The Maddison Project

Complacent capitalism
Productivity growth and secular slowdown in the Dutch economy, 1982-2020

Maddison-Project Working Paper WP-17

Arthur van Riel and Jan Luiten van Zanden

January 2023

Complacent capitalism

Productivity growth and secular slowdown in the Dutch economy, 1982-2020

Arthur van Riel (Netherlands' Scientific Council for Government Policy, WRR)
Jan Luiten van Zanden (Utrecht University)[1]

Abstract

Since the 1970s, economic development in the western economies has been characterized by a persistent slowdown of productivity growth, carrying a deceleration of overall income growth in its wake. The initial phase of this deceleration is typically attributed to the exhaustion of postwar catch-up potential, shared suppositions of macroeconomic policy, the disintegration of the Bretton Woods system and higher energy prices after 1973. Yet with regard to the period since the 1980s at least in the case of the Dutch economy its persistence is paradoxical, as conditions to growth have been favourable. The profitability of business has been high, real interest has consistently fallen, and the growth of labour costs was kept down by means of a corporatist compact and a flexibilization of contracts. Even so, productivity has stalled even beyond the continued slowdown in other European economies, edging towards a standstill since the start of the financial crisis in 2008. The Dutch growth path instead has been characterized by a dominance of labour input and a slower growth of capital intensity. As a general phenomenon, the persistence of the productivity slowdown is attributed to a low rate of technological change. However, given that this period witnessed ICT-related changes that revolutionized production, work and communication, this is a problematic position. Focusing on the Dutch experience as an extreme, we suggest an alternative explanation that is rooted in the economic-historical literature on the emergence of modern economic growth: that of labour-saving technological change in response to the scarcity and enhanced cost of labour. Harking back to postwar wage constraint as a panacea, Dutch wage growth has stalled since the 1980s, both in a comparative sense and relative to labour productivity, blunting incentives for technological change. Additional mechanisms came from a stimulated increase in labour participation and finance, among other things in the shape of an early reliance on loan capital. As a result, the 'complacent economy' that emerged from the1980s is characterized by weak incentives for change, explaining low productivity growth. Our data and analysis pertain to the Dutch context. Only to the extent that it can be shown that the same mechanisms applied elsewhere does it offer an explanation for the wider productivity slowdown. However, in the light of the inevitably central role of productivity as a source of growth in coming decades, our findings do suggest that basic tenets of macroeconomic policy should be reassessed.

The stylized facts: post-1971 slowdown and Dutch growth performance

It is a well-documented fact that the tide of economic growth among industrialized economies that emerged in the late nineteenth century and, with intermittent shocks, persisted in the next, is running out. In all western economies, the growth of GDP per head has slowed since a peak in the 1950s and 1960s, with a slowdown in productivity at its core. The first break occurred in the early 1970s, ending a period of what is likely to have been incidentally high growth, whereby the western European economies closed their technological- and income gap with the US. In combination with the oil crisis of 1973 and its lasting effect on energy prices, the exhaustion of this catch-up is also the most-offered explanation for the rupture observed in the early 1970s. In addition, and as the trend isolated from the data for the Netherlands in figure 1 illustrates, the disintegration of the Bretton-Woods system of stable but adjustable exchange rates in 1971 is likely to have played catalytic role. After Dutch economic growth had averaged 5 percent per year in the preceding two decades (3,7 percent per head), its structural component slowed to less than 2 percent at the start of the 1980s. At the same time, inflation and unemployment peaked.

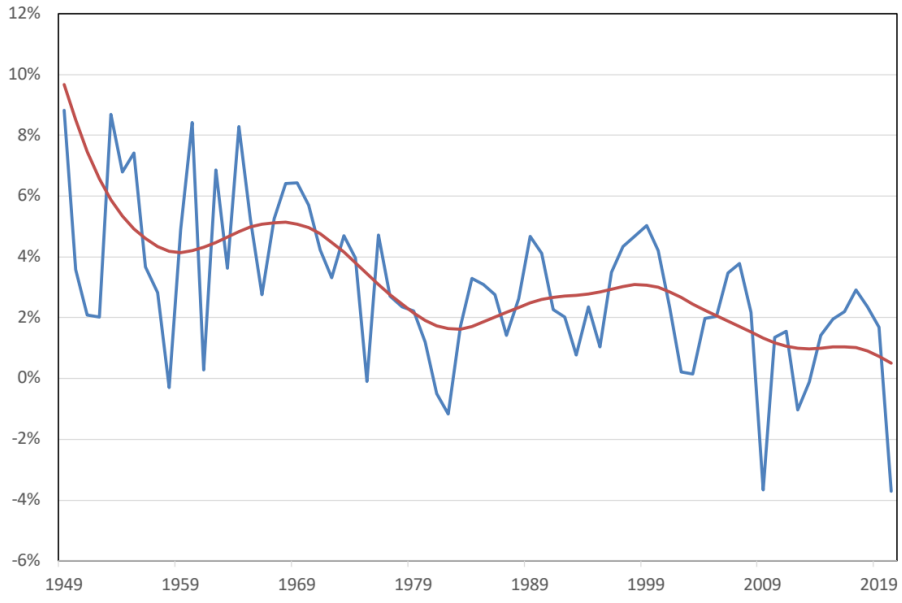

Figure 1. Postwar growth in domestic product in the Netherlands 1949-2020.

Source: authors' reconstruction from CBS, Statline.
Note: trend isolated using the Hodrick-Prescot filter.

The second clearly marked step in the deceleration of Dutch economic growth occurred after the turn of the century. The 2001-2 internet crisis did not hit the European economy very

hard, and therefore does not seem to offer a satisfactory explanation for the subsequent slowdown. Events from 2008 did have a big impact on performance for several years – the infamous European continuation of the financial crisis, which was clearly linked to the euro. However, even in the good years of the mid-1990s growth was much slower than before the 1970s and post-2002 peaks have also been consistently lower. In sum, amidst cycles and shocks economic growth since 1971 has been characterized by a declining trend that resulted in a structural component that was no higher than one percent per year just before the covid pandemic.

As noted, this pattern of structurally declining growth is not specific to the Dutch economy but has been a feature of the performance of all industrialized countries. As such, it was documented and analysed by scholars such as Angus Maddison, whose work still focused on the break of the early 1970s. Growth accounting studies have since shown that a decline in productivity growth was the principal driver of the fall in the growth of GDP and that a decline in the increase of labour productivity in particular played a large role.[2] The extent to which the slowdown has taken hold likewise is not specific to the Netherlands, even though in the past two decades the decrease has been strong relative to the average change in growth for other Northwest European countries. But this, in turn, was due to higher growth in the1980s and 1990s (see table 1). In the southern countries of EMU the decline was stronger still. From a wider international perspective, this performance results in the fact that especially in the last two decades comparably affluent non-European countries grew significantly faster than the Netherlands or its western European neighbours, specifically those that Angus Maddison collated under the term 'western offshoots' (Australia, Canada, the US and New Zealand).

Table 1. Comparative growth in the western economies since 1971 (GDP)

	1971-1980	1980-1999	1999-2021	1971=100
France	3,4%	2,2%	1,2%	269
Germany	2,9%	2,1%	1,1%	245
Italy	3,7%	1,8%	0,2%	204
Netherlands	2,8%	2,7%	1,5%	292
Spain	3,4%	2,7%	1,4%	304
United Kingdom	2,0%	2,7%	1,5%	275
United States	3,1%	3,3%	2,0%	380
Northwest Europe	2,9%	2,3%	1,5%	279
Eurozone*	3,7%	2,6%	1,2%	272
US, Can, Aus, NZ	3,1%	2,9%	2,5%	380

Source: Ameco database.

Note: Northwest Europe includes Belgium, Denmark, Germany, Finland, France, Netherlands, Norway, UK and Sweden; * before 1999 an unweighted average of growth rates for Austria, Belgium, Finland, France, Germany, Italy, the Netherlands, Ireland, Portugal and Greece.

Table 2. Comparative growth in labour productivity, 1971-2021 (GDP per hour worked)

	1971-1982	1982-1996	1996-2008	2008-2021	2021 1982=100
Belgium	4,1%	2,1%	1,2%	0,7%	170
Denmark	3,1%	2,6%	0,9%	1,3%	188
France	4,0%	2,2%	1,4%	0,5%	173
Germany	3,3%	2,5%	1,4%	0,8%	184
Italy	3,3%	2,0%	0,4%	0,2%	143
Netherlands	3,1%	1,4%	1,7%	0,2%	152
Spain	4,6%	2,2%	0,2%	0,8%	155
United Kingdom	2,9%	2,1%	1,9%	0,5%	176
United States	1,2%	1,6%	2,1%	1,1%	186
Northwest Europe	3,3%	2,3%	1,6%	0,7%	182
Diff. Nw Eu - Nl	-0,2%	-0,9%	0,1%	-0,5%	-30

Source: Ameco database. 'Northwestern Europe' as before.

Yet where overall Dutch growth has not lagged relative to that in comparable European economies, this is different for productivity. Table 2, which presents Eurostat data on the increase of labour productivity since the 1970s, shows that in this respect the performance of the Netherlands *was* exceptional. Especially during the recovery of the 1980s and again since the financial crisis, its growth has lagged, by now leading to near stagnation (see below). The cumulative difference relative to the average gain for Northwest Europe since 1982 is over a third and this is not distorted by a large spread within this group; the scores for Belgium and France are the lowest.[3] The overall increase for the Netherlands is comparable to that for Spain and Italy.

The development of total factor productivity shows the same long-term trend changes as the series for labour productivity (Figure 2), with the notable difference that during the earlier period TFP growth was distinctly lower, pointing to a major contribution of capital deepening. However, this gap between TFP and labour productivity growth disappears in the 1980s, pointing to some of the underlying processes that we focus on below. It clearly suggests that the substitution of capital for labour came more or less to a halt. The general point regarding the Netherlands is that the policy changes introduced from the 1980s have failed to halt these

developments and coincided with the emergence of the comparative slowdown in productivity growth.

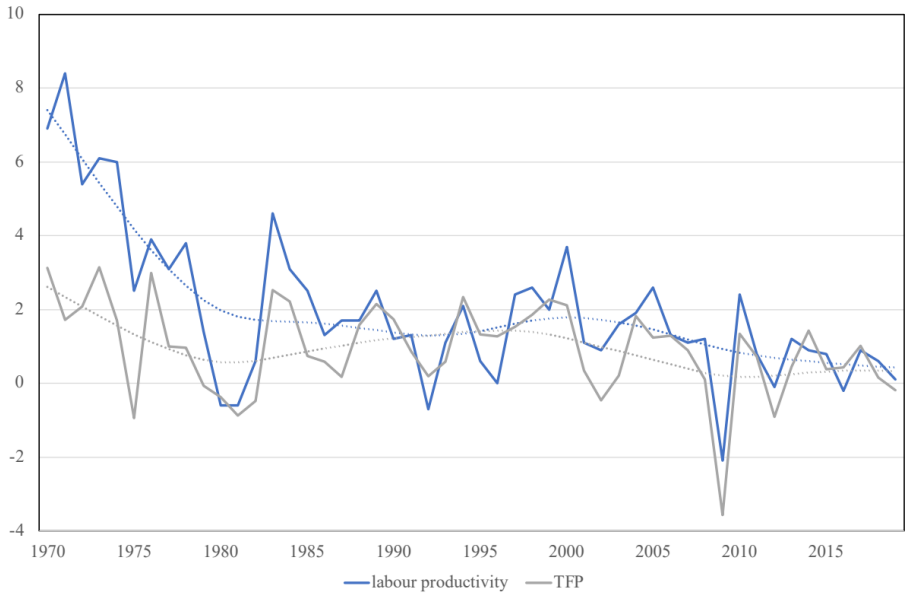

Figure 2. The growth of labour productivity in the corporate sector (per hour) and of total factor productivity in the Netherlands, 1970-2019

Source: labour productivity: CPB, Kerngegevenstabel; TFP: Ameco-database (trends isolated as in figure 1).

