

Summary and conclusions

The lower end of the labour market in 2025

Low-skilled workers are in a worse position on the labour market than people with intermediate and higher skills. They are more often out of work or in relatively low-paid or uncertain jobs. They are also more often poor than the average worker or jobseeker. Unemployment and poverty are not only a financial problem, but are also bad for people's well-being, among other things leading to diminished feelings of happiness and, at least for men, reducing the chance of finding and retaining a partner.

The disadvantaged position of low-skilled workers is due among other things to their lack of the knowledge and skills needed for in-demand and well-paid jobs. They do not have the right professional skills for those jobs and sometimes also lack general knowledge. They include more functionally illiterate people than average (Fouarge et al. 2011b), and more people of non-Western origin – and thus more people with a language disadvantage. It is estimated that up to around 25% of low-skilled adults have an intellectual disability.¹ They are also more often in poor health than other people, which again puts them at a disadvantage on the labour market.

Concerns are regularly raised about a further deterioration in the position of the low-skilled in the near future, for example as the demand for their labour declines due to automation, robotisation and relocation of work to low-wage countries. In this report, the Netherlands Bureau for Economic Policy Analysis (CPB) and the Netherlands Institute for Social Research (SCP) describe how the position of the low-skilled has changed in recent years and whether their disadvantage relative to those with intermediate and higher skill levels is growing. Scenarios are also presented for the year 2025. In order to present the fullest possible picture, several aspects of the labour market position of the low-skilled are described, including unemployment and average hourly pay as well as poverty and precarious (i.e. low-paid and uncertain) employment.²

S.1 Key findings

S.1.1 Recent changes in the position of the low-skilled

The skills gap on the labour market has grown since 1990

The difference in the labour market position of low-skilled and highly skilled workers has increased in several respects since the 1990s. The pay gap widened between 1990 and 2005, as the hourly pay of low-skilled workers remained virtually flat, at around €17 gross after adjustment for inflation, while highly skilled workers saw their earnings increase steadily, from €24 to €31 gross per hour.³ The pay of low-skilled workers has not fallen further behind since 2005, because the dwindling supply of low-skilled workers since then has offset the shift in employer demand towards highly skilled labour sufficiently to prevent the gap from widening.

The difference in precarious employment has also risen. Precarious employment is work that is low-paid and uncertain; in this report it is defined as flexible work or self-employment with an hourly rate that is no more than 130% of the minimum wage. Low-skilled people are more often in this type of work than highly skilled workers. The prevalence of precarious employment has risen at all skill levels in recent years, but the rise began earlier among low-skilled workers, in 2003, whereas among highly skilled workers it did not start until 2009, during the economic crisis. By 2012, 18.5% of low-skilled workers and 10% of highly skilled workers were in precarious employment, compared with 12.5% and 6%, respectively, in 2003. The inequality in unemployment remained roughly unchanged, as did the difference in poverty.

Technological developments have probably widened the gap ...

The disadvantage of low-skilled workers is often attributed to technological developments, such as the rise of ICT. These developments have led to a 'skill bias', whereby employers require relatively more highly skilled than low-skilled workers (Borghans & Ter Weel 2007; Katz & Murphy 1992), as work that was formerly carried out (mainly) by low-skilled workers is taken over by machines that are operated by skilled staff (skill-biased technological change). Relocation of mainly routine, low-skilled (and increasingly more intermediate-skilled) work to low-wage countries has the same effect (Autor et al. 2014).⁴ Despite the decline in the number of low-skilled workers in the population, in relative terms they have become less scarce, while highly skilled workers have become increasingly scarce despite the growth in their number. This led to widening differences in the economic position of the high and low-skilled in the period 1990-2005, in particular. From 2005 onwards, the falling supply of low-skilled workers provided sufficient counterweight to the shift in employer demand to prevent the gap from widening further.

... but other factors may also have contributed

Factors other than technological developments and globalisation have also played a role in the growing inequality between the high and low-skilled. The greater growth in precarious employment among the low-skilled is due in part to the uncertain and weak economic situation that has prevailed since the turn of the century. This is exacerbated by the fact that low-skilled workers are employed more than average in sectors in which competition is very heavily based on price, and thus on keeping wage costs low and maximising labour efficiency.⁵ The opportunities for employers to reward individual workers have also increased in recent decades.⁶ In addition, employers have increasingly outsourced low-skilled support work (e.g. cleaning, catering, security) in recent years (SER 2006). These changes may also have widened the pay differential between high and low-skilled workers in the period 1990-2005.

S.1.2 The situation in 2025

Given the uncertainty of future demand for low-skilled, intermediate and highly skilled workers, CPB formulated a number of scenarios for the situation in 2025. The low-policy

baseline scenario shows what will happen if demand for low-skilled, intermediate and highly skilled workers continues to develop as it has in the last few decades. Two variants explore what the outcomes would be if the demand for low-skilled workers falls behind demand for highly skilled workers to a greater (higher skill bias) or lesser (lower skill bias) degree. The final scenario explores the consequences if the government should decide to lower the minimum wage or pay wage cost subsidies. Both these measures would reduce wage costs for employers around the minimum wage.

The following assumptions are made in the scenarios:

- 1 People with intermediate and high skills form one group. Demand for their labour develops in the same way.
- 2 Highly skilled and low-skilled workers react in the same way to the raising of the state retirement age.
- 3 Low-skilled workers with an earning capacity below the future minimum wage become unemployed.
- 4 A rise in unemployment has no impact on the percentage of people withdrawing from the labour market.

