014)

Wage Development Considered

DNB
Occasional Studies

Jurriaan Eggelte, Jos Jansen, Guido Schotten and Diederik Dicou

Central bank and prudential supervisor of financial institutions

©2014 De Nederlandsche Bank NV

Author: Jurriaan Eggelte, Jos Jansen, Guido Schotten and Diederik Dicou

Aim of the Occasional Studies is to disseminate thinking on policy and analytical issues in areas relevant to the Bank.

Views expressed are those of the individual authors and do not necessarily reflect official positions of De Nederlandsche Bank.

Editorial Committee

Jakob de Haan (chairman), Eelco van den Berg (secretary), Hans Brits, Pim Claassen, Maria Demertzis, Peter van Els, Jan Willem van den End, Maarten Gelderman and Bram Scholten.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form by any means, electronic, mechanical, photocopy, recording or otherwise, without the prior written permission of the Nederlandsche Bank.

Subscription orders for DNB Occasional Studies and requests for specimen copies should be sent to:

De Nederlandsche Bank NV
Communications
P.O. Box 98
1000 AB Amsterdam
The Netherlands
Internet: www.dnb.nl

Occasional Studies

Vol.12/No. 1 (2014)

Jurriaan Eggelte, Jos Jansen, Guido Schotten and Diederik Dicu

Wage Development Considered

Contents

1	Summary and conclusions	7
2.	Analytical framework and institutional setting	9
3.	A glance at the wage development since 1950	19
4.	Current wage developments	25
	Literature	35
	Publications in this series as from January 2003	59

I Summary and conclusions

Wage formation can be seen as the outcome of bargaining between workers and employers about the distribution of output proceeds. Employers and workers each approach this from a different perspective: employers compare the development of total wages against the development of labour productivity and output prices, while workers look at the development of net wages versus inflation. The risk in wage bargaining is that special interests may prevail over the general interest. Coordination in wage formation at a central level, as is customary in the Dutch institutional setting, can reduce this risk. In the long run, efforts to systematically raise (or reduce) the income share of labour can be counterproductive as these will induce changes in the production structure, leading to a new equilibrium with lower (or higher) employment.

A glance at post-war wage development in the Netherlands illustrates this process. During the first decades after the Second World War, specific policies were instrumental in causing major shifts in the income share of labour. A lot of capital was lost during the war, including infrastructure, machines and business premises. In order to strengthen the capital base of the economy, policymakers opted in the reconstruction years for low wage growth so that high national savings could create room for investment. By contrast, a wage push occurred in the 1970s which damaged trust between employers and workers and prompted labour shedding. The 1982 Wassenaar Agreement between employers, organisations and labour unions on wage restraint marked a crucial turning point in laying the basis for co-operative relations between employers and workers. The policy of responsible wage development pursued since the mid-1980s has facilitated a massive absorption of labour supply.

Unlike in the early 1980s, the current economic headwind does not call for a downward correction of wages. The rising income share of labour is a cyclical phenomenon, and many business sectors are in good shape in terms of profitability and competitiveness. However, there is not a strong case for a wage push either, as this may exacerbate unemployment and deepen the problems of businesses in vulnerable sectors. That said, given the depth and duration of the current economic downturn, a boost to spending power for households would be welcome. However, the present spending power weakness is not so much caused by wage formation, but

rather the ever growing share of taxes, social insurance contributions and pension premiums in the economic pie. It is desirable to reverse this trend.

In addition, it is important to make good use of the possibilities for differentiation by sector in wage developments to do justice to the large differences in economic circumstances currently existing across business sectors. Some sectors have been hit harder than others. The pace of recovery also differs from sector to sector. Where there is scope for wage increases, this may spur domestic demand; where wage restraint must be exercised, jobs may be preserved.

Looking slightly further ahead, the increase in labour supply will probably be constrained by demographic developments (an ageing population and a lower proportion of young people) and the already relatively high labour participation rate. This makes an efficient allocation of labour across the sectors all the more important and further underlines the significance of an appropriate differentiation in the wage development across sectors. Lower growth of the labour supply also means that in future, labour productivity and the room for wage increases may be under less downward pressure than in the past decades.

2 Analytical framework and institutional setting

Wage formation can be seen as the outcome of bargaining between workers and employers about the distribution of revenues from production. In this bargaining process, the two parties must take account of the consequences for the production structure. As employers and workers approach wage bargaining from different perspectives, there is the risk of individual interests prevailing over the general interest. Coordination in wage formation can reduce this risk.

2.1 Definitions and identities

Labour-income ratio and room for wage increases

The labour-income ratio (LIR) is the part of value added that goes to the production factor labour (workers and self-employed persons). The assumption is that self-employed persons earn the average wage rate of workers. The LIR can be calculated at different levels of aggregation (total economy, business sector, industries). Since the mid-1970s, the Dutch policy debate has focused mainly on the ‘LIR for the market sector’. The market sector comprises all economic sectors except for government, healthcare and social services, property rental and sales, and mineral extraction. The complement of the LIR, the capital income ratio, is divided between the providers of debt and equity capital.

Labour compensation can be broken down into the labour costs per worker w and labour volume L . Apart from the gross wage, the compensation also comprises non-wage costs. The value added (income) consists of price p and volume Y . The definition of the LIR can be written in relative changes as:

$$L\dot{I}R = (\dot{w} - \dot{p}) - (\dot{Y} - \dot{L})$$

This simple identity constitutes the basis for the so-called ‘room for wage increases’ (*loonruimte*), an important guideline in Dutch bargaining practice:

$$\text{room for wage increases} = \dot{p} + (\dot{Y} - \dot{L})$$

The room for wage increases thus denotes the wage growth that keeps the LIR unchanged. The room for wage increases, incidentally, is only significant as a benchmark in the medium term, because the LIR is subject to considerable cyclical fluctuations.

Different perspectives of employer and worker

Employers and workers look at the room for wage increases from different perspectives. The main concern for employers is how labour costs per worker develop relative to labour productivity and output prices (price of value added). Workers are interested in how much they can increase their consumption, which depends on (i) the net wage and (ii) inflation (CPI). The net wage is determined by total direct taxes and contributions for pensions, unemployment, occupational disability, sickness and healthcare. These taxes and contributions not only reflect government policy, but also the pension and social insurance arrangements made between employers and workers in collective labour agreements. The gross wage (labour costs per worker excluding non-wage costs) is partly driven by the contractual wage increase and partly by promotions, extra salary increments, bonuses and one-off payments. The difference between gross wage and contractual wage is called ‘wage drift’.¹ This component is not directly observed, but derived from the changes in the gross wage and contractual wage. In addition, the real wage may lag behind the available room for wage increases if consumer price inflation is higher than output price inflation. This phenomenon is known as ‘price erosion’ or

Table 1 Real wages and labour productivity in the market sector, 1970-2014

	70-79	80-89	90-99	00-09	10-14	70-14
Real contractual wage (versus CPI)	2.7	-0.6	0.1	0.4	-0.6	0.5
Employers' social insurance contributions + wage drift	1.1	0.8	0.6	1.1	0.6	0.9
Terms-of-trade effect	0.7	0.8	1.0	0.3	1.0	0.8
Real labour costs (versus price of value added)	4.6	1.0	1.7	1.8	1.0	2.1
Production	3.2	2.3	3.7	1.8	0.3	2.5
Employment (man-years)	0.0	0.3	2.0	0.1	-0.6	0.5
Labour productivity (per man-year)	3.3	2.0	1.6	1.7	0.9	2.0
Change in labour income ratio	1.2	-0.9	0.1	0.1	0.1	0.1

Source: CPB.