This record – a decelerating, relative to surrounding economies average but internationally slow growth with lagging productivity – raises many questions, especially in relation to the dependence on productivity in the coming decades, given that the potential labour force is expected to stagnate. In addition, they raise a paradox: in response to the slowdown of the 1970s and the crisis of the early 1980s, policies were pursued that took cost competitiveness and full employment as their starting point. At the same time, monetary policy changing its goals and instruments has led to a long period of low and stable inflation and consistently falling rates of interest affecting price expectations and capital costs, the Dutch chronology of which we will discuss further below. As figure 3 shows, in combination with an institutionally engrained policy of wage moderation, the outcome of these conditions has been that the profitability of business has been high and, at least until the financial crisis, rising. A change in the methodology of the national accounts causes there to be an absolute difference of 1,2 percentage points between successive statistics for 1995, but the drift is unmistakable. Yet

beneath all this Dutch productivity growth has slowed, and more so than in surrounding or comparably affluent economies.

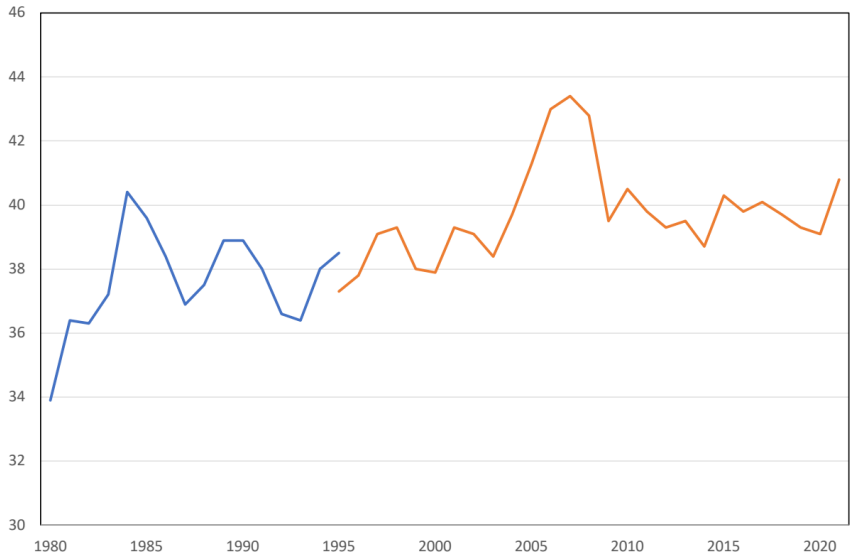

Figure 3. The share of profit in the value added of non-financial corporations, 1980-2017

Source: CBS, Statline (sectoral accounts; gross operating surplus as a share of value added).

Technology as the pivot: from exogenous sclerosis to factor prices

This brief overview implies that there are two problems to be explained: the continued deceleration of productivity growth after 1980 in the western economies and its even stronger persistence in the case of the Netherlands. In what follows we focus on the idiosyncrasy of the Dutch case, presenting comparative and national time-series on the development of variables that hint at mechanisms able to explain the outcomes observed.

The dominant explanation of the decline in productivity growth is that technological change as the driver of the *overall* efficiency of capital itself is slowing down. In simple terms: the notion is that at least in terms of their effect on productivity, there has been no effective successor to the first and second Industrial Revolutions. As such, the principal cause of the slowdown would be a paucity of invention and a slowing accumulation of ideas. An auxiliary hypothesis is that the diffusion of new technology has been slow or at least uneven between countries with different institutions. Accordingly, much of the research attempting to explain the productivity slowdown has focused on factors that influence the diffusion of technology to economic activity, thereby accounting for comparative differences. All of this represents such

a broad vantage that, with its initial chronological specifics being determined by the postwar catch-up, it is able to account for the whole of the deceleration in productivity growth from the early 1970s onwards.

Yet both an exogenous slowdown of technological change and the notion of higher obstacles in its diffusion are difficult to reconcile with the broader economic history of this period. In the half century since 1970, the number of researchers developing new ideas has grown spectacular – the rise of China alone has had a huge impact on the production and circulation of ideas. R&D investment as a share of GDP may have stagnated for some time in western countries, but the rise of Asia must have contributed considerably to global research activity over the entire period. It thus is not plausible that the accumulation of ideas and techniques has been slowing down. On the contrary, the spread of the internet facilitated access to new ideas on a vast scale and surely must have had a dramatic impact on technological change. The ICT revolution is the evidently strongest case in point. The Solow paradox, formulated in 1987, has only gained in urgency: the ICT revolution is everywhere, it has reached the capillaries of society and the economy, but if measured correctly still fails to translate into productivity growth. At the specific level focused upon here similar objections apply: if factors governing technological change are the driving force behind the productivity puzzle, it is far from obvious why the Netherlands should constitute an extreme example of the decline in productivity growth. Its citizens have access to an excellent ICT infrastructure at low cost – at 98 percent of all households, broadband internet access for example is near universal.[4] Likewise, the quality of traditional hard infrastructure as the carrier of a diffusion of information embedded in products and services, of public governance and of its legal institutions prop up the nation's ranking as the world's fourth most competitive economy.[5] And even though R&D expenditure as a share of GDP stagnated before the turn of the century, it has since doubled (from 1 to 2 percent), with the number of people engaged in such activities as a share of the labour force rising. In short, there is no plausible argument that barriers to the diffusion technology would help explain low productivity growth.[6]

The standard interpretation of the productivity puzzle, then, does not offer a satisfactory explanation of the phenomenon of observed, nor can it account for the idiosyncrasy of the Dutch case.[7] Our central hypothesis is that an approach that is based on the empirics of the nineteenth century breakthrough of higher 'modern' economic growth is able to more credibly explain the pronounced Dutch experience of past decades. Rooted in Hicks' theory of

technological change, its empirically unresolved implication is that the same mechanism may apply to the international pattern of a persistent productivity slowdown.[8]

In the comparative statics of neoclassical economics as it is now typically taught, real wage growth is seen as a corollary to productivity growth – increased productivity induces an increase in real wages through the competition for labour. However, to economic historians entertaining a longer perspective, the notion that factor prices themselves may in turn affect choices on the nature of the production process, and that this is likely to influence technological change through the extent and nature of the capital goods used, is anything but strange. Based on the reconstruction of both output and prices, it is this economic mechanism that now stands at the core of the modern literature on the emergence of industrialization. Succinctly: factor prices affect the competitiveness of companies through costs, but in the longer term also influence factor choice, the design of the production process and associated, embodied technological change. Thus, in 2009, Bob Allen showed that at the eve of the Industrial Revolution England was already an economy with significantly higher wages but relatively low (effective) costs of energy and capital.[9] The resulting relative prices stimulated labour saving technology. The steam engine, the development and adoption of which in England and elsewhere was tightly linked to the price of coal, was the prime example of this mechanism as it harnessed mechanical power in production. Yet the mechanism applied to a much wider range of technologies. The resultant increase in labour productivity in turn shifted the demand for labour. Since this mechanism took effect, economic growth has been a race between labour-saving technology and rising wage costs. In the case of the Netherlands, which also started with high wages, but different natural resources and mainly informal financial markets for trade credit concentrated in the west, it has also become apparent that the development in relative prices had a profound influence on the emergence of industrialization after 1860.[10]

In all this, productivity does not increase because ready-made technologies are waiting to be applied, but because entrepreneurs look for labour-saving production processes – the essential behavioural aspect that Hicks projected. Across the wide range of possible technologies, these develop new techniques that match changes in relative prices. Conversely, when competition between production factors is suppressed or transport costs and market imperfections lead to stagnation in relative prices, entrepreneurs lack the incentive to rationalize and explore the untested. This explains the success of the Dutch policy regime in recent decades (which we

will elaborate upon below), which principally aimed to maintain external competitiveness and optimize employment through a state-corporatist compact of wage moderation. But once full employment was achieved, a growth path emerged in which the increase in labour input became the main factor and a comparative lag in productivity growth had to be persistently compensated.

Contorted debate: the Kleinknecht hypothesis

The argument that constrained wage growth has led to a decline in Dutch productivity growth has persistently been made by Alfred Kleinknecht since his inaugural lecture in 1994.[11] At a later stage, additional arguments were derived from efficiency wage theory (focusing on the incentives of higher wages), Schumpeter's process of 'creative destruction', in which the folding of low-productive firms raises average productivity, and the effects of the strong rise in the flexibilization of contracts and self-employment. His main point, however, remains that that the policy of wage moderation that was reintroduced in 1982 crowded-out innovation, and in spite of raising profit margins and external competitiveness, in the long run weakened the basis of Dutch economic performance.[12]

Given its role in the recovery from the crisis of the early 1980s and as the pivotal mechanism of a corporatist pacification between government, unions and employers, wage moderation at the time of Kleinknecht's inaugural had gained the status of a totem in Dutch economic policy. As a result, the hypothesis of an inverse relation between wage growth and productivity has led to fierce debate from the start. After subsiding for several years, this again flared-up in 2002-4 and in 2018-9; both times in relation to analyses of the duly low level of wage growth on the part of the Bureau for Economic Policy Analysis (CPB), arguing that its path had essentially been determined by equilibrium unemployment, low productivity and inflation.