The scenarios are based on an equilibrium situation; economic fluctuations are therefore not factored in and there is no displacement of low-skilled workers by those with intermediate or higher skills.

Decline in number of low-skilled workers

The number of low-skilled workers in the labour force will fall by around 500,000 over the next ten years, as better-educated younger generations replace older generations reaching retirement age. The number with intermediate skill levels remains more or less stable and the number of highly skilled workers grows by around 700,000. The share of low-skilled workers in the labour force consequently falls from 25% to 20%.

Increase in disadvantage of low-skilled workers if current developments continue

Despite the fall in the number of low-skilled workers, the problems for this group increase in the baseline scenario. Pay inequality between high and low-skilled workers worsens and unemployment and poverty among low-skilled workers increase (Tables S.1 and S.2). Although wages of low-skilled workers rise in this scenario by 5% over the whole period 2009-2025, the pay of intermediate and highly skilled workers rises more, by 14%. The wage disadvantage of the low-skilled therefore increases.⁷ While the number of low-skilled workers has fallen sufficiently in recent years to compensate for the shift in employer demand towards more highly skilled labour, this is not the case going forward. The low-skilled labour supply does fall, but not enough to offset the demand shift. The result is rising pay inequality. Unemployment among the low-skilled also rises in this scenario, from around 6% in 2009 to roughly 8% in 2025. The reason lies in the rising pay of the working population as a whole, i.e. including those with intermediate and higher skills. The minimum wage is linked to average contractual wages and therefore grows (partly)⁸ in

line with the higher salaries paid to the intermediate and highly skilled. As the minimum wage rises more than the productivity of the low-skilled in this scenario, low-skilled workers with an earning capacity between the present and future minimum wage become unemployed.

The poverty rate among the low-skilled portion of the labour force rises from around 5.5% to approximately 6.5% in this scenario, particularly among younger low-skilled workers (25-45 years), men and migrants/children of migrants. The growth in poverty is due in the first place to the fact that the wages of the low-skilled, although rising, lag behind the rise in the poverty line. The poverty line rises because it partially tracks the general rise in prosperity, reflecting what are regarded as indispensable or highly desirable items of expenditure in present-day society. The second reason for the growth in poverty is the rise in unemployment among the low-skilled; poverty is above average among unemployed people. The inequality in precarious employment between low-skilled and highly skilled workers also increases in this scenario. It is difficult to predict what the precise percentage of low-skilled workers in precarious employment will be, as it depends on whether the growth in the number of flexible and self-employed workers seen in recent years continues or slows after the crisis. In view of the uncertainty on this point, a bandwidth is used in our forecast of precarious employment; the actual outcome will probably be somewhere in between. Younger low-skilled workers (aged 15-35) in particular are more often in precarious employment than in the past in this scenario, followed by low-skilled single parents and low-skilled migrants/children of migrants. Their position thus becomes more uncertain; they will find it more difficult to cope with financial setbacks and will have greater difficulty in returning to the labour market following health problems, because they less often have permanent employment contracts than is the case today.

Table S.1

Hourly pay rates in 2025 by skill level, per scenario (in euro's and percentages)^a

		2009	2025		
			baseline scenario	lower skill bias ^b	higher skill bias ^c
hourly pay	intermediate and high-skilled workers	€25.10	+14	+13	+14
	low-skilled workers	€17.10	+5	+9	+1

a Data based on own calculations.

b Demand for low-skilled workers lags behind demand for intermediate and highly skilled workers less than in the baseline scenario.

c Demand for low-skilled workers lags behind demand for intermediate and highly skilled workers more than in the baseline scenario.

Source: CPB

Table S.2

Unemployment, poverty and precarious employment in 2025 by skill level, per scenario (in percentages)^a

		2009	2025		
			baseline scenario	lower skill bias	higher skill bias
unemployment	intermediate and high-skilled workers	2.9	3.3	3.3	3.3
	low-skilled workers	5.9	8.2	5.9	11.0
poverty among the employed plus unemployed	intermediate and high-skilled workers	3.6	3.9	3.9	3.8
	low-skilled workers	5.5	6.7	6.0	7.9
precarious employment	intermediate and high-skilled workers	9.8	8.6-10.8	8.7-10.9	8.5-10.7
	low-skilled workers	17.1	16.9-21.6	15.9-20.3	17.5-22.3

a Data based on own calculations.

Source: unemployment: CPB; poverty and precarious employment: SCP

Difference in unemployment depends on demand for low versus highly skilled; pay gap grows in all scenarios

If demand for intermediate and highly skilled workers grows more strongly, for example due to a greater skill bias in technological change or relocation of low-skilled work to low-wage countries, the wages of low-skilled workers will rise more slowly and those of highly skilled workers more quickly (Tables S.1 and S.2). The pay disadvantage for low-skilled workers then increases more quickly, as does their unemployment and poverty rate. The inequality in precarious employment also rises. If demand for intermediate and highly skilled workers grows less strongly, the pay gap between low and highly skilled workers still increases, but less quickly. The difference in unemployment and poverty does not widen in this case. The main effect of growing demand for highly skilled workers (higher skill bias) in these scenarios is thus higher unemployment among the low-skilled.