1 One important determinant is the change in the worker population, such as a shift between full-time workers and (cheaper) part-timers or a rise in the average level of education.

‘terms-of-trade loss’. For instance, an increase in the oil price or indirect taxes (VAT, duty) may have a greater inflationary effect on the CPI than output prices.

Table 1 shows how these components developed over the past decades.² The increase in real labour costs (versus the value added price) is significantly higher than the increase in real contractual wages as a result of positive contributions from employers’ social insurance contributions and wage drift, as well as a fairly persistent terms-of-trade loss. In the 1970s, the real labour costs grew significantly faster than labour productivity, resulting in an increase in the LIR. In the 1980s this development was largely neutralised; since then, real labour costs have developed broadly in line with labour productivity and the LIR has remained fairly stable.

2.2 Institutional setting

The primary responsibility for wage formation lies with the employer and worker organisations. The actual bargaining about the total pay package, including contractual wages, takes place at decentralised (sector or company) level. Employer and worker organisations coordinate their efforts at central level, for instance by making recommendations to the parties who are involved in the decentralised collective labour bargaining. In addition, the government as well as employer and worker organisations can reach a Social Agreement at central level, which sets out guidelines for the decentralised bargaining.

The government plays a background role in the wage coordination process. Under the Wage Formation Act (*Wet op de Loonvorming*), the government can only intervene with a national wage measure in the event of ‘a sudden national economic emergency caused by one or more external shocks’. The government has no say in the content of collective labour agreements (except, of course, in its capacity as employer), but it can tighten the criteria for declaring collective labour agreements binding for entire sectors (and can thus influence wage coordination at sector level). In addition, the government is also an important bargaining partner of employers’ associations and trade unions, as taxes and social insurance contributions partly determine labour costs and net wages. As such, it can use (proposed) changes of social insurance arrangements as a bargaining chip in the tripartite consultation.

In addition, in recent decades employers and unions have steadily sought to decentralise the negotiations on conditions of employment. Some industry-wide collective labour agreements (CAO) have been replaced with company-specific CAOs. More than before, industry-wide CAOs are confined to general arrangements, which are then worked out in greater detail at individual company level. Moreover,

² Sections 3 and 4 deal in more detail with, respectively, the historical and current development of wages and productivity.

new types of CAOs are emerging that offer individual workers greater freedom of choice. These trends create greater scope for wage differentiation between sectors. Due to divergent developments in different sectors, wage and employment considerations at decentralised level may differ from those at centralised level. For instance, in sectors with large labour shortages, higher contractual wage increases may be desirable to achieve an efficient allocation of labour.³

2.3 Analytical framework

Hold-up problem

The production of goods and services can be seen as a joint project of workers and entrepreneurs (as owners of capital), while wage bargaining is about the division of the income between wages and profits. This bargaining is not a one-off affair, but takes place on a regular basis. The bargaining parties are aware that their behaviour today influences their reputation and will partly determine the bargaining outcomes in the future. Both parties can invest in a good relationship by adopting “reasonable” positions. In the short term, firms are in a relatively vulnerable position because they cannot liquidate their investments without suffering high costs. Once a factory has been built, the entrepreneur is stuck with it for years. As a result, workers may be tempted to demand a relatively large slice of the pie, a phenomenon known in the literature as the hold-up problem. This fundamental uncertainty about the return on investments may lead to a socially suboptimal investment level. A good relationship and trust between employers and workers gives companies the confidence they need to make investments and create jobs.

Suppose that workers systematically seek to increase the LIR via a wage push. What effect will this have? In the short term, both wages and unemployment will increase. Investment will be sharply curbed over an extended period as entrepreneurs fear a new wage push. In addition, businesses will start investing more in labour-saving technology at the expense of capital-saving technology, leading to a further erosion of employment and putting downward pressure on wages. The wage push thus triggers economic counterforces which, in turn, ultimately undo the increase in the LIR. Meanwhile, the economy will suffer long-term damage in the form of higher unemployment and lower productivity due to the disruption of the innovation process.⁴ This adjustment process is symmetrical: wages that are systematically too low also lead to an inefficient, temporary change in the direction of technical

3 However, this scope to differentiate between sectors is not fully used (De Beer, 2013). See also section 4.

4 See Blanchard (1997), Caballero and Hammour (1998), Acemoglu (2002) and Broer and Huizinga (2004). The empirical analysis in Jansen (2004) for 20 OECD countries shows that (positive and negative) wage shocks (measured over a six-year period) are corrected by opposite wage movements in later periods. Kleinknecht and Naastepad (2004), incidentally, assert that wage moderation can lead to slower investment and lower labour productivity in the long run via its negative effects on domestic demand.

progress (in this case, towards less capital-intensive technology). Here too, a price is to be paid in the form of efficiency losses. The new equilibrium thus results in a lower level of labour productivity than would otherwise have been possible. However, unemployment is also lower.⁵

Shifting the burden to employers

Trade unions are also confronted with the temptation of shifting the burden to employers. Naturally, workers would like to see labour productivity growth reflected in their real disposable income. When increases in taxes and social insurance contributions and terms-of-trade losses frustrate this aspiration, it is tempting to make the employers foot the bill. In a small open economy, companies have little latitude for altering output prices. The threat of foreign competition limits their scope for passing on the costs of higher wages in their output prices. Moreover, since the mid-1980s a stable exchange rate has served as one of the cornerstones of Dutch economic policy. This means that employers and workers conduct their bargaining in the knowledge that a deterioration in price competitiveness cannot be remedied with a currency devaluation. The temptation of shifting the burden of increases in taxes and social insurance contributions and terms-of-trade losses to employers is relatively strong in sectors that are sheltered from foreign competition. However, any such shift will impair profits and the spending power of workers in other sectors.

Insider-outsider problem

Trade unions are confronted with a fundamental trade-off between wages and employment or unemployment, because it is the companies who — given the agreed wage — determine the size of employment. Therefore, the strategic choices of the trade unions not only concern their bargaining aims regarding the division of the economic pie (LIR), but also the size of that pie (GDP) and the manner in which it is produced (employment). Higher employment, achieved by a reduction in unemployment and the absorption of new labour supply, puts productivity development under pressure in the short term due to a reduction in the average quality of the employed labour force. As a result, the room for wage increases is (temporarily) smaller and people who already have a job (insiders) must accept a more moderate wage increase than would otherwise have been the case. At individual level, workers pay no heed to the effects of their wage demands on employment; coordination of the bargaining makes it possible to take this factor

⁵ At micro-level, there is yet another argument against employers underpaying their workers: as an incentive to boost productivity ('pay peanuts, get monkeys'). By paying a higher wage, known as an 'efficiency wage', they make dismissal more unattractive and encourage workers to work harder. At the macro-level, this leads to higher labour productivity and higher equilibrium unemployment. See Shapiro and Stiglitz (1984).

into consideration.⁶ If trade unions want to protect or increase employment, they will usually moderate their wage demands to create room for the absorption of new labour supply. The combination of the level of wages and employment that trade unions will opt for depends on the relative weight they assign to the interests of those who are employed (insiders) and those who are not employed (outsiders). Outsiders are usually not members of a trade union, and this may confront trade unions with an awkward choice between protecting the general interest of society and the interests of their members.