The problem in setting out and discussing the debate is that this has been conducted in a very imprecise manner in terms of outcomes explained and the nature of the evidence supporting these claims. A persistent feature is that articles in favour seem to pertain to the whole of the Dutch productivity slowdown. Yet as noted earlier, even after 1971 this was part of a wider phenomenon. By implication, effects with a presumably shared causality are claimed on the

basis of the specifics of the Dutch wage formation and the chronology of flexibilization. At the same time, however, the dispersion of Dutch productivity growth from that of the EU-15 is underlined.[13] In reverse, there is a disconnect between the empirical evidence presented and the specific outcome addressed. Thus, the embodiment of knowledge in workers as an argument against flexibilization, the observation that Dutch companies with a larger non-core workforce also have a larger management (raising coordination costs), and a lack of feedback from an increasing number of workers with flex contracts are all projected as driving forces of *the* Dutch productivity slowdown.[14]

Similarly, criticism has focused on the result on Granger causality from a panel estimate (20 countries from 1978 to 2002) of a simple relation between wages and (lagged) productivity without a closer look at the actual Dutch wage regime over time, or it has simply argued that it 'reads the literature' as stating that the relation between productivity and wages runs from the former to the latter only.[15] Indeed, both sides have insisted on claiming what, from a longer view of the literature, is an unwarranted unidirectional causality. On the side of the proponents, a Schumpeterian selection effect is claimed, but no evidence on bankruptcies is presented.[16] Neither side in fact has seemed very interested in tracing what exactly happened to essential variables in the Dutch context over time. The most damning effect on the nature of the debate, however, has probably been the fact that Kleinknecht cast his original analysis in the form of a policy advice for a universal wage shock. Even in the presence of efficiency wages (which historically have served to retain workers or protect capital goods), employees are not more productive because they receive a higher wage, but in a competitive market are rewarded higher because they are more productive. A universally higher wage rate under such conditions therefore only has a general cost effect, without realizing the allocation effect of differentiated remuneration. As we will see, what rescues part of the argument is the fact that the problem in the Dutch case rests with the competitiveness of labour's claim and the extent of sectoral differentiation.

Apart from more specific empirical evidence in the shape of longer series that are suggestive of such a mechanism, the central notion we bring to this debate is that to economic historians the Hicks-inspired argument on induced technical change is unproblematic, the provision being that it is specific in its claims.[17] The Allen-interpretation of the Industrial Revolution that pivots on this mechanism has recently been tested and confirmed by detailed econometric research.[18] Its implication is that the key to understanding the nineteenth century rise of

modern economic growth lies with the interaction between labour-saving and capital-using technological change on the one hand, and the consistent rise in the cost of labour on the other. Our hypothesis with regard to Dutch exceptionality within the overall productivity slowdown, is that the institutionalized restraint on the competitive growth of wage costs has lowered incentives to economize on labour and apply new labour-saving technology. This in turn led to a locked-in dependency on low wages to uphold competitiveness and an industrial structure to match. Using closer historical data in support of this claim we also suggest the relevance of additional effects from labour supply and finance. We now look back on 40 years of outcomes. It is inconsistent to suppose that where we can historically determine the influence of relative factor prices for similar periods, it would have been absent in recent decades.

Mechanisms: labour

Documenting the notion of an institutional restraint on wage formation as a principal factor explaining the exceptional extent of the Dutch productivity slowdown may start from noting that, as the exact opposite to the latter, the labour intensity of growth has been high. Table 3 shows that where Dutch productivity growth lagged, in the deployment of labour it exceeded growth elsewhere to an equal extent. And here, too, the difference from the average for the surrounding countries is not the result of statistical distortion; only the increase for Norway (166) comes close. Of the countries shown, only the US coupled higher productivity gains to a higher-than-average growth in labour input, unlike in the Netherlands mainly due to sustained population growth.

Dutch economic growth of the last four decades thus is characterized by an idiosyncratic composition: a lower productivity growth parallel to a higher increase in labour input. It follows from the discussion so far that we argue these two features to be connected. The principal mechanism linking the two is the development of real wage costs and their effect on factor choice. The driver of the specific path of wage costs in this view in turn is the fact that since the early 1980s a restricted growth of wages in relation to external cost competitiveness and employment has been the basis of a corporatist system of coordination and trade-offs with fiscal policy and social security. Writing after the turn of the century and looking back on the 1990s, critics of the notion of factor price-induced technological change have instead argued

that the low wage rate observed was the outcome of an adjustment to falling unemployment and inflation, and the resultant equilibrium benefitted overall growth. A 2018 decomposition study added the decline in productivity itself as a principal driver, thus asserting a one-way relation only.[19]

Table 3. Comparative growth in labour input, 1982-2019

	1971-1982	1982-1996	1996-2008	2008-2021	2021 1982=100
Belgium	-0,2%	0,4%	1,5%	0,8%	133
Denmark	0,1%	0,7%	0,6%	0,2%	123
France	0,4%	0,5%	1,0%	0,4%	133
Germany	-0,4%	0,7%	0,7%	0,9%	125
Italy	0,5%	-0,1%	1,2%	0,1%	122
Netherlands	0,7%	1,5%	1,4%	0,6%	170
Spain	-0,9%	0,9%	4,0%	-0,3%	158
United Kingdom	-0,2%	0,6%	1,2%	0,9%	136
United States	2,1%	1,7%	1,2%	0,7%	198
Northwest Europe	0,4%	0,4%	1,2%	0,6%	140
Diff. Nw Eu - Nl	0,3%	1,1%	0,2%	0,0%	30

Source: Ameco database. 'Northwest Europe' as before.

Apart from the fact that such a market-driven analysis is unable to account for the dispersion in the labour intensity of growth over the long run now observed and is unconvincing from a comparative perspective on wage growth, addressing the issue of market- versus institutional effects requires some understanding of the latter. Drawing on a strong corporatist tradition, Dutch guided wage policies first emerged in the postwar years. Driven by the need for reconstruction and a growth of employment, representatives of labour and capital agreed on a compact in which restrained wage growth would act to enhance profit margins. These, in turn, were pledged to be ploughed back, given that savings as a source of investment were at a low.[20] In practice, this system worked through the combination of a uniform maximum set by an independent body (the *College van Rijksbemiddelaars*) on the basis of macroeconomic expectations, sectoral contracts and wider coordination through new tripartite bodies of consultation. Under the influence of high growth and resultant labour scarcity, this strong example of what Peter Katzenstein famously referred to as 'democratic corporatism' came under pressure from the late 1950s forward.[21] Not only did workers and employers increasingly engage in incidental contracts and fiscally undeclared work, but the prevailing uniformity prevented sectoral differences in productivity or labour demand to be reflected in incentives for a changed allocation of workers. With demand in industry rising and that in

agriculture falling, this generated macroeconomic pressure. In response, from 1959 productivity growth per sector was adopted as the basis of the wage proposal.[22] Nonetheless, with scarcity running high the system exploded into ‘wage rounds’ far beyond inflation and overall productivity growth over the course of the 1960s. In addition, the emerging practice of ‘wage leadership’ between unions under pressure to escape coordination caused enhanced leapfrogging. With inflation rising, this was the structure of wage formation that prevailed during the 1970s.

It was to the tradition of the earlier coordination that unions and employers, under the threat of intervention by the government, harked back in late 1982. Wage growth had started to slow earlier as a result of the decline in inflation from 1976 that followed a tightening by the central bank. Nevertheless, the compact that is known as the ‘Akkoord van Wassenaar’ (after the location of the home of the president of the principal employers’ organisation, where it was closed) is generally seen as the event that set the nature of wage formation on a different course. Even though the actual document was short and its wording abstract, the essence was that for the sake and the duration of economic recovery wage claims would be restricted. The trade-off, in turn, consisted of one-off shorter hours and the absence of intervention on the part of the government, linked to sectorally independent bargaining procedures. Agreed upon as a crisis-induced arrangement, it was this agreement that set a more permanent process of state-corporatist coordination in motion, at all times with restrained wage growth as the basis of wider policy coordination.

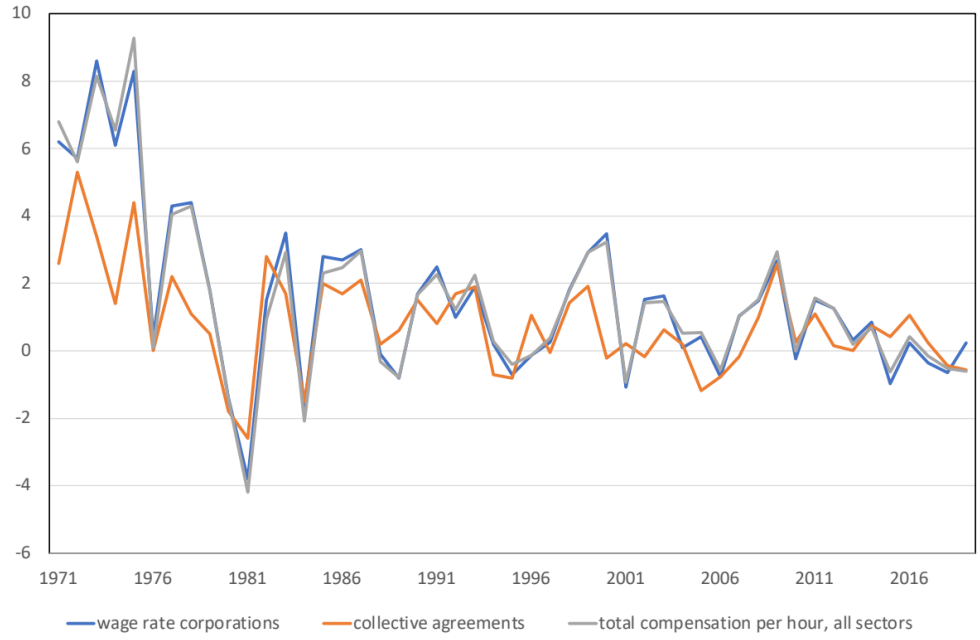

Figure 4. Three measures of the long-term development in real wage costs, 1971-2019 (annual growth)
Sources: wage rate corporations ('loonvoet bedrijven') and collective agreements ('CAO-loon bedrijven'): CPB Kerngegevens; total compensation per hour worked and output deflator (national accounts): CBS, Statline.

The notion that wage development from the 1980s was not simply driven by low inflation or equilibrium unemployment, but instead was additionally subject to an institutional regime is evident from figure 4. This shows three alternative measures of wage growth over the past half century, each deflated by the index of output prices in all sectors according to the national accounts. In the non-institutional view, a slowing of wage growth occurs when unemployment is higher than its inflation-neutral level (which evidently was the case in the early 1980s), thereby restoring the labour market equilibrium. Contrary to this, figure 4 demonstrates that for all series (which especially after 1980 track each other closely, illustrating a renewed tight relationship between collective bargaining and outcomes) there was a structural break in wage growth in real terms from the early 1980s. This persisted after unemployment was pushed back below 4 percent at the end of the 1990s. Nor do subsequent variations in unemployment (the 6 to 7 percent peaks of the dotcom crisis and the financial crisis, or the tight labour markets of 2008 and 2017-9) show up as factors with a determining influence on the overall level of wage growth. Again, the moment at which the critiques were written (2002-4) and the specific period on which these could look back here presumably plays a role. Before the adjustment of the early 1980s, real wage costs increased by some 5 percent per year. For the remainder of the 1980s and the 1990s a wage rate of some 1 percent was normal, followed since by an average of between 0,3 and 0,7 percent per year. Moreover, whereas before the

1980s wage costs increased faster than productivity or GDP per head, this changed radically. Real wage costs since display a declining trend relative to both.