Box S.1 Extra risk factors and mitigating factors for the lower end of the labour market

- *The position of the low-skilled deteriorates if those with intermediate skills bump down into lower skilled work*

An additional risk factor for the lower end of the labour market is related to developments among those with intermediate skills. If demand for intermediate occupations⁹ declines in the coming years and those with intermediate skills are increasingly forced to do low-skilled work, this will put more pressure on the lower end of the labour market. By contrast, if those with intermediate skills are able to move up to highly skilled jobs, the inequality in unemployment and poverty will increase more slowly. Whether they can make this move depends on the type of jobs created by new technology and on the skills of these workers.

If employer demand for intermediate labour stabilises, pressure on the lower end of the labour market will not increase, because the number of people with intermediate skills will also stabilise in the years ahead.

- *If low-skilled workers withdraw from the labour market, their unemployment rate will be lower, but so will their labour participation rate*

People's decision to stop looking for jobs could change the situation at the lower end of the labour market. If a proportion of the low-skilled unemployed become discouraged and stop looking for work, they will no longer be included in the unemployment figures and the low-skilled unemployment rate will rise less quickly. The percentage in work or looking for work will then decline. That is of course just as big a problem, both for the people concerned and for economic growth and the public finances.

- *Reactions of employers could mitigate the effects of unemployment*

If a proportion of employers do not seek to meet their need for more highly skilled labour by raising wages, but by casting their recruitment net wider, inequality will rise less quickly. This will be the case, for example, if companies look for suitable labour abroad, if the tasks of highly skilled workers are partly taken over by technology or if companies separate tasks that can be performed by lower-skilled people from highly skilled jobs. An example of the latter phenomenon is the allocation of some GP tasks to nurse practitioners and assistants, or inclusive job redesign ('job carving') so that highly skilled tasks are split off and combined to create new jobs for low-skilled workers (see e.g. Zijlstra et al. 2012).¹⁰

If employers who are active in the low-skilled segment succeed in improving the ratio between the wage costs and productivity of low-skilled workers, for example by deploying low-skilled workers more efficiently, they can keep the prices of their products or services low. This will boost demand for those products or services and therefore support employment at the lower end of the labour market. Cleaning and home care are examples of sectors where jobs have been maintained or created in this way. It is of course essential to remain vigilant regarding quality of work, underpayment and hazardous working conditions.

If employers do not (immediately) dismiss employees with an earning capacity below the minimum wage, jobs at the lower end of the labour market will be maintained in the short term. They could even increase if employers in this segment succeed in persuading customers to pay a little more for the social standards applied by the company. Examples include hospitality businesses run entirely by people with disabilities. This option is valid mainly for companies offering non-tradable services.

S.2 Policy options

It is of course important that the government continues to monitor the trend in unemployment and the percentage of non-workers among the low-skilled, to see whether the problems outlined above do indeed materialise. If they do, the government can improve the labour market position of the low-skilled in several ways. The government has (virtually)

no power to influence the skill bias technological change and the other factors cited earlier. But it can influence the impact of those developments on inequality, poverty and unemployment.¹¹ In this report we mainly discuss measures that influence employers' wage costs at the level of the minimum wage. But policy options that increase the productivity of low-skilled workers or the number of low-skilled jobs due to job carving could also ease the problems at the lower end of the labour market. We also focus some attention on the desirability of government intervention in relation to flexible work, in view of the growth in precarious employment among the low-skilled.

Employer demand and the wider context

As the scenarios are focused on future employer demand for low-skilled workers, we restrict ourselves to policy options that impinge on that demand. Naturally, the future position of low-skilled workers does not depend only on this, but also on their own preferences and characteristics. The government can exert (some) influence here, but aspects such as these could not be varied in the scenarios. It is however known from research¹² that they are important. Examples include the attractiveness of low-skilled work compared with not working – both financially and substantively – the health (in a broad sense) of the low-skilled, the disadvantaged position of low-skilled workers of non-Western origin, the problems experienced with social norms and language by some social assistance benefit recipients, and the numbers of labour migrants from Eastern Europe and their attractiveness for employers compared with native Dutch low-skilled workers.¹³

Adjusting link to minimum wage

If the link between the minimum wage and average contractual wages is abandoned and the minimum wage is instead allowed to rise in line with the average productivity of low-skilled workers, the low-skilled unemployment rate will reduce, but pay inequality will increase. The effects of this were extrapolated in a separate scenario. A reduction of 1% in the minimum wage reduces low-skilled unemployment in the baseline scenario to around 7.5% instead of around 8%. If the government uses the money saved on unemployment and social assistance benefits to repair the impact on incomes at the lower end of the scale (e.g. by reducing taxes for this group), the impact on poverty could be limited. If the government does not do this, reducing the minimum wage will push up the percentage of low-skilled people in poverty by slightly more than in the baseline scenario, with the caveat that there will then be more working among the poor. In addition, since social assistance benefits fall because of their linkage to the minimum wage, a proportion of social assistance benefit claimants will fall deeper into poverty. They are likely to be mainly couples with children. The percentage of low-skilled workers in precarious employment rises slightly in this scenario.