How does the Dutch wage formation process deal with these problems?

In the Netherlands, the issue of wage formation is not limited to individual workers and employers. There has always been a fairly strong degree of wage coordination. Traditionally, wage changes for the bulk of the workforce have been determined by collective bargaining per company and sector, which is coordinated at central level. The coordination of wage demands at central level is based on the room for wage increases at macro level. These arrangements reduce the risk of hold-up problems at company level, trade unions shifting the burden of increases in taxes and social insurance contributions and terms-of-trade losses to employers, and insider behaviour at the expense of outsiders. They can also lead to a faster adjustment of wages to evolving macro-economic conditions.⁷

LIR and the business cycle

The overwhelming majority of workers have permanent jobs. Making changes to the workforce is costly (dismissal, recruitment and selection, training of new staff). In the short term, the LIR can show substantial fluctuations due to *labour hoarding*⁸ and the fact that CAOs are often agreed for several years. A negative correlation exists between the LIR and the business cycle (output gap), not just in the Netherlands but in other countries as well. After a negative shock, there are initially fewer dismissals and the gross wage remains unchanged, causing a (temporary) increase in the LIR. In the first phase of the cyclical upturn, by contrast, fewer workers are recruited, so that the LIR decreases again. Wage increases will also remain limited in that phase, as unemployment is still too high. In this way, employers offer workers an implicit insurance against income fluctuations. Companies are better able to absorb shocks as they enjoy easier access to the capital market than individual workers and are also more capable of building buffers. Workers pay an (implicit) premium for this in the form of a lower wage.

⁶ Calmfors and Driffill (1988) argue in an influential paper that wage bargaining at individual company level can also lead to favourable outcomes because in this case the bargaining power is too small to cause any negative impact on employment. Bargaining at intermediary level leads to the worst outcomes, as bargaining power does exist here, while the macro interest is not taken into account.

⁷ See also Van Riel and Wilke (1992), Schuit (1995) and Teulings and Hartog (1998).

⁸ Labour hoarding is the phenomenon where producers in a downturn cycle do not immediately reduce their workforce in line with falling demand because they anticipate needing these workers in the future and because the adjustment costs (dismissal and recruitment) are substantial.

LIR and wage moderation

As a result of the mechanisms described above, efforts to systematically increase or reduce the LIR are doomed to fail in the long term. After all, adjustments in the production structure (more or less use of labour-saving technology) mean the LIR will revert in the end. In relation to the LIR, wage moderation only makes sense if it is necessary to correct an earlier excessive pay increase. A balanced development of the supply side of the economy is best served by wage costs per worker that keep unemployment near its equilibrium level and ensure the smooth absorption of new labour supply by the labour market. After an increase in labour supply, average labour productivity can temporarily come under pressure, thus squeezing the room for wage increases and making wage moderation necessary to keep the LIR constant. This type of wage moderation is a transitional phenomenon which can, however, be protracted if labour supply continues to rise over an extended period. In addition, wage moderation is a natural phenomenon during recessions. Three regimes can therefore be distinguished for wage development:

- **Responsible wage development:** (i) the labour costs per worker are determined according to the room for wage increases and the LIR remains stable (apart from cyclical variations), and (ii) the labour costs per worker ensure that unemployment is close to its equilibrium level.
- **Wage push:** the increase in labour costs per worker is systematically greater than the room for wage increases and the LIR (corrected for cyclical variations) rises.
- **Wage correction:** this is the opposite of a wage push. The increase in labour costs per worker is systematically smaller than the room for wage increases, so that the LIR (corrected for cyclical variations) falls.

2.4 The trade-off between wages and employment

This section presents a numerical illustration of the trade-off between wages and employment based on a scenario calculated using the DNB's DELFI macro-econometric model. In this model, the wage results from a bargaining process between employers and workers, as sketched in Broer, Draper and Huizinga (2000). In the long term, labour costs depend on the economic factors that determine the objectives and relative bargaining position of employers and workers. In the empirical specification, these factors are the room for wage increases (labour productivity growth and output price), the unemployment rate, the level of unemployment benefits and the total of taxes and contributions for pension, unemployment, occupational disability, sickness and healthcare schemes. During the upswing of the business cycle, workers have a relatively strong bargaining position, and the room for wage increases is usually also greater in such periods. The tension in the labour market (unemployment) is an important determinant for the contractual wage change in the short term, as is consumer price inflation, which

partly determines the development of spending power. In addition, the difference between current labour costs and its long-term level is a key determinant of the dynamics of the contractual wages in the short term. If wages lag behind the room for wage increases, this gap is gradually closed via higher contractual wage increases. The wage drift component varies with the business cycle. In a tight labour market, employers are more generous in awarding one-off (loyalty) bonuses.

Wage scenario

In the wage scenario, as detailed in Table 2, wages fall by 1% (by giving a shock to the autonomous term in the wage equation). In addition, the scenario assumes that the government consistently channels budgetary windfalls back to households in order to support their spending power. This takes place in the form of direct transfers.⁹ In the scenario, GDP ultimately rises by 0.5% and employment by 0.9%, while unemployment falls by 0.8%. Wage moderation pushes down inflation,

Table 2 Wage scenario -1%

Cumulative deviation from baseline	after.... years	1	2	4	8
Expenditures and production (volume)					
Gross domestic product		0.05	0.07	0.28	0.51
Private consumption		-0.09	-0.05	0.37	1.40
Business investment		0.33	0.99	1.67	1.44
Exports goods and services		0.02	0.10	0.25	0.37
Imports goods and services		0.02	0.06	0.43	0.99
Wages and prices					
HICP		-0.05	-0.28	-0.87	-0.79
Cost per unit output (including energy)		-0.86	-0.75	-1.32	-1.40
Contractual wage business sector		-1.11	-1.19	-1.79	-1.73
Other					
EMU government balance		0.00	0.00	0.00	0.00
Employment (in persons)		0.08	0.23	0.47	0.86
Unemployment rate		-0.08	-0.24	-0.41	-0.81
Labour Income Ratio (LIR)		-0.79	-0.41	-0.47	-0.15

Source: DNB.

⁹ An alternative is to reduce the income tax. In this case, the reported effects are somewhat stronger as this increases potential output.

leading in turn to lower wage demands and a further decrease in inflation. Price competitiveness improves, giving exports a boost and encouraging businesses to increase investment. Ultimately (nominal) wages decline by 1.7% and the price level by 0.8%. The disposable income per worker thus falls to a structurally lower level. At the start of the scenario, private consumption decreases slightly due to this decline in disposable income. In due course, however, the increase in employment and transfers by the government result in a rising disposable income. Ultimately, consumption goes up 1.4%. After the initial downward shock, the LIR is almost back to its original level after eight years. The scenario illustrates that wage moderation gives rise to a larger pie (GDP) and a trade-off between wages and jobs.

As the model is based on data from the period 1977-2008, some caveats regarding the outcomes of this wage scenario are in order. Given the current exceptional macro-economic situation, the question arises whether, and to what extent, these historical relations are still entirely relevant.¹⁰ Now that a significant proportion of households have underwater mortgages and are financially vulnerable due to depressed house prices, the current relationship between income and expenditures may differ from what the historical macro data for home equity and debt suggest. Given these conditions, the initial decline in consumption may in fact be greater. DELFI cannot adjust for this, as it does not take account of the heterogeneity of households.