Comparative data also reveal the exceptionality of this trend. In neighbouring and otherwise comparable economies wage growth also decelerated from the 1980s, but not strongly as in the Netherlands. The Dutch increase in annual wages per full-time equivalent since 1990 (the earliest year for comprehensive series that cover multiple economies) according to OECD data was 36 points lower than the average for eleven northern and western European countries (at 278 against 314).[23] Statistics on industrial wages that do cover the earlier period for a subset of countries and are on an hourly basis, show that from 1983 forward the increase in Dutch wages has been lower. Specifically, it has lagged by a third compared to the average for Belgium, France, Germany, Denmark and the UK.[24] In sum, wage growth has slowed to a level below that of overall welfare and has lagged significantly in a comparative sense. As a result, the share of labour in macroeconomic income has fallen. This peaked at 81 percent in 1979, but by now has fallen to 74 percent.[25] Where between 1982 and 2019 corporate labour productivity increased by 58 percent, total real compensation per hour worked increased by 24 percent.

Moreover, the institutional wage effect not only concerns labour's macroeconomic share, but also a paucity of differentiation. Contrary to union claims based on a decentralization of the bargaining process, sectoral wage compression has become stronger rather than weaker. The standard deviation in sectoral wage rates (total earnings per hour worked) declined from the mid-1980s, and after a peak during the Eurocrisis (caused by the differentiated timing of the renewal of collective contracts) has fallen further since the economic recovery after 2013.[26] Sectoral wage compression is a well-known characteristic of corporatist wage bargaining in the economic literature. It leads to a more equitable distribution of earnings across workers and is able to correct for non-competitive rents that are generated by differences in corporate scale and tenure, while it need not have a negative effect on differences based on schooling.[27] However, it also tends to lead to a lower efficiency in the allocation of labour with regard to productivity. In the case of the Netherlands, the evolution of wage determination procedures in public sectors (of which especially health care has expanded) further contributed to the increased lack of differentiation. Since 1997, formal mechanisms have been put in place that cause the wage rate (more precisely, appropriated public expenditure) to follow the forecasted

average for the market sector.[28] Without explicit political intervention, sector-specific labour market conditions play no part in its determination.

A second principal mechanism explaining the low level of Dutch wage growth, and one that has been absent from the debate, concerns labour supply. Here, too, policy played a role. In this case, this derived from the stimulation of labour force participation, specifically that of women. Fundamental trends in labour supply are driven by demographic forces. After having increased by 1.3 percent per year in the 1950s and 1960s, Dutch population growth slowed from the early 1970s. Inevitably, this slowdown had a lagged effect on the potential labour force. From the mid-eighties, growth in the population between 15 and 65 declined from some 1.4 percent per year to values below 0.5 percent since 2004. The structural component of the time series in fact is now at zero.

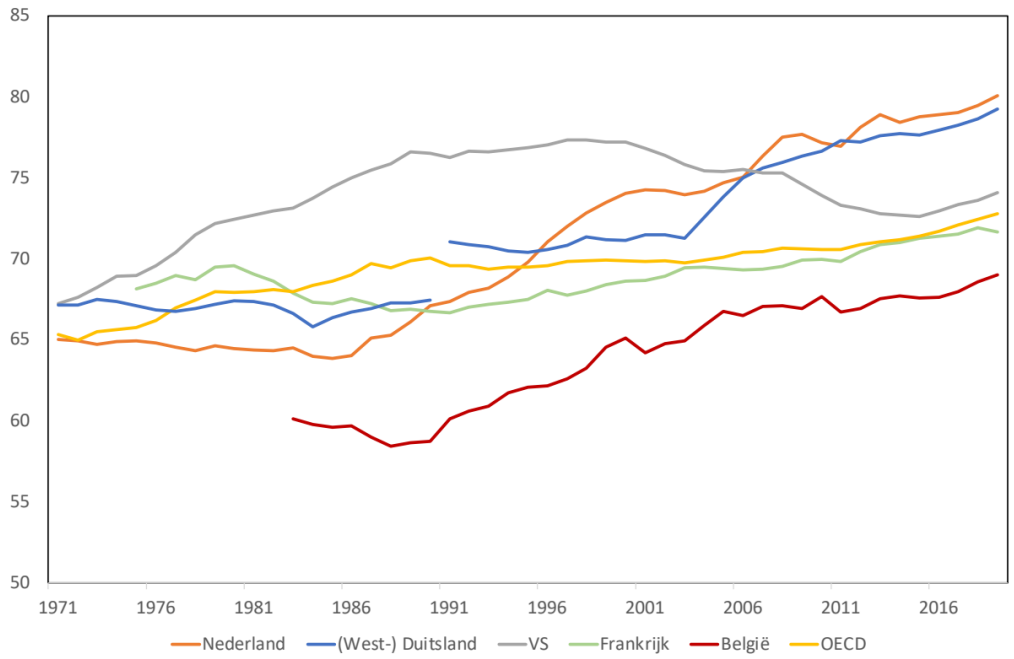

Figure 5. Comparative labour force participation (share of population 15-65), 1971-2019

Source: OECD (https://stats.oecd.org/Index.aspx?DataSetCode=EAR_MEI)

It was the exceptional increase in participation shown in figure 5 that compensated for this development, also in comparative terms. Effectively, the growth in participation since the mid-1980s has resulted in the current labour force being 1.8 million larger than it would have been if the participation rate had remained the same – just under a fifth of the current labour

force of 9.3 million. Initially, the recovery in employment also played a role and there was a longer emancipatory trend among women, as their historical participation was relatively low. However, this does not alter the fact that policy incentives – for instance in the form of the equal fiscal treatment of partner incomes – were the dominant force. After the influx during the 1990s as a result of the Yugoslav civil war, intra-European labour migration from 2007 to some extent also compensated for slowed population growth. Neither of these developments, however, was specific to the Dutch economy.[29]

A last principal part of the explanation for Dutch wage behaviour, concerns the comparatively sharp increase in the use of flexible and part-time labour contracts. Until around the turn of the century, both the share of workers with a flex contract and that of self-employed without employees were still comparable to that in neighbouring European economies. However, between 2003 (end of the dotcom crisis) and the start of the credit crisis in 2008 there was a particularly strong increase, which continued for several years after the Euro crisis. Its result is that more than a third of all Dutch workers now are self-employed without employees, or work on the basis of a temporary contract. Among the western European countries, the only distantly comparable figure is that for France, where since 2018 this has reached 24 percent.[30]

This relentless increase in the flexibilization of labour contracts was facilitated by new ICT technology, but it also rested on policy incentives. Especially the self-employed without employees is a typically Dutch phenomenon. The ‘ZZPer’ is essentially a micro-entrepreneur with a vulnerable position. Four in ten for example have no disability insurance, and a quarter does not accumulate a pension (not considering home ownership). Most of all, this form of service employment is characterized by low rates of investment. At the same time, they are generously supported by tax incentives to stimulate this kind of highly flexible labour. With regard to the rise of flexible contracts, uncertain expectations in relation to the return of economic shocks, the extent of employment protection and accommodative policy choices played a cohesive role. Where legislation for part-time work was introduced early, based on the growth of the temporary employment sector, the degree of protection against dismissal is exceptional. The legal incentives were further strengthened by the Work and Security Act that came into effect in 2015, for instance by including a mandatory severance payment for employees who did not receive a permanent contract after 24 months. Employers reacted to this with constructions of successive contracts with a shorter total duration. The result of all

this is a polarized labour law; protection is high for those in permanent employment, but low for flex workers.

As the above numbers make clear, the ‘Dutch job machine’ of the last two decades has been highly dependent on these new forms of labour. As early as 1998, Kleinknecht made the point that their exceptional prominence must have come at a cost to productivity growth.[31] On this specific point, too, there was a trade-off between the labour intensity of growth and the efficiency of production. For employers the growth of flexible contracts meant that incentives shifted towards labour-intensive growth, as wage costs and extended liabilities in new and existing employment could be economized upon. Moreover, the use of flexible labour also has organizational aspects with the same likely effect: the use of flexible workers imposes higher cost of coordination and monitoring, with large part of the work consisting of the generation of data to facilitate this process. It has been estimated that as a result of these mechanisms the abundant growth of the self-employed in the Netherlands has lowered productivity growth by 0,3 percent per year.[32]

Jointly, the demand for labour, the return of wage coordination and the exceptional increase in participation and flexibilization have led to a succession of labour market regimes. Up until the 1978 peak in real hourly wages (not surpassed until the late 1990s), an equilibrium applied in which the growth of the active labour force amounted to 1,3 percent and that in total real compensation per hour to 5,8 percent per year. After a crisis-induced correction up to 1983 (lowering the real wage per hour worked by 8 percent), this changed to a regime that lasted up until the second half the 1990s, with the growth of labour supply peaking at 1,7 percent and real wage growth falling to 0,7 percent. These years constituted the first phase during which institutional forces dominated. Lasting until the onset of the financial crisis, their grip then relented, with the increase in participation edging-off and demography gradually asserting itself. The result was a lower annual increase in the active labour force of 1,0 percent per year, matched by an average 1,3 percent increase in the hourly real wage. Since 2008, however, actual real wages per hour have stagnated, while labour force growth has fallen to 0,6 percent per year. In sum, while wage growth after 1982 shifted downward relative to productivity and led to a decline in labour’s share, it was especially during periods characterized by the policy response to crises and shocks (from the early 1980s and again after 2008) that wage restraints were strongest.

Mechanisms: capital

In growth theory and national accounting, capital is the other main input that determines the rate of growth of GDP. In addition, capital goods embody changes in production technology that drive the growth of productivity. And in all models used in modern growth theory, it is productivity that drives the growth of welfare in the steady state. The cost of capital goods, the cost of funding these though loan capital and the extent and actual use of profit as a source of investment hence are as relevant as the cost of labour in determining the use of capital in the production process. As inferred from the comparative record by Simon Kuznets already in the 1960s, the historical pattern in this respect has been that of a structural increase in the rate of capital formation in relation to the emergence of 'modern economic growth' and a lasting increase in capital intensity.[33] This, in turn, was made possible by technological change of a labour-saving nature, actively explored possibilities for factor substitution and a decline in the effective cost of capital, making institutional conditions (such as the rise of modern banking) and the extent of market integration part of the process. In the end, all economic mechanisms that may be held accountable for the path of productivity should express itself through the extent and nature of investment.