When setting the minimum wage, a judgement has to be made between the impact on employment and the impact on worker incomes. If the minimum wage is set too high, this leads to less employment than is desirable. If it is too low, it can undermine the income security of groups of workers. Moreover, a minimum wage that is too low hands negotiat-

ing power to employers. When there is an inequality of power between those on the demand side of the labour market (large companies) and individual suppliers of labour, companies can appropriate much of the added value by setting wages low.¹⁴ A proportion of people at the bottom may then withdraw from the labour market altogether because it no longer pays to work (Manning 2005; Van Soest 1999; Teulings 1994; Van Vuuren & Bosch 2012; Yellen 1984).

The Dutch minimum wage is comparable with that in Belgium, France, Germany¹⁵ and Ireland; it is slightly higher than in the United Kingdom and much higher than in the United States and Southern and Eastern Europe (Eurostat 2015b). The Netherlands performs well on the labour participation rate of low-skilled workers: low-skilled unemployment and the percentage of low-skilled men who are out of work and not looking for work is below the average for the 15 old European Member States (Eurostat 2015c, 2015d). Spending on sheltered employment is however high – higher than in France and Germany, for example (see Werkgroep 9. ‘Op afstand van de arbeidsmarkt’ 2010).¹⁶

Lowering employers’ wage costs for low-skilled workers

The same effect as lowering the minimum wage could also be achieved by lowering the wage costs for employers up to the level of the minimum wage. Poverty would not rise in that scenario. Wage costs could be reduced by lowering employers’ contributions or paying a wage cost subsidy. The government then compensates employers for taking on people whose productivity is below the minimum wage, or compensates workers who accept a job at below the minimum wage through a wage dispensation. Wage cost subsidies, in-work benefits or sheltered employment are all options. Sheltered employment is mainly suited to people for whom a normal job with a mainstream employer is beyond their capabilities, for example people with an intellectual disability or severe physical or psychological impairments.¹⁷ Employees covered by such measures often require additional support, especially at first, and where they are placed with mainstream employers, the latter will have to accept this (Woittiez et al. 2014).

Swedish research has shown that wage cost subsidies are the most effective measure in combating unemployment (Sianesi 2008), but they are expensive. Over the medium term, they are also somewhat more effective than training (Kluve 2010). In the Netherlands, the new Participation Act provides for wage cost subsidies for employers who take on a person with a disability whose productivity is below the minimum wage level. It is important to know how effective these subsidies are in order to be able to provide the right stimulus to improve the chances of these and other groups at the lower end of the labour market. It is relevant to ask here what the purpose of these wage cost subsidies is: to create extra employment at the bottom of the labour market or to foster a shift from subsidised to mainstream employment. On this latter point, earlier results with subsidised jobs for the long-term unemployed were not impressive, partly because of a lack of incentives to move into mainstream work¹⁸ (Serail et al. 2002; Theeuwes 2002). However, transfer to mainstream employment is not always the primary objective.

Of course, wage cost subsidies can only help if employers know about them. In 2012, around 30-40% of Dutch employers were not aware of schemes such as wage dispensation, in-work benefits or social security contribution discounts for employers who take on specific groups of jobseekers (Van Echtelt et al. 2014). It is therefore important that schemes are clear and recognisable. In addition, wage cost subsidies are obviously only effective if employers actually take on low-productivity workers rather than cheap labour from abroad or students. The risk of this is lower with targeted rather than generic subsidies, but the implementation costs are higher. There is also always a danger with wage cost subsidies of subsidising work that already existed (*deadweight loss*) and of displacement. If one subsidised low-productive worker takes the place of another worker who is not subsidised, this does not generate extra employment. This displacement problem is mainly a short-term issue; in the long term, the extra money invested in the labour market does lead to extra demand for labour. Businesses create as much employment in the long term as is profitable when set against the wage costs. As wage cost subsidies reduce those costs, employment levels rise over the longer term.

Training and skills of low-skilled workers

Roughly a quarter of younger low-skilled workers (22-35 years) who are no longer in training or education have not completed an education at senior secondary vocational level. If the dropout rate falls, the supply of people with intermediate and higher skills will be better able to keep up with employer demand, so their wages will rise less. Dropout can be reduced by introducing more structure (Woittiez et al. 2014) or by devoting more attention to technical skills in vocational training programmes (Turkenburg et al. 2014). The dropout rate from senior secondary vocational education has already been reduced in recent years, and it is important to maintain this momentum. How successful such measures will be depends partly on future employer demand for intermediate workers. There is uncertainty as to how that demand will develop. If demand for middle-ranking occupations does indeed contract, it is important to look carefully at the occupations for which there is sufficient demand and to retrain people for those jobs or direct them towards them.

The productivity of some low-skilled workers who become unemployed in the baseline scenario is not very far below that represented by the future minimum wage. A limited amount of supplementary training in a field where there is sufficient demand could perhaps enable these workers to take a step up. Research has shown that short-term training increases the chance of moving off benefits and into work (Heyma & Van der Heul 2015). It does require a customised approach, involving a careful analysis of what someone is able and willing to do and where the realistic opportunities lie.