A second reservation concerns investment. In DELFI, an increase in profitability leads to higher investment by firms, irrespective of the current profit level and the financial assets of companies. At present, however, many companies have relatively favourable balance sheets. When companies already have a robust balance sheet, their willingness to invest is probably more determined by the amount of profit they expect to generate in the future; sales expectations are the crucial factor in this respect. The effect on investment (and hence on production and employment) could therefore be less favourable than in the scenario.

¹⁰ A more general related point is the question of whether the estimated effects of wage moderation hold for all levels of the LIR. As a macro-model like DELFI is highly linear, it may underestimate the extent to which things tend to “right themselves” in situations in which the economy is strongly out of kilter. In the current circumstances, where LIR and competitiveness are close to the historical equilibrium level (see section 4), this appears to be of minor importance.

3 A glance at the wage development since 1950

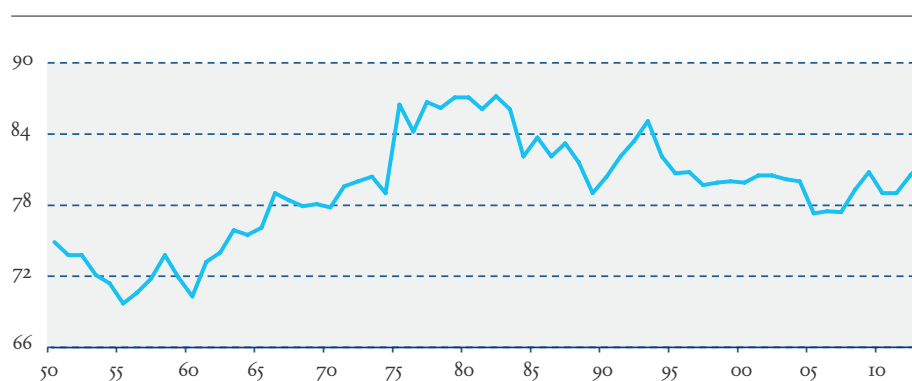
The post-war wage development in the Netherlands offers a good illustration of the various mechanisms described in the previous section. In the first decades after the Second World War, government policy caused the LIR to undergo major shifts. The Wassenaar Agreement was a key turning point in laying the basis for co-operative relations between employers and workers. The policy of responsible wage development as pursued since the mid-1980s offered scope for an enormous absorption of labour supply.

1950 – 1982: active manipulation of the LIR

In the immediate aftermath of the Second World War, the Dutch government exerted a strong grip on the wage development via the Board of State Negotiators (*College van Rijksbemiddelaars*), which implemented its wage policy. The policy was specifically aimed at wage moderation, whereby general wage rounds were initially limited to price indexation. The paramount objective was to kick-start investment needed to get the country's reconstruction off the ground. The moderate wage development served to bolster competitiveness and boost exports, which was vital to reduce the reliance on foreign finance. The abandonment of this policy in the

Chart 1 Labour Income Ratio in market sector

Percentages



Source: CPB.

first half of the 1960s triggered a wage explosion,¹¹ lifting the LIR to a more normal level (Chart 1). Another factor fuelling the rise of the LIR in the 1960s was the expansion of the welfare state, which caused an increase in taxation and social insurance contributions.

The 1970s saw a strong polarisation of the relations between employers and trade unions. The hold-up problem became manifest and a wage push severely dented the confidence of companies, prompting them to cut back investment and move towards labour-saving technology. The system of automatic price indexation shifted the burden of inflationary shocks (triggered by the oil crises) and increases in taxes and social insurance contributions to employers. The government tried on various occasions to intervene with wage policy measures, but to little effect (Van Hulst 1984). In the early 1980s, the LIR was at its highest level ever. The insider-outsider problem came to the fore with detrimental consequences: wage pushes put a damper on employment and unemployment spiralled to record levels. As scores of workers were made redundant via the occupational disability scheme, the actual inactivity problem was even greater than the unemployment figures suggested, as is clear from the labour participation rate (Chart 2).

1982 – 1984: wage correction and restoration of trust with the Wassenaar Agreement

In the first half of the 1970s, many still perceived the rising unemployment as an aggregate demand problem. However, the policy debate changed with the arrival of the vintage capital model of the Netherlands Bureau for Economic Policy Analysis

11 The authority to approve CAOs was transferred to Stichting van de Arbeid (the consultative body of central employer and worker organisations).

Chart 2 Labour participation and unemployment (ILO)

Percentages of potential labour force and labour force, respectively



Source: CPB and ILO.

(CPB) (Den Hartog and Tjan 1974). This model made it clear that the problems were on the supply side: rising labour costs led to the substitution of labour with capital via the shedding of labour-intensive means of production and investment in labour-saving technology. This eye-opening analysis brought about a change in mind-set, which made it possible to put the derailed coordination process back on track.

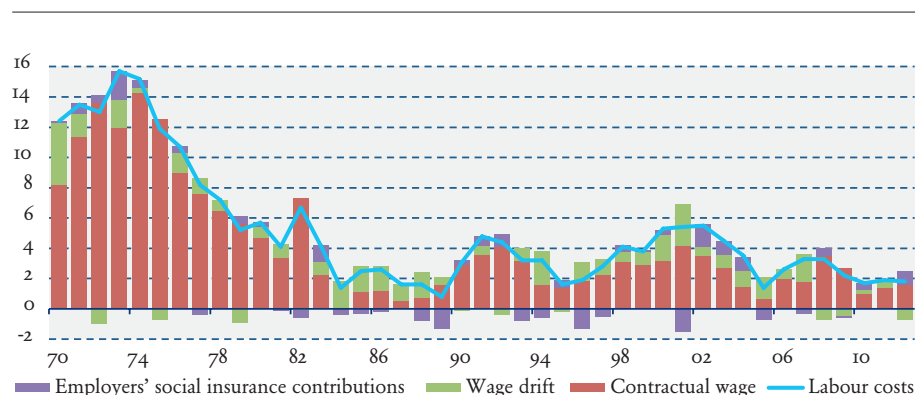
The landmark breakthrough came with the Wassenaar Agreement in 1982, in which employers and workers reached agreement on a wage correction. The agreement had the desired effect and contractual wage growth slowed significantly thanks to the rapid removal of automatic price indexation provisions from most CAOs (Visser and Hemerijck 1998). The government also lent a hand by reducing the tax and social insurance premium burden. As a result, the contribution of social insurance contributions to labour costs actually became negative in most years (Chart 3). Exports staged a rapid recovery on the back of the Wassenaar Agreement. Due to the strongly improved profitability and the greater confidence, business investment also started to rise sharply in due course and unemployment began to decrease.

1984 – present: jobs before wages

Since 1984, responsible wage development has been the norm in the Netherlands. Co-operative labour relations and the high level of coordination of wage bargaining make it possible to adjust in time whenever things threaten to go off the rails (De Beer 2013). This happened in the early 1990s for instance, when wage increases exceeded the room for wage increases for several years in a row. As consumer prices were rising faster than output prices, price erosion occurred and competitiveness

Chart 3 Labour costs in market sector

Percentage changes and contributions in % points



Source: CPB.

was undermined.¹² Renewed wage moderation in the Social Agreement of 1993 (*‘Een Nieuwe Koers’*) showed that workers and employers were committed to avoiding the errors made in the 1970s. The government again helped to lubricate the process by reducing the tax and premium burden (*spaarloon*, tax-friendly savings scheme).