The key phenomenon of the Dutch growth path of the past forty years in this respect is the persistence in the decrease in the macro-economic rate of investment. As shown in figure 6, following a sharp decline in the 1970s and a limited recovery during the 1980s, the share of investment in domestic product has continued to fall – if at a slower rate. Where during the 1950s and 1960s this was consistently above a quarter of GDP, over the last decade it averaged 20 percent.[34] At least until the recovery from the 2001-2 internet crisis, the rate of investment for non-financial corporations declined even sharper. Earlier decompositions (for the period up to 2011) show that this development was driven by a lower growth of capital formation in trade, industry and the ICT-sector.[35] Equally telling is the chronology of growth in investment. Before the 1970s, this varied between 6 and 7 percent per year, and up to 1983 then was negative (at -1,2 percent). Before the turn of the century, investment growth then averaged 4,7 percent per year, only to fall to 2,9 percent in the years up to the financial crisis. Since 2008, it has on balance stagnated.[36]

In view of its persistence, the decline in the rate of investment has from time to time been analysed – if not in relation to the problem of secular stagnation. Thus, such analyses typically take the form of decomposition studies, identifying proximate causes rather than considering underlying mechanisms (see below). By extension, politics also has taken less of an interest than the importance of the issue would suggest and has taken a similarly instrumental view. As a result, policies have been limited to investment subsidies. Under the pressure of declining growth, these started with the notoriously ineffective *Wet op Investeringsrekening* (WIR) in 1975. Since its abolition in 1988, it has been replaced by more selective policies, but not by initiatives based on a wider behavioural understanding of the causes of the slowdown. Again, the only gradually lengthening period over which the persistence in the slowing of investment could be asserted amidst cyclical variations and shocks, is likely to have played a role in this.

Yet the notion that the decline in the rate and growth of investment reflects a fundamental change in the nature of economic growth can also be found in the development of the capital intensity of production itself. Such a view also nets out any effect of endogenous changes in write-offs over time that are not visible in the addition to capital that is investment. As figure 7 illustrates, the institutionalized policy reforms of the 1980s coincided with a trend change in capital intensity. And even though the same trend can be seen to have steepened again after the turn of the century, especially when labour input is measured per hour, it should be clear that since the 1980s there has been a structural change in the relative use of capital. Moreover, from the recovery of the Eurocrisis as of 2014 forward, capital intensity has even declined.

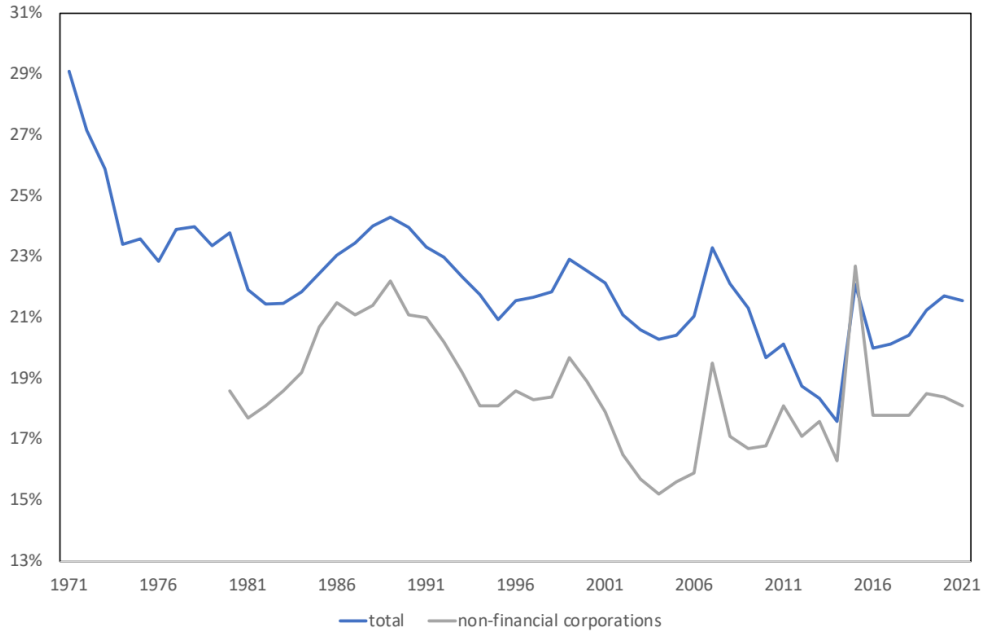

Figure 6. The macroeconomic rate of fixed capital formation and investment by non-financial corporations, 1971-2021 (percentages of GDP and value added)

Source: CBS, Statline.

In accounting for the slowdown in capital formation we already saw that the profitability of non-financial business did not form an obstacle, with the share of profits in value added moving upward after 1980 at least until the 2010s (figure 3). When a synthetic profit margin is derived over a longer period (by deducting the estimated cost of labour and capital from gross value added), it becomes clear that this actually constituted a trend reversal.[37] Profit margins declined from the late 1950s until around 1980, before commencing on the structural increase noted. Moreover, made possible by falling inflation that followed the international change in monetary policy, capital market interest rates started to decline almost at the same time; the past forty years have been characterized by ever-decreasing rates of interest and capital cost ratios. The policy rate of interest has declined from a peak of between 9 and 10,5 percent in 1979-81 to small negative rates in recent years. By extension, the average rate of interest on new mortgages for instance fell in an almost straight line from 10,9 percent in 1981 to 1,6 percent in 2021. Parallel to all this, the international competitiveness of the Dutch economy – an explicit goal of the export-growth-at-full-employment policy regime from the start – has been strong throughout; unit wage costs have declined both in an absolute and a comparative sense.

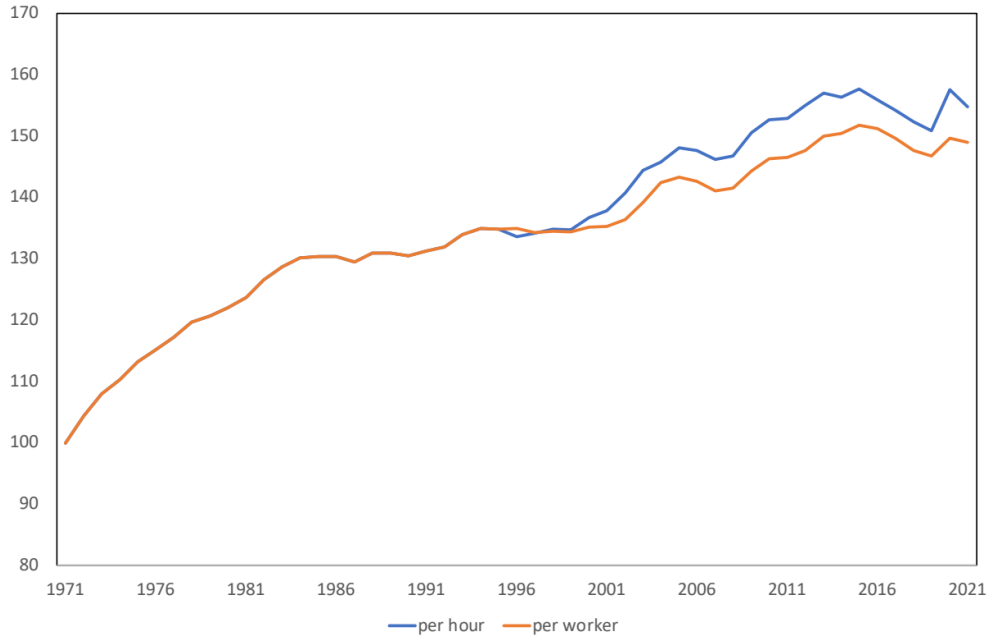

Figure 7. The capital intensity of production, 1971-2021 (1971 = 100)

Source: CBS, Statline (end of year balances of the stock of capital goods in all economic activities per person employed, per hour from 1995)

In a world where monetary transmission dominates entrepreneurial behaviour, this structural decline in interest, higher profit margins as a source of ploughed-back income and enhanced competitiveness together would lead to enhanced investment. Indeed, the assumption that there is a negative relationship between interest and investment is part of the rationale that has guided intervention by central banks since the 1980s. But this is not the pattern that we find, as the growth in capital intensity and underlying investment have slowed. Low interest rates did not spur economic growth, as the experience of the 2010s demonstrated, when the ECB tried to speed up growth and increase inflation without much success: funds flowed back to the ECB and the only noticeable effect appears to have been that on the exchange rate, in compensation of the same policy by the US. More generally, low interest rates did affect the growth of credit taken up by households and companies, but the money was mainly used for private consumption, housing mortgages and, in the case of listed companies, to fund a buy-back of shares in order to inflate their price. Accordingly, the monetarist focus on capital costs at the very least does not offer a sufficient explanation of outcomes. This finding also cuts back to the effects of the macroeconomic policy regime in place since the 1980s. Where the essence of the tripartite compact of the late 1940s and 1950s was a commitment to plough back profits that were raised through wage moderation on investment, such a link has been absent in recent decades. The selective focus of unions on employment and the preservation of social security, and of employers on restoring competitiveness in a context of European

integration may have been understandable, but from a long term perspective they were also myopic.

It is this deeper layer of macroeconomic dynamics and alternative causality that has also been missing in accounts of the decline in the investment share. Early efforts looking back on the 1970s to 1990s (which displayed a strong up-and-down) placed emphasis on the shift towards the service sector (with more limited opportunities for productivity gains) and the decline in R&D expenditure. The most important change in this respect was the decline in outlays on the part of the largest companies (Shell, Philips, Unilever, DSM, Akzo). However, such analyses were dominated by the larger fall in investment of the 1970s and the shifts associated with the adjustment from the 1980s, not as yet with the longer persistence in the slowing of capital formation. Decomposition studies from the 2010s that looked back on a longer period instead pointed to two factors: the decline in the relative price of investment goods – ICT resources in particular – and capital exports.[38]

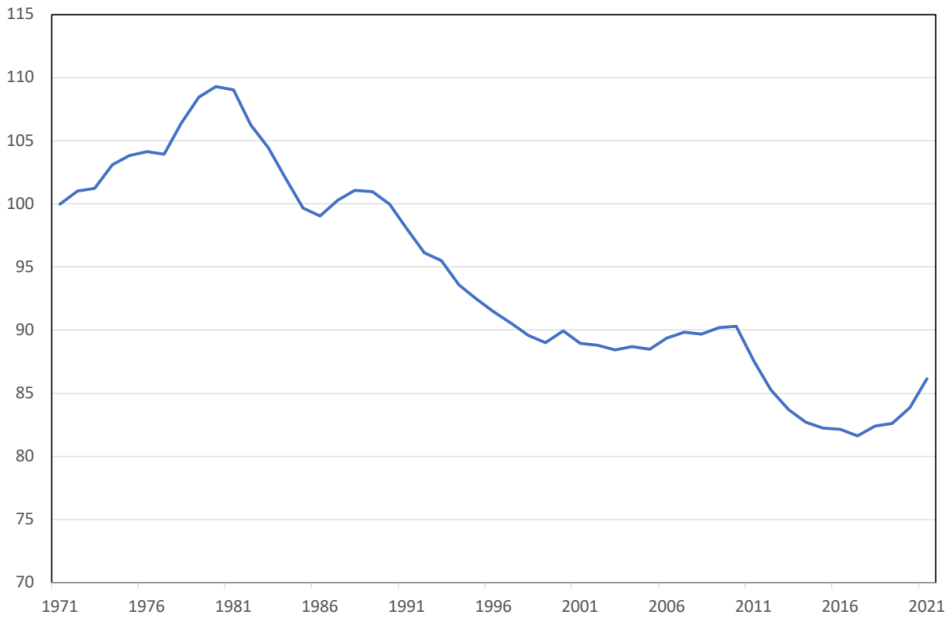

Figure 8. The real price of fixed capital goods, 1971-2021 (1971 = 100)

Source: CBS, Statline (national accounts series deflated by consumer prices)

As figure 8 shows, the real price of fixed capital goods (measured as the deflator of fixed investment in the national accounts, divided through by the CPI) has consistently fallen in the last decades to reach a 20 percent lower level, the trend of the series again turning on the early

1980s. Moreover, about three quarters of this is accounted for by the decline in the cost of computers and software. Thus, when expressed in real terms the level of investment relative to GDP has not fallen, but after a decline between 1970 and 1982 has been at the level of the early 1970s.[39] Given that investment goods are produced in capital-intensive sectors with above-average productivity gains, this decline in their relative price is not a cause for surprise. However, the fact that such lower relative prices have failed to induce a higher demand for investment goods only begs the question why this is strongly inelastic. During the first age of industrialization before 1914, the decline in the cost of a much wider range of capital goods was even stronger. Yet the dominant fact of this period, by contrast, was a structural *increase* in the rate of investment, occurring only once industrialization was underway with demand as its driving force.[40] Moreover, none of this alters the fact that, as we saw, relative to the growth of labour input that of capital has slowed. Lastly, the composition of investment has changed drastically. Since the late 1980s, growth in ICT-related tools has been a multiple of that in other production goods (growing between 1 and 2 percent per year) with higher productivity effects. Clearly, all of these outcomes reflect the wider incentive structure of the economy and therefore are endogenous.