More comprehensive training is recommended mainly for low-skilled workers who are further removed from the labour market. The drawback of such training programmes is that those who follow them stay unemployed for longer, probably because they stop or scale down their jobseeking activity during the training (Heyma & Van der Heul 2015; Koning 2012). In the long term, however, this training does have positive effects, and above-aver-

age effects when applied to low-skilled people. This type of training not only improves their chance of finding work, but also of earning a good wage (Lammers et al. 2013). In recent years, the Dutch government has been promoting sustainable employability. The idea is that people remain employable right through to retirement by following sufficient training, changing jobs occasionally and maintaining their health. The government provides training funds for this and seeks to raise awareness among employers and employees of the importance of training. It is often argued that broad-based training is the most valuable, i.e. training that can be applied not only in someone's present job, but also in other functions. In practice, however, most of the training followed by workers is specific to their current job (Vlasblom et al. 2013). Yet this kind of training, too, can offer benefits if someone's job ceases to exist. Low-skilled workers are less inclined to follow training due to poor experiences in the past and examination anxiety (Fouarge et al. 2013). If they have had good experiences in the past with courses focused on the work they were then doing, the step to retraining for a different job may be less daunting.

Promoting job carving

The number of mainstream jobs for low-skilled workers would grow if more use were made of job carving. There is probably untapped potential here: in 2007, 20% of employers said there were unused opportunities within their organisation for splitting off some tasks and giving them to low-skilled workers, where necessary with supplementary training (Román & Schippers 2008). Ultimately, however, such a strategy must be initiated by employers themselves, and the number of jobs affected will not be very large. The government can encourage job carving, make agreements with the employee insurance agency,¹⁹ draw the attention of employers to it and set a good example itself, but employers will only apply this strategy if it offers efficiency gains, or based on social considerations.

Regulation of flexible employment contracts

The number of low-skilled people in precarious employment, i.e. low-paid work on flexible contracts or as self-employed workers, has risen in recent years. There are probably several reasons for this, such as the uncertain economic climate, the greater price competition with providers from Eastern Europe and – in the case of self-employed workers – tax advantages (e.g. Berkhout et al. 2014). Whether extra regulation is desirable here depends on where the main cause (or causes) of the increase lies. That is unclear, and a clearer insight is needed. If flexible work is growing mainly because employers are uncertain about their order books, imposing limits on it is not wise: they might then simply not take on staff at all. If it is increasing simply because the option exists, with employers imitating each other in using that option, and if the increase is regarded by society as too great, constraining it via regulation is an option. If the growth is due to the fact that permanent contracts are 'too permanent' or to the greater financial responsibilities imposed on employers with permanent staff (e.g. the duty to continue paying the wages of sick employees for two years), then a better option would be to examine the regulation in this area.

Conclusion

The cost to the Treasury of the different policy options varies. If the government decouples the minimum wage from the trend in average contractual wages and instead links it to the average productivity of low-skilled workers, the cost to the public purse will initially be lower. Not only will unemployment decline and tax revenues increase, but benefits such as social assistance and the state pension that are also linked to the minimum wage would be constrained, so that social security spending would rise less quickly. But if the government then wishes to limit the negative impact on poverty by reducing taxation, the benefit to the Treasury disappears. Wage cost subsidies which help people with low productivity into work are expensive for the government, because they have to be funded and eligibility for them has to be assessed. The way such subsidies are designed determines how high those costs are. Temporary and targeted subsidies are for example cheaper, but not always feasible. Setting wage cost subsidies at the right level is crucial. If individual earning capacity is difficult to determine, there is a problem. Overestimating someone's earning capacity means the subsidy will be too low, so that the person concerned will not find work. Underestimating earning capacity means the subsidy, and therefore the costs to the government, will be too high.

The consequences for public well-being also depend on the policy options chosen. Reducing the minimum wage will push people who are already poor deeper into poverty. They will then find it even more difficult to make ends meet, their health could deteriorate and their well-being could decline.²⁰ On the other hand, it is known that being in paid work makes people happier and healthier (Van Echtelt 2010; Warr et al. 1988), partly because it gives them structure and social contacts. If a lower minimum wage reduces unemployment, the well-being of those who find work as a result could improve. Sheltered and subsidised employment also increase the well-being of people who find work as a result of it (Serail et al. 2002). When selecting a policy option, the government will have to weigh the consequences for the public finances and the well-being of the population against each other.

Notes

- 1 An estimated 1-2% have a mild intellectual disability (IQ < 70) and 20-25% a borderline intellectual disability (IQ between 70 and 85 in combination with limited social independence). Estimates based on Woittiez et al. (2014).
- 2 Poverty and precarious employment are defined as follows in this report. People are poor if the total income of the household of which they form part falls below the SCP 'modest but adequate' criterion. This criterion indicates how much a household needs for essential spending on food, housing and clothing plus a few small extras. Workers are in precarious employment if their hourly rate of pay is no more than 130% of the minimum wage and they do not have a permanent employment contract (e.g. because they are working in temporary jobs, on standby contracts or as self-employed).
- 3 The net differences are smaller, because those on higher incomes pay a higher percentage of tax.
- 4 Where skill-based technological change in the past mainly took place at the expense of employment at the lower end of the labour market, it is thought that those with intermediate skills have been increasingly affected in recent years. Low-skilled workers today often perform service functions which are dif-

difficult to automate. An increase in jobs of this kind could be positive for low-skilled workers in the future.