Over the last decades, the insider-outsider problem has almost entirely disappeared. In the trade-off between wages and jobs, employment has prevailed; employers and workers have set wages at the right level to permit the absorption of the enormous increase in labour supply. The 1990s, in particular, saw a strong increase in the labour participation rate, alongside a fall in unemployment (Chart 2). As is illustrated in Table 3, during this period employment grew faster in the Netherlands than in Europe as a whole or in the US, indicating a widespread acceptance of lower labour productivity (and hence less room for wage increases) as well as more a moderate wage development than abroad. However, whether jobs will continue to be put before wages in the future remains an open question. Looking to the slightly longer term, the increase in the labour supply will probably be limited due to demographic developments (ageing and a smaller proportion of young people) and the already relatively high labour participation rate. Lower growth of the labour supply would mean that labour productivity and the room for wage increases margin may be less subdued in the future than in past decades.

Thanks to the policy of responsible wage development since the Wassenaar Agreement (labour costs linked to the room for wage increases and aimed at achieving the equilibrium unemployment rate), the LIR remained stable since 1984.

12 This is why trade unions now also take account of the changes in the price of value added, alongside consumer price inflation, when calculating the room for wage increases (Schuit 1995).

Table 3 Key data Netherlands, euro area and United States

Average percentage growth rates

	1982 - 1989			1990 - 1999			2000 - 2012		
	NL	EA	US	NL	EA	US	NL	EA	US
GDP	2.3	2.5	3.5	3.2	2.1	3.2	1.4	1.2	1.8
GDP per hour	2.2	2.6	1.4	1.7	1.9	1.8	1.0	1.0	1.6
Employment (persons)	1.2	0.6	1.9	2.0	0.7	1.3	0.7	0.7	0.4
Employment (hours)	0.0	-0.1	2.2	1.5	0.2	1.3	0.4	0.3	0.3
Real wage per person	-0.3	1.3	1.3	0.6	1.2	1.2	0.7	0.3	0.7
Real wage per hour	0.8	2.0	1.0	1.2	1.3	1.2	1.0	0.9	0.9

Source: CPB (MEV 2014) and Conference Board.

Economic ups and downs still caused fluctuations – after all, the estimation of the room for wage increases is never entirely accurate – but these were always of a temporary nature.¹³

¹³ Econometric analysis supports this picture: the LIR is a stationary time series (unit root-hypothesis is rejected on the basis of the Dickey-Fuller and Phillips-Perron tests over the 1984-2012 period). This means that, after some fluctuations, the LIR returns to the equilibrium value. Chart 1 suggests that mean-reversion also occurred before 1984, but this is statistically not significant.

4 Current wage developments

This section deals with the recent wage development, focusing successively on the perspectives of workers (income) and employers (profitability and competitiveness). Finally, we consider whether these developments necessitate an adjustment of the prevailing policy of responsible wage development.

4.1 Recent developments

LIR development, labour costs and productivity

Table 4 provides a breakdown of Table 1 for the crisis years. In 2007, before the outbreak of the financial crisis, the LIR amounted to about 77.5%, the lowest level since the 1960s. However, due to the persistent economic recession, the LIR has since risen to 81% in 2013 and, according to CPB estimates (2013B), is set to rise further to 82% in 2014. The estimated LIR rise of 4½% is smaller than during the recession in the early 1990s, when it soared by 6% in the space of four years. It is furthermore plausible that the LIR has been overstated since the crisis. This is because the earnings attributed to the self-employed are probably too high. Since the crisis, self-employed people have worked fewer hours and have also charged significantly lower rates.¹⁴

The pace of wage growth has slowed down significantly and, in real terms, wage growth has actually been negative since 2010. This was the consequence of the Spring Agreement of 2009, which was concluded when the full severity of the financial crisis became clear (Harteveld 2012). The wage drift component is also under pressure, and even decreased substantially in 2012. Despite this wage moderation, labour costs still rose on balance in the past years due to the increase in social insurance contributions and terms-of-trade loss (reflecting higher taxes and social insurance contributions).

¹⁴ Since the onset of the crisis, the disposable income of self-employed people has fallen by more than 30%. By contrast, the ‘attributed compensation’, which is used to calculate the LIR, has risen by 15%, partly because of the relatively strong growth in the number of self-employed people in 2008-2012. Assuming a constant attributed compensation since 2008, the LIR for the total economy would work out over 1% lower.

With the economy only growing very slightly, the room for wage increases has become very limited. Labour productivity declined sharply in 2009 as a result of large-scale *labour hoarding*. In the early stages of the crisis, when the tight labour market before the crisis was still a fresh memory, companies were reluctant to lay off staff (Verbruggen and Hindrayanto 2013). Due to disappointing economic development in 2012, production in that year also fell faster than employment, resulting in a decline in productivity and a rising LIR. The slow wage growth is in line with the substantial rise in unemployment, which is now at its highest level since the mid-1990s.

Limited differentiation between sectors leads to diverging LIR

The economic development of various sectors has diverged since the start of the crisis. Sectors dependent on the domestic market, such as construction and services (including retail), were particularly hard hit. In the construction sector, productivity has plunged because redundancies failed to keep pace with the decline in production, while profitability in the services sector has declined because the rising costs could not be passed on in prices. The more export-oriented

Table 4 Real wages and labour productivity in market sector, 2008-2013

Percentage changes

	2008	2009	2010	2011	2012	2013
Real contractual wage (versus CPI)	1.0	1.5	-0.3	-0.9	-0.9	-1.2
Employers' social insurance contributions + wage drift	-0.2	-0.6	0.7	0.5	0.2	-0.3
Terms-of-trade effect	2.1	-2.0	-0.6	2.0	0.7	2.2
Real labour costs (versus price of value added)	2.9	-1.1	-0.2	1.6	0.0	0.7
Production	1.8	-5.6	0.9	1.4	-1.9	-1.8
Employment (man years)	1.3	-2.2	-1.7	0.5	-0.2	-1.3
Labour productivity (per man year)	0.5	-3.5	2.7	1.0	-1.6	-0.5
Change in labour income ratio	1.9	1.5	-1.8	0.0	1.5	1.3
Labour income ratio (level, %)	79.3	80.8	79.0	79.0	80.5	81.8
Net wage	5.6	-2.2	0.2	3.1	1.3	.
Unit labour costs	2.8	5.7	-1.0	0.9	3.4	.

Source: CPB.

manufacturing sector did succeed in doing this and was also able to compensate the more moderate fall in production with commensurate staff cuts. Despite these widely differing circumstances, contractual wage developments have shown little or no variation from sector to sector (Chart 4).¹⁵ This is partly related to the fact that the current low average wage growth leaves relatively little scope for downward deviations from the macro average. However, it also suggests that the opportunities for wage differentiation between sectors as offered by the Dutch wage coordination process are not being fully used.¹⁶ Due to this limited wage differentiation, the development of the LIR has differed from sector to sector: in the manufacturing sector the LIR had already returned to its pre-crisis level in 2012, while the LIR in the construction and services sectors is still some 10% higher than its pre-crisis level (CPB, 2013A).