Similar to the relative price effect, the second principal explanation for the decline in the investment share, the increase of capital exports, is typically treated as a process driven by exogenous forces. Yet here, too, causality is not unambiguous, nor can the extent of the effect be considered a given. Of course, the notion that the return on investment in emerging economies is typically higher, and with free capital flows thus is likely attract foreign funds is undisputed. Yet, the extent to which this occurs not only is a matter of policy choice (as the overall welfare effects differ from those at the national level) but depends on the difference in returns and thus on technological change and productivity growth in the domestic economy. Moreover, the generation of surplus savings as a source of capital exports is not exogenous. Indeed, in Harrod-Domar style neoclassical models, dispersions in growth away from that in capital alone in the case of open economies come from adjustment in the labour market and the export of savings. In the presence of a higher mobility of capital and more integrated international markets, differences in returns lead to larger capital flows and surplus savings that are sustained at a higher level, with a less variable distribution of factor incomes. The result is that, contrary to Keynesian models, the causality between growth and surplus savings runs the other way, with a slowing of natural growth (the sum of productivity gains from technological change and the growth of labour input) leading to higher savings and capital

exports, not the reverse.[41] The fact that such notions on the endogeneity of saving have fallen out of sight reflects the selectivity – better, the specific post-1970s context – of policy theory in recent decades. At the same time, Kleinknecht's assertion that "the neoclassical economist is unable to explain the productivity crisis" is equally inapt.[42] Both with regard to growth models and factor choice such a view is as specific to a myopic polarization as that from the other side of the aisle.

The shortest version of all this is that none of the arguments and findings thus far provides a basis to reject the notion that relative factor costs have formed the principal underlying cause of the persistence in the slowdown in productivity growth, or that lower growth itself was a cause of enhanced capital exports. In addition, as a recent article by the former director of the Bureau for Economic Policy Analysis, Peter de Ridder, pointed out, the mechanism of labour costs driving factor combinations and applied technological may be supplemented with the effect of the decline in the cost of capital itself. As summarized earlier, parallel to the Dutch institutional shock in wage growth, the international trend in both the cost of capital goods and that of loan capital turned sharply after 1980 and have fallen since. That this did not lead to a strong increase in investment in new technology underlines the point made earlier that technological change as driven by the relative cost of labour is both capital-using *and* labour-saving. Indeed, the long decline in interest, leading to the lowest global rates in history, has led to a massive misallocation of capital and by doing so has made raising rates much more difficult. The technical point here is that factor combinations in the industrialized economy are more elastic than development theorists since Eckaus have allowed – assuming that growing capital-intensity leads to greater factor-complementarity.[43] Here, too, economic history may be drawn upon as a repository of empirical fact, as this is also what we find for nineteenth century industrialization.[44] Likewise, labour demand analysis shows a wide range of behavioural parameters, similarly suggesting a uniform relation over longer periods and between economies to be underspecified.[45]

Institutional explanations emphasized by economic historians that focus on the orientation of companies towards the interests of shareholders and the removal of restrictions on the choices of institutional investors add to this.[46] Until the burgeoning of globalization from the 1990s, Dutch companies were largely free of pressure from international capital markets. Management had far-reaching control over the company's strategy and could focus on long-term growth. As a legacy of the postwar era, this governance structure was supported by legal

provisions that aimed to limit the influence of shareholders. However, the strong impact of the 'shareholder revolution' and the high degree of integration in capital markets that characterize the Dutch situation in the last three decades have put executives under pressure to increase profitability in the short term. At the same time, as was implicit in the earlier discussion, the prospect of investment opportunities abroad has also increased. Especially multinationals (of which the concentration in the Netherlands is traditionally high and which thus have a large economic weight) sought to spread their activities in a globalizing world. Insurers and banks followed the example of industry. As part of a broader deregulation policy, restrictions on the large pension funds (the Netherlands has a mandatory capital funded pension system) were also relaxed, enabling large exports of Dutch savings to the US, the expanding European market and emerging economies.[47]

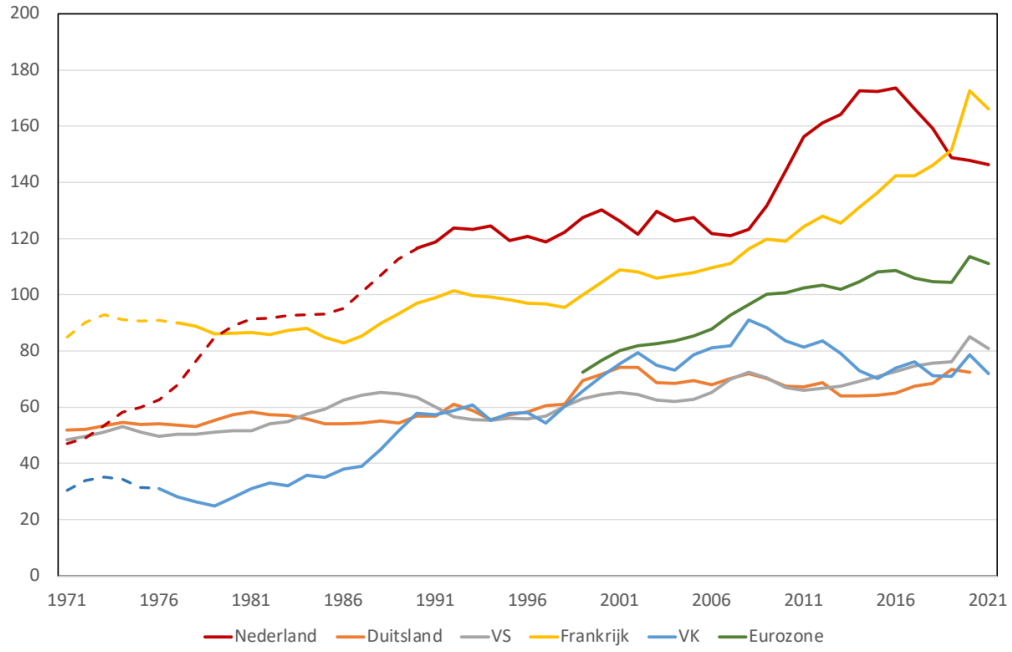

Figure 9. The comparative development of credit to non-financial business, 1971-2021 (credit as a share of GDP)

Source: BIS, 'Long series on total credit and domestic bank credit to the private non-financial sector' (https://stats.bis.org/statx/toc/CRE.html).
Note: dashed curves apply the earliest known share of credit to non-financial business in total credit to the non-financial sector (including households) to earlier observations for the latter. For the Netherlands, France and the UK these ratios amount to 74, 59 and 63 percent respectively.

Lastly, closely connected to the change in governance was a comparatively early increase and high use of loan capital and the rise of what is commonly referred to as financialization. Thus, rising profits for listed corporations were not only to a larger extent paid out as dividend, but (as noted) were also used to fund buy-backs with the aim of raising stock prices, or were

otherwise invested in financial markets rather than in production capacity. Most important in this respect, however, was the early and comparatively extensive use of loan capital. With regard to the increase in the indebtedness of households and business, the development path of the Netherlands in the past half century has also been idiosyncratic, with an effect on time preference in investment. As the reconstruction based on BIS data in figure 8 shows, at the beginning of the 1970s the level of credit to the private sector was still comparatively low, as postwar investment had initially been funded by ploughed back profits, and restrictions on bank credit (the role of which rose with the wage shocks of the 1960s) had been an explicit part of monetary policy.[48] With the recession of 1975 that triggered stagflation (the central bank having *lowered* rates the previous year in response to the oil price shock), negative real rates of interest and a permissive stance on the part of the supervisor as regards the activities of the rising universal banks, caused household and business to take on much higher debt to weather what was believed to be a temporary downturn.[49] Not only did this create a housing bubble, but it would have a permanent effect on the use of loan capital, sustained by a further deregulation of financial markets, an unparalleled concentration of banking (since the 1990s the three to four largest banks hold over 80 percent of the market) and the falling interest of post-1980 monetary policy. Behind this process was a traditionally large financial sector, propped up by the historical openness of the economy, and the pressure to escape from the postwar system that compartmentalized banking by restricting its domestic and international activities. Not only did this trigger the rise of universal banks that escaped such regulation, but in due course provided the room for banks as well as corporations to pursue higher returns on equity through financial leverage. Moreover, as a reconstruction of the interrelationship between policy choices and the postwar dynamics of private debt makes clear, the relation between the financial sector and the supervisor in the past decades has been characterized by regulatory capture.[50]

Thus, well before the Mogdiliani-Miller theorem (originally from 1958) was popularized as the rationalisation of an enhanced, fiscally facilitated use of loan capital, the political economy of Dutch financial regulation and the narrowing focus of monetary policy led to a surge in private debt, both on the part of households (in the shape of housing mortgages) and business.[51] Connecting to the institutional and legal changes in the governance of corporations that came with the shareholder's revolution, this led to a reorientation of business strategy in which returns in the short run, both to service debt and to placate markets and owners lacking a deeper commitment, trumped long run viability. Just as indebted households with high

mortgages became more reactive to cyclical change, so listed business adapted its financial horizon. More widely, later analyses showed that in the presence of market inefficiencies or distortions such as taxation, bankruptcy costs and asymmetric information, an equivalence in the use of loan capital and equity fails to apply and its unbalanced application in fact leads to myopic strategies and negative externalities. Only since 2016 have policies been introduced to curb the general level of private debt. Measures to equalize the fiscal treatment of loan capital and equity as yet have only been announced.