- 5 This is apparent from analyses of data collected from employers by SCP (the Labour Demand Panel). Employers with at least 30% low-skilled workers were classified as ‘employs many low-skilled workers’; employers with less than 30% low-skilled workers were classified as ‘employs few low-skilled workers’. In 2013, 44% of Dutch employers with many low-skilled workers were active in sectors in which competition is based largely on price, compared with just 22% of employers with few low-skilled employees.
- 6 Examples include the growing use of performance-related pay (Bekker et al. 2003; Van der Steen 2002) between 1997 and 2007, especially in senior and top-level posts (Josten et al. 2012), and the increase in the number of self-employed personnel (CBS 2014a).
- 7 The pay rise will not be the same for all intermediate and highly skilled workers, but will mainly benefit those with in-demand skills. Some highly skilled workers have not seen an improvement in their position in recent years (cf. the increase in the percentage of highly skilled workers in precarious employment, or the share of academics working at below university level (Herweijer 2010; Herweijer & Josten 2014; Tolsma & Wolbers 2014)). Intermediate and highly skilled workers are also under pressure, especially those in certain routine occupations.
- 8 The wage growth consists partly of an increase in contractual wages and partly of an increase in incidental remuneration (e.g. additional increments or more performance-related pay). The minimum wage follows contractual wages. An increase in incidental remuneration does not lead to an increase in the minimum wage. It is uncertain whether the trend in incidental remuneration will remain positive in the future. The rise in incidental remuneration in recent years was partly a result of the ageing labour force, and opinions differ on whether this increase will continue. If performance-related pay becomes more common and people more often receive an additional pay rise when switching to a different employer, this pay component will become more important. But the component that is due to population ageing will in principle die out. Increments do not suggest a rise in incidental remuneration in macro-figures in a stable labour force, in which older people with higher earnings retire and are replaced by younger workers and each generation moves up one year in the pay distribution.
- 9 See for example, the sector analyses by ECABO and UWV (2014, 2015).
- 10 In technical terms, this increases the substitution elasticity between high and low-skilled workers.
- 11 Technological developments have of course also brought a great deal of prosperity.
- 12 For information on 1) the financial and substantive attractiveness of low-skilled work, see De Beer (1996); Jongen et al. (2011); 2) physical and mental health, personal attractiveness of low-skilled workers, see Van Campen & Versantvoort (2014); Programmacommissie SEGV II (2001); 3) disadvantage of and discrimination against low-skilled migrants, see Andriessen et al. (2010, 2015); Huijnk (2014); 4) problems with social norms and language for a proportion of social assistance benefit recipients, see Van Echtelt & Guiaux (2012); 5) labour migrants from Eastern Europe, see Berkhout et al. (2014); CPB (2011).
- 13 Aspects such as these can be influenced for example with institutional measures (e.g. activation of the unemployed by employee insurance agencies and local authorities, tax and other financial incentives to make working more attractive than not working, enforcing compliance by employers with regulations regarding employment contracts and wages, etc..).
- 14 Adaptation costs, search frictions and company-specific investments play a key role here. See e.g. Malcomson (1997) for a description of this *hold-up* problem.
- 15 Germany only introduced a statutory minimum wage in 2015.
- 16 Spending on sheltered employment is likely to fall, as new intake under the Sheltered Employment Act is no longer permitted since 1 January 2015. Only sheltered employment organised by local authorities is now available for people with low earning capacity.

- 17 Under the Participation Act, which came into force in January 2015, local authorities can offer sheltered employment to people with an intellectual, physical or mental impairment who require such support and adaptation of the workplace that a mainstream employer cannot be expected to take them on. Sheltered employment can however be organised at a mainstream employer.
- 18 These subsidised jobs ('*10-banen*') were introduced in the 1990s by the then Minister for Social Affairs and Employment, Ad Melkert. The scheme ended in 2004.
- 19 The Employee Benefit Agency (uwv) is itself taking initiatives in this area; see the approach to job carving developed by uwv in collaboration with Maastricht University (uwv 2014).
- 20 See Guiaux et al. (2011); Frey & Stutzer (2002); Kalmijn (2011); Knoops & Van den Brakel (2010); Manting (2006); Manting & Loeve (2004); Soede et al. (2014).