Household income

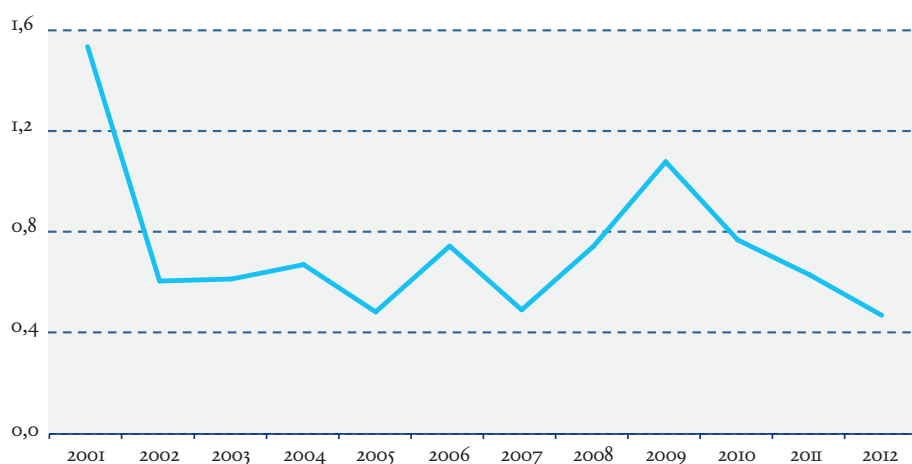
Real disposable income of Dutch households has been under severe pressure since the crisis began. The income of self-employed persons has fallen sharply, wages are rising more slowly, unemployment is increasing, taxes and social insurance

¹⁵ See also the similar analysis in De Beer (2013).

¹⁶ The contractual wage increase in the construction sector, incidentally, recently fell to just 0.5%, while the contractual wage increase in the manufacturing sector which is benefiting from the accelerating export recovery, has actually risen slightly to 1.4%. It is still unclear whether this heralds the start of a trend towards a more differentiated wage development.

Chart 4 Wage differentiation between sectors

Standard deviation CAO wage increases in percent



Excluding public administration, education, healthcare and other non-commercial services.
Source: CBS.

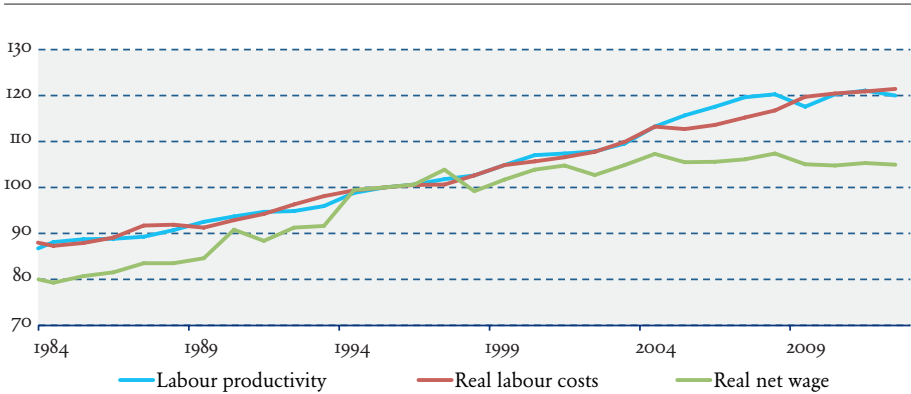
contributions are going up and inflation has been driven up as a result of higher indirect taxes and rising energy prices. Against this backdrop, domestic demand is developing more weakly than in earlier recessions. This despite the fact that households are dipping into their financial buffers to limit the decline in their consumption. Since 2008, the individual (“free”) savingsrate has been an average of -2% of disposable income.

Spending power has been lagging for some time now (DNB 2013B). Ever since the turn of the century, real net wages (based on the CPI) have been stagnant (Chart 5). The real wage, however, has developed broadly in line with (disappointing) labour productivity, which means that the available room for wage increases has been paid out. The lagging spending power can thus be blamed on the sharp rise in social insurance contributions and the terms-of-trade loss.

Employers’ social insurance contributions declined from the early 1980s until just after the turn of the century, but then rose sharply, particularly due to higher contributions for pensions and healthcare. In 2012, employers’ social insurance contributions amounted to 23% of the wage bill, against 14% in 1997. Higher healthcare expenditures, in particular, are responsible for the fact that a growing share of actual household consumption is being channelled through the government (the so-called “individual consumption by the government”). In other countries, a much smaller portion of healthcare expenditures and contributions falls within the collective sector, so that the effect of the rising healthcare costs on private consumption is stronger in the Netherlands than elsewhere (DNB 2012). Looking at

Chart 5 Real net wage and labour productivity

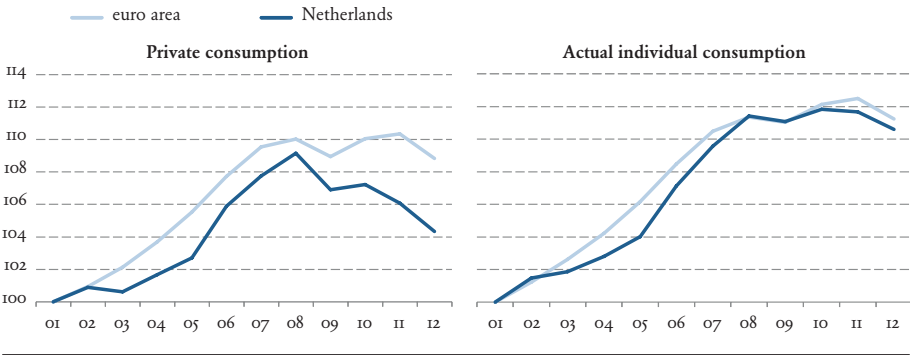
Index 1995 = 100.



Source: CBS and DNB.

Chart 6 Private consumption in the Netherlands in international perspective

Index 2001 = 100.



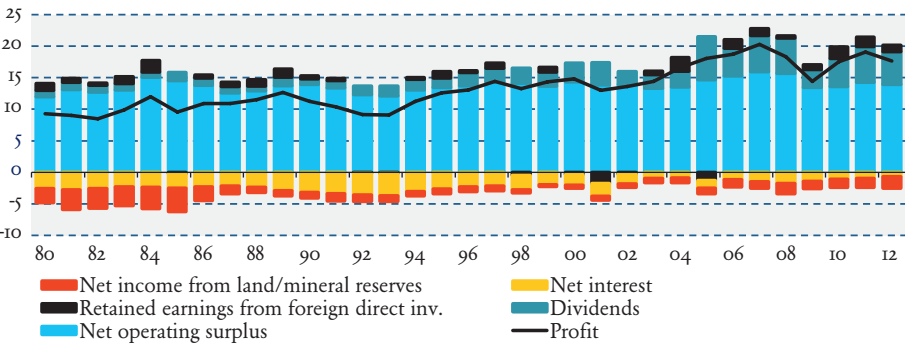
Note: Adjusted for the introduction of the Health Insurance Act (Zorgverzekeringswet / Zvw).
Source: Eurostat and CBS.

actual individual consumption (i.e. including healthcare), the Netherlands is more in line with other countries (Chart 6).

The terms-of-trade loss was particularly substantial in recent years due to the rise in indirect taxes (VAT and duties) aimed at reining in the budget deficit (Table 4). In the first decade of this century, the contribution of the terms-of-trade effect was actually moderate from an historical perspective, though price erosion also occurred in that period (Table 1).