In combination, the confluent effects of the labour market mechanisms described and the longer shift in the role of finance in our view offer the most likely explanation for the Dutch growth path since 1982. This consisted of a persistent decline in productivity growth that was stronger than that observed elsewhere, compensated for by an equally strong growth of labour input. Its side effect was an enhanced dependency on loans by household and corporations that made the economy less open to change. In the 1950s and 1960s investment boomed, as rapidly rising labour costs induced businesses to explore and introduce labour-saving technologies. This feedback loop – economic growth causes a rise of labour costs, which stimulated investment in labour-saving technology that in turn contributed to the acceleration of growth – was a major cause of the 'overheating' of the Dutch economy in these years. After 1980, under the influence of the policy reaction to the wage- and energy cost crisis, the incentive for investment in labour saving machines lessened, leading to the decline of the investment ratio. The feedback loop that led to overheating in the 1960s reversed and now contributed to the slowing down of growth – low interest rates do not seem to have had a significant countereffect.

Conclusion

This is our first instalment on a political economic history of the Netherlands that uses long term outcomes to evaluate the effects and sustainability of the policy consensus forged from the 1980s. Of the various issues that we analyse – ranging from labour market institutions to European monetary union and financial regulation – the productivity slowdown is probably the most fundamental. However, its gradual nature amidst shocks and cycles make it difficult for the slowdown to gain acceptance as part of macroeconomic performance. Moreover, the behavioural relations that macro-time series suggest to have prevailed will remain open to

dispute. Nevertheless, we believe that the specifics of the Dutch growth path documented above allow for the notion that a relationship that runs from factor prices to investment and innovation does appear to have played a role in the idiosyncrasy observed. In view of this, it may also be concluded that specific tenets of macroeconomic policy have been catalytic in generating this long term outcome. In another contribution we demonstrate that the change in the growth regime was unrelated to those in the energy system after the oil crisis of 1973 and the attempts to reduce CO2 emissions from the early 1990s.[52] Structural change – the decline of the manufacturing sector which had been the engine of productivity growth – also played a limited role.[53]

As underscored in our introduction, the Dutch slowdown is part of a much wider ebbing of economic growth in the industrialized economies – a process which, under the influence of work by Larry Summers, has since 2013 become known as 'secular stagnation'. Originally coined by Alvin Hansen in 1939 in reaction to the Great Depression, this projected a lack of investment opportunities linked to waning technological innovation. The Dutch downward path therefore is likely to have shared causes, and these may or may not be weaker versions of the mechanisms that we have argued to be essential to the extent of its idiosyncrasy. Contrary to the way in which the Dutch debate has been conducted this far, we thus should leave room for such a confluence of causes. However, the essence of the opposing views of the overall process remains the contrast between an exogenous deficiency in investment opportunities on the one hand, and factor costs as the endogenous cause on the other. And while factor prices also play a pivotal role in the analyses of those that reinstated the notion of secular stagnation, there it is the impossibility of interest to balance saving with investment demand by further lowering this that drives an exogenous hold over the economy.[54] This makes the decline secular and strongly limits policy options (to deficit spending and further rising debt at a rate of interest that is presumably lower than that in welfare), but it looks away from institutional incentives to save and the endogenous effects of bank money and wholesale finance. Given the dominance of the latter that has emerged in recent decades, banks now predominantly finance investment from credit or bonds rather than savings. Others seek to stay on conventional ground by emphasizing market failure in relation to regulative legacies. Thus, the ECB attributes lagging productivity growth in the Eurozone to "structural rigidities [..] connected with highly regulated product, labour and financial markets, legal and regulatory obstacles to sectoral reallocation, or wider structural impediments such as a lower prevalence

of ICT-relevant skills."[55] The implications of such a position for policy evidently are very different.

Our position in this debate on the wider growth slowdown for now holds no more than the observation that the focus of this clew of arguments is selective since it ignores the parallel shock in the cost of labour that has equally been gaining ground since the 1980s. Given the explicit turn in macroeconomic policy and its institutionalized mechanisms and objectives, the trend in labour costs is of evident relevance in accounting for the Dutch idiosyncrasy, which in turn is suggestive of the argument having a wider relevance. Indeed, as previously noted a recent analysis by De Ridder drawing on data for the Netherlands, the US, Japan and the EU-16 argued that the simultaneous decline in the cost of labour and capital has been the driving force of the international slowdown.[56] But even then, causes for the decline in labour costs are multivariate. In explaining the Dutch growth path, we have emphasized the role of policies and institutions, but international wage growth has above all been dampened by the enhanced supply of labour in emerging economies. Working through globalized exports, this in turn has changed the relative scarcity of western labour.

As the previous discussion suggests, even though we, too, attribute a leading role to these in explaining the Dutch slowdown as a mark-up over the general pattern, this does not extend to the notion that, as some have argued, it was fully caused by macroeconomic policy choices.[57] The fact that the persistent decline in growth was shared between industrialized economies and the cost of labour and capital fell parallel to this – with an evident link to globalization - makes this an unwarranted claim. What can at most be argued is that, as a literature headed by Rodrik and Milanovic has argued, politics has been accommodating of the macroeconomic and distributive effects of globalization – effects on which the economic history of the pre-1914 era allow us to be well-informed. However, in the Dutch case its role *has* been explicit with regard to the turn of the early 1980s, preceded by a largely depoliticized deregulation in finance. Its essential aspects consisted of the fact that it formed a reaction to stagflation while also being characterized by an institutional path dependency. As such, it successfully harked back to known mechanisms of coordination while adapting its goals; where investment from ploughed-back profits was the pivot of the postwar compact, this was replaced by cost competitiveness and full employment in the new setting. This made it successful in the short run, but also resulted in a locked-in labour-intensive structure of the economy and long-term effects on productivity.

This role of corporatist structures should also influence how we see the ideological or economic-theoretical origins of the Dutch policy regime. Since the financial crisis, it has become good political practice to categorize all economic policies of the past three to four decades as 'neoliberal'. And in a number of respects such a categorization is in line with the understanding of neoliberalism as a political philosophy.[58] Apart from having liberalized trade, neoliberal thought drove privatization, the deregulation of financial markets and the reform of monetary policy, promoted the shareholder revolution and provided arguments for an uninhibited flexibilization of labour. And in all cases, policy answers seem to have been every bit as prone to the creation of a new political economy of markets as those previously criticized. However, the system of wage suppression and wider socio-economic coordination that has been central to the Dutch policy regime since 1982 is based on much older corporatist traditions. Their role and the resultant policies of restricting markets and cross-bargaining over issues of public choice are impossible to square with the views of Hayek, Buchanan or any other economist associated with neoliberalism. Moreover, after strong fiscal consolidation in the decade after 1993 (taking the burden of taxation from 42 to 35 percent and expenditure from 54 to 42 percent of GDP), the fiscal burden has again increased (it now is at 40 percent) whereas real outlays per head on social security, education and public health since 1990 increased by 5, 35 and 120 percent. From this perspective, too, the Dutch regime of the last decades can hardly be seen as neoliberal.[59]

Accepting the decline in the relative scarcity of labour as a prime endogenous cause of the western slowdown also leads to more speculative thoughts on its significance. Economists as different as Schumpeter and Keynes agreed that the core of the social contract of the industrialized, democratically controlled economy is to increase its 'productive forces' so as to raise welfare and lower the burden of work. Seen in this light, the slowdown constitutes a fundamental problem. The increase in productivity it generated allowed for the mass consumption of the later part of the twentieth century parallel to a strong decrease in working hours – in the Dutch case from an average of some 1800 hours per year at the end of the 1960s to just above 1400 since 2012. The capitalist economy is commonly criticized because it also produces inequality; the notion implied by the decline in the relative cost of labour as the cause of persistent secular stagnation is that in a world where the distributive interest of capital dominates, the interaction between real wages, labour-saving technological change and productivity breaks down. As a result, so does long term economic growth. The weak position

of labour in western economies in the post-1990 world of globalization plays an important role in this interpretation. The moral is that the political economy of the industrialized society is not automatically conducive to the productivity growth it is expected to generate. When, during the Golden Years of reconstruction, the economy was pushed hard by rising real wage costs, entrepreneurs explored technologies and factor combinations that raised productivity at an unprecedented rate. And as Peter Lindert has demonstrated, the nature and extent of the increased taxation that attended this process did not have a negative effect on growth.[60] The problem of the past forty years has been that such pressure was lacking. The result has been a form of complacent capitalism.

If the persistence of the growth slowdown has been driven by historically specific conditions and policies rather than by intangible exogenous forces, change in these conditions open up the possibility of different outcomes. Even if present, largely energy cost-driven inflation is pushing real wages down, the ubiquitous labour scarcity that is the result of demographic stagnation points to what in due course must result in higher pressure both on wages and factor substitution. Likewise, while central banks are having trouble in phasing-out earlier policies without causing shockwaves, the period of further rising debt and quantitative easing at negative real rates appear irrevocably over. But even though fundamental conditions seem to shift, it remains to be seen whether the growth nexus can be restored, as institutions and policies geared to different theories, goals and interests would need to adjust. Instead, in Dutch politics proposals to further increase labour input now dominate the debate. Apart from working against the trend of shorter instead of longer working hours, the fact that any effort to further increase participation is likely to push currently unpaid tasks onto the labour market, and any increase is likely to be a one-off (given a static labour force), putting more pressure on labour certainly does not offer a solution for the problems analysed. We suggest that rather than persisting in their assumptions, policy makers should look to the economic history of the last four decades for guidance.

References

Allen, R.C. (2009). *The British Industrial Revolution in Global Perspective*. Cambridge: Cambridge UP.

Allen, R.C. (2001) 'The Great Divergence in European Wages and Prices from the Middle Ages to the First World War' *Explorations in Economic History*, Vol 38-4: 411-47.

Allen, R.G.D (1967) *Macro-economic Theory: a Mathematical Treatment*, New York: MacMillan.

Ark, B. van, K. de Vries and A. Erumban (2021). How to not miss a productivity revival once again. *National institute economic review*, *255*, 9-24. https://doi.org/10.1017/nie.2020.49

Adema, Y. and I. van Tilburg (2018) 'CPB reactie: vier punten bij de CPB-analyse over de ontrafeling van de vertraagde loonontwikkeling', *ESB* 104, blog december.

Adema, Y. en I. van Tilburg (2018) 'Vertraagde loonontwikkeling in Nederland ontrafeld', *CPB Policy Brief* 2018/12.

Barro, R.J. and X.I. Sala-i-Martin (1992) 'Convergence', *The Journal of Political Economy* 100: 223-51.

Barro, R.J. and X.I. Sala-i-Martin (1995) *Economic Growth*, Cambridge MA: McGraw-Hill.

Barendregt and De Visser (1997), 'Towards a New Maturity, 1940-1990', in: M. 't Hart et al. (eds.) *A Financial History of The Netherlands*, Cambridge: Cambridge UP.

Broer, D.P. en F.H. Huizinga (2004). 'Loonmatiging Gunstig voor Economische Groei', *ESB* 89, 489-93.

ECB (2017) 'The slowdown in euro area productivity in a global context', *ECB Economic Bulletin*, Issue 3.