Literature

- Andriessen, I., B. van der Ent, M. van der Linden and G. Dekker (2015). *Op afkomst afgewezen*. Den Haag: Sociaal en Cultureel Planbureau.
- Andriessen, I., E. Nievers, L. Faulk and J. Dagevos (2010). *Liever Mark dan Mohammed? Onderzoek naar arbeidsmarktdiscriminatie van niet-westerse migranten via praktijktests*. Den Haag: Sociaal en Cultureel Planbureau.
- Autor, D.H., D. Dorn, G.H. Hanson and J. Song (2014). Trade adjustment: worker-level evidence. In: *The Quarterly Journal of Economics*, jg. 129, nr. 4, p. 1799-1860.
- Beer, P. de (1996). *Het onderste kwart. Werk en werkloosheid aan de onderkant van de arbeidsmarkt*. Den Haag: Sociaal en Cultureel Planbureau.
- Bekker, S., D.J.A.G. Fouarge, M.J.M. Kerkhofs, A.A. Román, A.M. de Voogd-Hamelink, T. Wilthagen and C. de Wolff (2003). *Vraag naar arbeid 2002*. Tilburg: Organisatie voor Strategisch Arbeidsmarktonderzoek.
- Berkhout, E., P. Bisschop and M. Volkerink (2014). *Grensoverschrijdend aanbod van personeel. Verschuivingen in nationaliteit en contractvormen op de Nederlandse arbeidsmarkt 2001-2011*. Amsterdam: SEO Economisch Onderzoek.
- Borghans, L. and B. ter Weel (2007). The diffusion of computers and the distribution of wages. In: *European Economic Review*, jg. 51, nr. 3, p. 715-748.
- Campen, C. van, and M. Versantvoort (2014). Aantrekkelijk gezond: de sociale gevolgen van verschillen in fysiek, mentaal en esthetisch kapitaal. In: C. Vrooman, M. Gijsberts en J. Boelhouwer (red.), *Vershil in Nederland* (p. 141-176). Den Haag: Sociaal en Cultureel Planbureau.
- CBS (2014a). *Achtergrondkenmerken en ontwikkelingen van zzp'ers in Nederland*. Den Haag/Heerlen: Centraal Bureau voor de Statistiek. Geraadpleegd 20 augustus 2014 via <http://statline.cbs.nl/Statweb>.
- CPB (2011). *Arbeidsmigranten uit Oost-Europa*. Den Haag: Centraal Planbureau.
- ECABO and UWV (2014). *Financiële dienstverlening. Sectorbeschrijving*. Amsterdam: UWV Afdeling arbeidsmarktinformatie en -advies.
- ECABO and UWV (2015). *Administratieve beroepen. Arbeidsmarktbeschrijving*. Amsterdam: UWV Afdeling arbeidsmarktinformatie en -advies.
- Echtelt, P. van (2010). *Een baanloos bestaan. De betekenis van werk voor werklozen, arbeidsongeschikten en werkenden*. Den Haag: Sociaal en Cultureel Planbureau.
- Echtelt, P. van, and M. Guiaux (2012). *Verzorgd uit de bijstand. De rol van gedrag, uiterlijk en taal bij de re-integratie van bijstandsontvangers*. Den Haag: Sociaal en Cultureel Planbureau.
- Eurostat (2015b). *Minimum wage statistics*. Geraadpleegd 8 april 2015, via http://ec.europa.eu/eurostat/statistics-explained/index.php/Minimum_wage_statistics
- Eurostat (2015c). *Unemployment rates by sex, age and highest level of education attained (%)*. Geraadpleegd 8 april 2015 via <http://ec.europa.eu/eurostat/data/database>.
- Eurostat (2015d). *Activity rates by sex, age and highest level of education attained (%)*. Geraadpleegd 8 april 2015 via <http://ec.europa.eu/eurostat/data/database>.
- Fouarge, D., T. Schils and A. de Grip (2013). Why do low-educated workers invest less in further training? In: *Applied Economics*, jg. 45, nr. 28, p. 2587-2601.
- Fouarge, D., W. Houtkoop and R. Van der Velden (2011b). *Laaggeletterdheid in Nederland. Resultaten van de Adult Literacy and Life Skills Survey (ALL)*. Den Bosch/Utrecht/Maastricht: ecbo/ROA.
- Frey, B.S. and A. Stutzer (2002). What Can Economists Learn from Happiness Research? In: *Journal of Economic Literature*, jg. 40, nr. 2, p. 402-435.
- Guiaux, M., A. Roest and J. Iedema (2011). *Voorbestemd tot achterstand? Armoede en sociale uitsluiting in de kindertijd en 25 jaar later*. Den Haag: Sociaal en Cultureel Planbureau.
- Herweijer, L. (2010). Generaties in het onderwijs en op de arbeidsmarkt. In: A. van den Broek, R. Bronneman en V. Veldheer (red.), *Wisseling van de wacht: generaties in Nederland* (p. 275-296). Den Haag: Sociaal en Cultureel Planbureau.
- Herweijer, L. and E. Josten (2014). Een ideaal met een keerzijde. In: C. Vrooman, M. Gijsberts en J. Boelhouwer (red.), *Vershil in Nederland* (p. 69-101). Den Haag: Sociaal en Cultureel Planbureau.