Chart 7 Net profit

Percentage of GDP.



Source: CBS.

Profitability and financial position of the business sector

Just before the crisis, net profits (before tax) were at their highest level ever (Chart 7). The profit decline in 2009 was mainly driven by the lower income from foreign operations (dividends and retained earnings), and a lower net operating surplus (the domestic operating result). In 2010, the income from foreign operations was already almost back to its former level. The net operating surplus also started rising again in 2010 and, by 2012, had returned to roughly the average of the past decades. Lower interest rates also supported profitability. Moreover, unlike government and households, companies have, on average, improved their net financial position in the past ten years. Overall, the net profit at macro level has held up quite well and Dutch businesses are financially healthy.¹⁷

This is not to say, however, that all businesses are in the pink of health. Export-dependent sectors, such as manufacturing and agriculture, have bounced back more strongly than domestically-oriented sectors, such as construction. As a corollary, the financial situation of large corporations, which generally serve international markets, is different from that of small and medium-sized enterprises (SMEs). The lagging sectors (retail and construction) consist largely of SMEs. Financial data for 2010 also reveal that in that year, the profit margins of small businesses diverged much more strongly than those of large corporations and that a proportion of the small businesses had weak balance sheets. It is hard to form an up-to-date picture of the different financial circumstances within the various business sectors. However, the high number of bankruptcies in domestically-oriented sectors suggests that significant vulnerabilities still exist.

Competitiveness

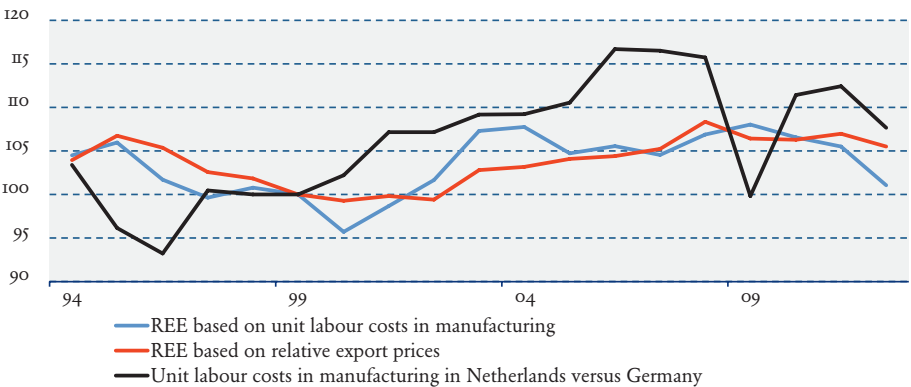
At present, the Netherlands' international (price) competitiveness is reasonably robust. There are no clear signs that unit labour costs have fallen significantly out of step with other countries in recent years (Chart 8). The improvement realised during the economic boom in the second half of the 1990s was wiped out during the *dotcom* recession. The picture since then has been fairly stable. Since the turn of the century, Dutch unit labour costs have risen faster than those of the Netherlands' main trading partner, Germany. In response to the deterioration in German competitiveness in the 1990s, wages in that country were kept rigorously in check for an extended period of time. It should be noted that Germany's significance for Dutch competitiveness is distorted by the role of re-exports.¹⁸

¹⁷ Another thing to be considered here is that, partly due to tax competition with other countries, the corporate tax rate has been significantly reduced in the past decades (De Mooij and Nicodème 2008). After tax, the providers of capital are left better off than before.

¹⁸ If, instead of looking at gross trade flows, we attribute the exported value added to the end destination of the final product, Germany's share in Dutch exports of goods declines from 24% to 14% (see also box 2 in DNB 2013C).

Chart 8 Competitiveness

Real effective exchange rate (REE), index 1999=100.
Increase means a deterioration of competitiveness.

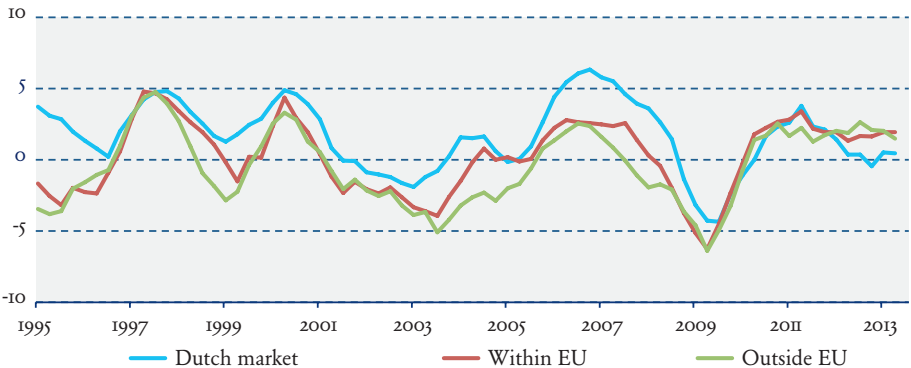


Source: European Commission.

The high current account surplus also suggests that Dutch businesses have no problem holding their own against international competition. Moreover, businesses themselves indicate that their competitiveness is in good shape, particularly in foreign markets (Chart 9). Alongside relative labour costs, non-price factors are important determinants of competitiveness. This is particularly true for countries like the Netherlands with substantial high-tech exports, as competition in high-tech markets is usually driven more by quality than price (Wierst et al. 2013). Moreover, thanks to its geographical location and excellent infrastructure, the Netherlands

Chart 9 Opinion on competitiveness

Percentage. Balance of positive and negative answers; 4-quarter moving average



Source: CBS.

also plays a pivotal role as mainport for Europe. The Netherlands usually scores high on competitiveness rankings of countries based on such aspects.¹⁹

Investment

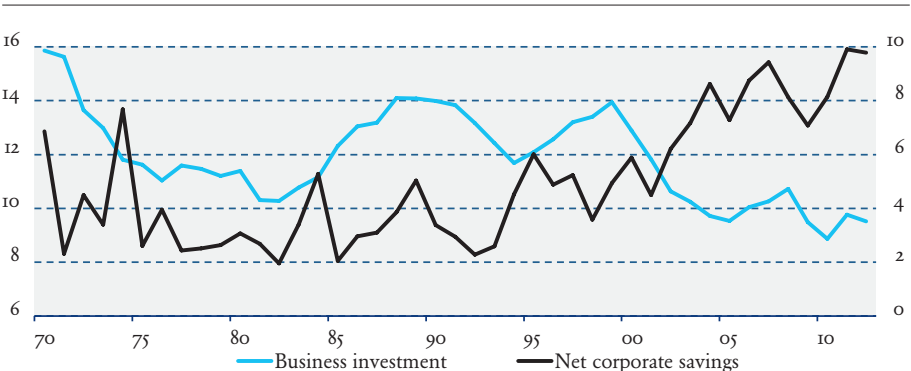
Funding for investment is amply available in macro-economic terms. Corporate savings have expanded to their highest level ever (Chart 10). Nevertheless, as a percentage of GDP business investment is at a long-term low. Whilst credit restrictions are currently having a slight dampening effect on business investment (DNB 2013A), the subdued investment levels since the onset of the crisis are mainly due to low capacity utilisation rates and the unfavourable sales outlook. Owing to weak domestic demand, it makes little sense for companies dependent on the domestic market to invest at the present time. As a result, investment remains low, even though funding costs have dropped significantly. The fact that companies are in a relatively strong financial position implies that, in the current economic circumstances, investment will probably respond less strongly to a change in profitability.