- Heyma, A. and H. van der Heul (2015). De kosteneffectiviteit van re-integratie van WW'ers. In: *Economisch Statistische Berichten*, jg. 100, nr. 4706S, p. 14-18.
- Huijnk, W. (2014). Verschillen in arbeidsmarktpositie ontleed. In: W. Huijnk, M. Gijsberts en J. Dagevos (red.), *Jaarrapport integratie 2013. Participatie van migranten op de arbeidsmarkt* (p. 89-108). Den Haag: Sociaal en Cultureel Planbureau.
- Jongen, E., M. Mastrogiacomo and B. ter Weel (2011). *Hoe prikkelbaar zijn Nederlanders*. Den Haag: Centraal Planbureau.
- Josten, E., J.D. Vlasblom and M. de Voogd-Hamelink (2012). *Vraag naar arbeid 2011*. Den Haag: Sociaal en Cultureel Planbureau.
- Kalmijn, M. (2011). The influence of men's income and employment on marriage and cohabitation: Testing Oppenheimer's theory in Europe. In: *European Journal of Population*, jg. 27, nr. 3, p. 269-293.
- Katz, L.F. and K.M. Murphy (1992). Changes in relative wages, 1963-1987: Supply and demand factors. In: *The Quarterly Journal of Economics*, jg. 107, nr. 1, p. 35-78.
- Kluve, J. (2010). The effectiveness of European active labor market programs. In: *Labour economics*, jg. 17, nr. 6, p. 904-918.
- Knoops, K. and M. van den Brakel (2010). Rijke mensen leven lang en gezond. Inkomensgerelateerde verschillen in de gezonde levensverwachting. In: *TSG: tijdschrift voor gezondheidswetenschappen*, jg. 88, nr. 1, p. 17-24.
- Koning, P. (2012). Beter een stok dan een wortel. Toeleiding naar werk. In: J. Uitermark, A.J. Gielen en M. Ham (red.), *Wat werkt nu werkelijk? Politiek en praktijk van sociale interventies* (p. 105-120). Amsterdam: Van Genneep.
- Lammers, M., L. Kok and C. Wunsch (2013). *Langetermijneffecten van re-integratie*. Amsterdam: SEO Economisch Onderzoek.
- Malcomson, J.M. (1997). Contracts, hold-up, and labor markets. In: *Journal of Economic Literature*, jg. 35, nr. 4, p. 1916-1957.
- Manning, A. (2005). *Monopsony in Motion: Imperfect Competition in Labor Markets*. Princeton: Princeton University Press.
- Manting, D. (2006). Transitioneel arbeidsmarktgedrag en de kans op (echt)scheiding. In: P. Ester, R. Muffels en J.J. Schippers (red.), *Dynamiek en de levensloop: de arbeidsmarkt in transitie* (p. 79-95). Assen: Van Gorcum.
- Manting, D. and J.A. Loeve (2004). *Economic circumstances and union dissolution of couples in the 1990s in the Netherlands*. Voorburg/Heerlen: Centraal Bureau voor de Statistiek.
- Román, A.A. and J.J. Schippers (2008). *Inzet van lager opgeleiden op de Nederlandse arbeidsmarkt: werkgevers aan zet*. Tilburg: Organisatie voor Strategisch Arbeidsmarktonderzoek.
- SER (2006). *Welvaartsgroei door en voor iedereen: Themadocument arbeidsverhoudingen*. Den Haag: Sociaal-Economische Raad
- Serail, S., I. van de Pas, A. Vloet and J. Dagevos (2002). *ID-banen in perspectief. Bevindingen uit onderzoek onder gemeenten, uitvoerders, werkgevers en werknemers*. Tilburg: IVA.
- Sianesi, B. (2008). Differential effects of active labour market programs for the unemployed. In: *Labour Economics*, jg. 15, nr. 3, p. 370-399.
- Soede, A., S. Hoff and C. Vrooman (2014). Armoede: de budgetbenadering. In: SCP/CBS (red.), *Armoedesignalement 2014* (p. 53-89). Den Haag/Heerlen: Sociaal en Cultureel Planbureau/Centraal Bureau voor de Statistiek.
- Soest, A.H.O. van (1999). Het minimumloon is te laag. In: *Economisch Statistische Berichten*, jg. 84, nr. 4216, p. 604-606.
- Steen, J.C. van der (2002). Koppeling van beloning aan resultaat loont. In: *Tijdschrift voor HRM*, jg. 2002, nr. 1, p. 81-86.
- Teulings (1994). Hoger minimumloon: meer werkgelegenheid. In: *Economisch Statistische Berichten*, jg. 79, nr. 3988, p. 1112.
- Theeuwes, J. (2002). Gesubsidieerde arbeid: terug van weggeweest. In: *Tijdschrift voor Politieke Economie*, jg. 23, nr. 4, p. 73-79.
- Tolsma, J. and M.H.J. Wolbers (2014). Social origin and occupational success at labour market entry in The Netherlands, 1931-1980. In: *Acta Sociologica*, jg. 57, nr. 3, p. 253-269.
- Turkenburg, M., L. van den Bulk and R. Vogels (2014). *Kansen voor vakmanschap in het mbo. Een verkenning*. Den Haag: Sociaal en Cultureel Planbureau.

- UWV (2014). *Bijlage bij UWV Monitor Arbeidsparticipatie 2014: werkgeversdienstverlening*. Amsterdam: UWV.
- Vlasblom, J.D., E. Josten and M. de Voogd-Hamelink (2013). *Aanbod van Arbeid 2012*. Den Haag: Sociaal en Cultureel Planbureau.
- Vuuren, D. van, and N. Bosch (2012). Het wettelijk minimumjeugdloon en de arbeidsmarkt voor jongeren. Den Haag: Centraal Planbureau.
- Warr, P., P. Jackson and M. Banks (1988). Unemployment and Mental Health: Some British Studies. In: *Journal of Social Issues*, jg. 44, nr. 4, p. 47-68.
- Werkgroep 9 'Op afstand van de arbeidsmarkt' (2010). *Op afstand van de arbeidsmarkt. Rapport brede heroverwegingen*. Den Haag: Ministerie van Financiën.
- Woittiez, I., L. Putman, E. Eggink and M. Ras (2014). *Zorg beter begrepen. Verklaringen voor de groeiende vraag naar zorg voor mensen met een verstandelijke beperking*. Den Haag: Sociaal en Cultureel Planbureau.
- Yellen, J.L. (1984). Efficiency wage models of unemployment. In: *The American Economic Review*, jg. 74, nr. 2, p. 200-205.
- Zijlstra, F.R.H, H.P.G. Mulders and F.J. Nijhuis (2012). Inclusieve organisaties. Op weg naar duurzame arbeidsparticipatie. In: *Tijdschrift voor Arbeidsvraagstukken*, jg. 28, nr. 1, p. 21-29.