The low Dutch investment ratio is not a recent development, however. Even before the crisis, investment was falling relatively sharply compared to other countries. This is partly due to the substitution of traditional machinery and installations for investments in ICT, which have fallen greatly in price. Dutch businesses have also started investing more in other countries, suggesting a substitution between domestic and foreign investment. There are indications that capital-intensive parts

19 The Netherlands ranks 8th in the Global Competitiveness Index 2013-2014 (World Economic Forum 2013).

Chart 10 Business investment and net corporate savings

Percentages of GDP.



Source: CBS and DNB.

of the production process have been shifted abroad, and that the Netherlands' position in the international value chain has changed.²⁰

4.2. Assessment

Are the recent developments sufficient reason to (temporarily) abandon the policy of responsible wage development? The current situation cannot be compared with the early 1980s, when a downward correction of wages was appropriate. Unlike then, relations between employers and workers are now co-operative and the recent increase of the LIR is driven by the business cycle rather than by bargaining power. From a macro-economic perspective, profits and financial position of businesses are actually quite good, and their competitiveness does not require a correction. The fact that investment is currently relatively low would seem to be due more to the uncertain economic outlook and the Netherlands' changing position in international trade and production than to its relative labour costs.

However, there is no strong case for an adjustment in the opposite direction (wage push) either. The available room for wage increases has been structurally paid out in the past years, so the LIR has not been artificially reduced. In the policy debate, some suggest that a wage push could stimulate consumption and thus help accelerate the economic recovery. However, this assumption is highly speculative; the historical experience shows that a wage push can cause economic damage in the form of redundancies. The scenario analysis with DELFI (a wage push is the inverse of the implemented scenario in section 2.4) shows that there is a small short-term effect, but that consumption will fall in the longer term. Moreover, any calls for such a wage push ignore the heterogeneous nature of firms: though most businesses are in good financial shape, a wage push could exacerbate problems in lagging sectors.

That said, an improvement in disposable income for households would be welcome given the depth and length of the current economic decline. The lagging development of spending power (which has now lasted for an extended period of time) is mainly due to the increase in taxes and social insurance contributions including pension premiums – and must be seen in the light of the fact that in the Netherlands, a relatively large part of (healthcare) consumption is channelled through the government. A reduction in the collective share in the economic pie would be good for consumption, but this issue is not part of negotiations on collective labour agreements. Still, a lower pension accrual rate (with commensurate lower contributions) is something that falls within the domain of the social partners. If the agreed tightening of the Witteveen framework translates into lower pension

²⁰ See also CBS (2013).

contributions, this could certainly be expected to have a favourable effect on the economy.²¹

In addition, it is important to make good use of the possibilities for differentiation by sector in wage developments to do justice to the large differences in economic circumstances currently existing across business sectors. Some sectors have been hit harder (construction versus manufacturing), while others are experiencing a structural adjustment process (retail). The pace of recovery also differs from sector to sector. Where there is scope for wage increases, this may spur domestic demand; where wage restraint must be exercised, jobs may be preserved.

²¹ See DNB (2013C).

Literature

Acemoglu, D. (2002) 'Directed Technical Change', *The Review of Economic Studies*, Vol. 69 (4), pp. 781-809.

Beer, P. de (2013) '30 Jaar na Wassenaar: de Nederlandse arbeidsverhoudingen in perspectief', *Preadviezen van de Koninklijke Vereniging voor de Staathuishoudkunde* 2013.

Blanchard, O.J. (1997) 'The medium run', *Brookings Papers on Economic Activity*, pp. 89-158.

Broer, D.P., D.A.G. Draper and F.H. Huizinga (2000) 'The Equilibrium Rate of Unemployment in The Netherlands', *De Economist*, Vol. 148 (3), pp. 345-371.

Broer, D.P. and F.H. Huizinga (2004) 'Wage Moderation and Labour Productivity', *CPB Discussion Paper* 28.

Caballero, R.J. and M.L. Hammour (1998) 'Jobless growth: appropriability, factor substitution, and unemployment', *Carnegie Rochester Conference on Public Policy*, Vol. 48, pp. 51-94.

Calmfors, L. and J. Driffill (1988) 'Bargaining structure, corporatism and macroeconomic performance', *Economic Policy*, Vol. 3(6), pp. 13-61.

CBS (2013) *Internationalisation Monitor* 2013.

CPB (2013A) *Central Economic Plan* 2013.

CPB (2013B) *December Outlook* 2013.

DNB (2012) 'Dutch households consume over € 100 billion more than they spend', *DNBBulletin* 27 September 2012.

DNB (2013A) Recente ontwikkelingen bancaire kredietverlening in Nederland (Report to the Upper and Lower House, 31 May 2013).

DNB (2013B) 'Less money in household purses', *DNBBulletin*, 23 July 2013.

DNB (2013C) *Economic Developments and Outlook*, December 2013 (no.6).

Harteveld, L. (2012) 'Loonvorming in tijden van crisis', *Tijdschrift voor Arbeidsvraagstukken*, Vol 28 (2), pp. 138-161.

Hartog, H. den en H. S. Tjan (1974) 'Investerings, lonen, prijzen en arbeidsplaatsen', *CPB Occasional Paper* No. 2, Den Haag.

Hulst, N. van (1984) *De effectiviteit van de geleide loonpolitiek in theorie en praktijk*, Wolters-Noordhoff.

Jansen, W.J. (2004) 'Loonmatiging schaadt productiviteitsontwikkeling niet', *Economische Statistische Berichten*, 3 September, pp. 410-412.

Kleinknecht, A. and C.W.M. Naastepad, (2004) 'Loonmatiging schaadt productiviteitsontwikkeling wel', *Economische Statistische Berichten*, 3 September, pp. 413-417.

Mooij, R. A. de and G. Nicodème (2008) 'Corporate tax policy and incorporation in the EU', *CPB Discussion Paper* 97.

Riel, B. van and M. Wilke (1993) 'Coördinatie van loonvorming in Nederland', *Economische Statistische Berichten*, 8 December. Vol (78), pp. 1120-1123.

Schuit, M. (1995) 'Coördinatie en decentralisatie als basis voor het Nederlandse loonvormingsproces', *Tijdschrift voor Politieke Economie*, Vol. 18(2), pp. 94-103.

Shapiro, C. and J. Stiglitz (1984) 'Equilibrium Unemployment as a Worker Discipline Device', *American Economic Review*, Vol. 74(3), pp. 433-444.

Teulings, C. and J. Hartog (1998) *Corporatism or competition*, Cambridge University Press.

Verbruggen, J.P. and A.I.W. Hindrayanto (2013) 'Arbeid hamsteren tijdens kredietcrisis', *Economisch Statistische Berichten* 4656, pp. 166-169.

Visser, J. and A. Hemerijck (1998) *Een Nederlands Mirakel, Beleidsleren in de verzorgingsstaat*, Amsterdam: Amsterdam University Press.

Wiert, P. H. van Kerkhoff and J. de Haan (2013) 'Trade Dynamics in the Euro Area: The role of export destination and composition', *DNB working paper* No. 354 (to appear in *Journal of Common Market Studies*)

World Economic Forum (2013), *The Global Competitiveness Report 2013 – 2014*.