Eckaus, R.S. (1955) 'The Factor Proportions Problem in Underdeveloped Areas', *American Economic Review* 45: 539-65.

Eichengreen, B. (1996) 'Institutions and Economic Growth: Europa after World War Two', in: Crafts, N.F.R and G. Toniolo (eds.) *Economic Growth in Europe since 1945*, Cambridge: Cambridge UP.

Gales, B. and K. Sluyterman (1993) 'Outward Bound. The Rise of Dutch Multinationals', in: G. Jones and H.G. Schröter (eds), *The Rise of Multinationals in Continental Europe*, Aldershot.

Grabska, K. et al. (2017) 'Productivity Slowdown. Evidence for the Netherlands', *CPB Communication* 9 March.

Haan, de, M. (2014), 'De Dalende Investeringsquote' in: *De Nederlandse Economie 2013*, Den Haag: CBS.

Hamermesh, D.S. (1993) *Labour Demand*, Princeton: Princeton UP.

Hicks, J. (1932) *The Theory of Wages*, Londen: Macmillan.

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

Jansen, W.J. (2004) 'Kleinknechthypothese mist Empirisch Bewijs', *ESB* 89: 418-19.

Jansen, W.J. (2004) 'Loonmatiging schaadt Productiviteitsontwikkeling niet', *ESB* 89: 410-4.

Katzenstein, P.J. (1995) *Small States in World Markets. Industrial Policy in Europe*, Ithaca: Cornell UP.

Kleinknecht, A. (1994) 'Heeft Nederland een Loongolf nodig? Een neo-Schumpeteriaans Verhaal over Bedrijfswinsten, Werkgelegenheid en Export' *Tijdschrift voor Politieke Ekonomie* 17: 5-24.

Kleinknecht, A. (1998) 'Mythen in de Polder' *Tijdschrift voor Politieke Ekonomie*, Vol 21: 3-23.

Kleinknecht, A. (1996) 'Innovation patterns in crisis and prosperity. Schumpeter's long Cycle reconsidered', in: Kleinknecht, A. (ed.), *Determinants of Innovation. The Message from new Indicators*, Londen: MacMillan and New York: St. Martin's Press.

Kleinknecht, A. (1998) 'Is Labour Market Flexibility harmful to Innovation?', *Cambridge Journal of Economics* 22: 387–96.

Kleinknecht, A., F.N. van Schaik and H. Zhou (2014), 'Is Flexible Labour good for Innovation? Evidence from firm-level Data', *Cambridge Journal of Economics* 38: 1207–19.

Kleinknecht, A., Z. Kwee and L. Budyanto (2015) 'Rigidities through Flexibility: Flexible Labour and the Rise of Management Bureaucracies", *Cambridge Journal of Economics* 39.

Kleinknecht (2019) 'De neoklassieke econoom kan de productiviteitscrisis niet verklaren', *ESB* 104, 4778: 472-5.

Klundert, T.C.M.J. van der (1963) 'Bouwen aan de Groeitheorie' *De Economist* 111: 742-83.

Kuznets, S.S, (1966), *Modern Economic Growth. Rate, Structure and Spread*, New Haven.

Leering, R. and M. Ligthart (2014) 'Waarom daalt de Nederlandse Investeringsquote?' *Me Judice*, September.

Lindert, P.H. (2004) *Growing Public. Social Spending and Economic Growth since the Eighteenth Century*, Cambridge: Cambridge UP.

Modigliani, F. en M. Miller (1958) 'The Cost of Capital, Corporation Finance and the Theory of Investment', *American Economic Review* 48-3: 261–97.

Ó'Grada, C. (1984) 'Technical Change in the mid-Nineteenth Century British Cotton Industry: A Note', *Journal of European Economic History* 13: 345-53.

Otojanov, R., R. Fouquet and B. Granville (2022) 'Factor Prices and Induced Technical Change in the Industrial Revolution', *The Economic History Review* 75: 1– 25.

Ridder, P. (2022) ‘Lage Productiviteitsgroei gevolg van gedaalde Kapitaal- en Loonkosten’, *ESB* 107.

Riel, A. van (2021) *Trials of Convergence. Prices, Markets and Industrialization in the Netherlands, 1800-1913*, Leiden and Boston: Brill.

Riel, A. van and C.G. de Vries, ‘De Dynamiek van Naoorlogse private Schuldgroei in Nederland’ *The Low Countries Journal of Social and Economic History* 20-2 (2023).

Roelandt, Th., M. Akkermans, M. Polder and H. van der Wiel (2019) ‘De Mondiale Productiviteitspuzzel voor Nederland’ *ESB* 104: 468-71.

Samuelson, P.A. (1965) A Theory of induced Innovation along Kennedy-Weizsäcker Lines. *The Review of Economics and Statistics* 47-4: 343–56.

Smulders, P., F. Pot and S. Dhondt (2013) ‘Flexkenmerken van Innovatieve Werknemers’ *ESB*, 98: 88–89.

Stam, E., M. van der Veen and D. Smetsers (2019) ‘Economische Groei vraagt om meer dan ZZPers’, *ESB*, 104: 278-81.

Storm, S. (2019), ‘Productiviteitscrisis gevolg van macro-economisch Beleid’ ESB104: 479.

Summers, L.H. (2016) *The Age of Secular Stagnation*; at Foreign Affairs.com March/April

Summers, L.H. (2020) ‘Accepting the Reality of Secular Stagnation’, *Finance and Development*, March.

Teulings, C. and R. Baldwin (2014) ‘Oorzaken van- en Remedies voor Seculaire Stagnatie’, ESB 99: 680-83.

Teulings, C. and J. Hartog, J. (1998) *Corporatism or Competition? Labour Contracts, Institutions and Wage Structures in International Comparison*, Cambridge: Cambridge UP.

Vallier, K. (2021) ‘Neoliberalism’, *The Stanford Encyclopaedia of Philosophy*, June.

Vergeer, R. and A.H. Kleinknecht (2014) ‘Do Labour Market Reforms reduce Labour Productivity Growth? A Panel Data Analysis of 20 OECD Countries (1960–2004)’ *International Labour Review* 153-3: 451-67.

Wachsen, E. and K. Blind (2016) ‘More Labour Market Flexibility for more Innovation? Evidence from Employer–Employee linked Micro-data’ *Research Policy*, 45-5: 941–50.

Williamson, J.G. (1990) 'The Impact of the Corn Laws just prior to Repeal', *Explorations in Economic History* 27: 23-56.

Windmuller, J.P. and C. de Galan, *Arbeidsverhoudingen in Nederland*, Utrecht/Antwerpen.

Zanden, J.L. van (1997) *Een Klein Land in de 20e Eeuw. Economische Geschiedenis van Nederland 1914-1990*, Utrecht: Het Spectrum.

Zanden, Jan Luiten van (2022), ‘Klimaatbeleid faalt vanwege Politieke Economie in Nederland’, *ESB*, 107: 440-43.

Zanden, J.L. van and A. van Riel (2004) *The Strictures of Inheritance*. *The Dutch Economy in the Nineteenth Century*, Princeton: Princeton University Press.

Notes

[1] This blog is a statement of our personal views. In the case of Van Riel, it therefore cannot be taken to represent those of the Scientific Council for Government Policy. We thank Bart van Ark, Erik Stam and Rex Panneman for their comments on earlier drafts of the paper.

[2] See for example Van Ark et al., 'How to not miss'.

[3] As follows from the explanation below, 1982 was chosen as a benchmark year on account of 'Akkoord van Wassenaar' compact between government, unions and employers agreed upon in December of that year. Even though an earlier dampening of wage growth under the influence of rising unemployment and falling inflation can be observed, this is commonly seen as the start of principal changes as regards wage formation and its effect on growth and employment (also see figure 3).

[4] https://www.cbs.nl/nl-nl/nieuws/2018/05/nederland-koploper-in-europa-met-internettoegang. Also see Roelandt et al., 'Mondiale Productiviteitspuzzel'.

[5] https://worldcompetitiveness.imd.org/countryprofile/NL/wcy/. On the quality of public governance see the relevant database by the World Bank: https://databank.worldbank.org/source/worldwide-governance-indicators.

[6] https://opendata.cbs.nl/statline/#/CBS/nl/dataset/7234SLCT/table?ts=1669286151561

[7] Cf. the earlier overview of the Dutch pattern by Grabska et al, 'Productivity Slowdown' (2017).

[8] Hicks, *Theory*; on induced innovation also see Samuelson, *Theory.*

[9] Allen, 'Great Divergence'; *British Industrial Revolution*.

[10] Vgl. Van Zanden en Van Riel, *Strictures of Inheritance*; Van Riel, *Trials of Convergence.*

[11] Kleinknecht, 'Nederland'; 'Mythen'.

[12] Kleinknecht, 'Innovation Patterns'; 'Determinants'; 'Labour Market Flexibility'; Vergeer and Kleinknecht, 'Labour Market Reforms'; Kleinknecht et al., 'Flexible Labour'; 'Rigidities'.

[13] Kleinknecht, 'Neoklassieke Econoom', 474.

[14] Kleinknecht, ibid; Kleinknecht et al, 'Flexible Labour'.

[15] Jansen, 'Kleinknechthypothese'; 'Loonmatiging'; Adema en Van Tilburg, 'Vier Punten'.

[16] In fact, up to 2013 Dutch statistics do not offer any evidence of a decline in bankruptcies. In absolute terms, the trend has been upwards since the late 1950s. And when measured against the volume of GDP the more recent trend is flat, with the crisis of the 1980s having had the largest impact on insolvencies. Since 2014, however, the absolute number has declined to the level of the early 1970s. This sharp decrease must be attributed to the policy measures of the corona epidemic (CBS, kerncijfers faillissementen).

[17] More precisely, there are five closely related theoretical approaches to the effect of labour costs on capital formation: direct factor substitution, induced technological change, low wage costs resulting in a prolonged use of capital goods from an earlier vintage, selection through creative destruction (the effect of wage costs on less productive firms surviving or folding, see above) and the so-called Verdoorn effect (in which a slowing of aggregate demand results in slower investment).

[18] Otojanov et al., 'Factor Prices'.

[19] Huizinga and Broer, 'Wage Moderation'; Broer and Huizinga, 'Loonmatiging'; Adema and Van Tilburg, 'Vertraagde Loonontwikkeling'.

[20] Cf. Eichengreen, 'Institutions'.

[21] Katzenstein, *Small States.* For a more detailed description see Van Zanden, *Klein Land*, 111-19.

[22] Windmuller en De Galan, *Arbeidsverhoudingen* II, 72ff.

[23] https://stats.oecd.org/Index.aspx?DataSetCode=AV_AN_WAGE#

[24] https://stats.oecd.org/Index.aspx?DataSetCode=EAR_MEI

[25] Specifically, marked by cyclical variations labour's share first declined from 81 to 73 percent between 1979 and 1984-5; recovered to a 75 percent average up to 2003, then fell to 70 percent in 2007, and since 2009 has been stable at an average of 74 percent (CPB Kerngegevenstabel). The intermediate stabilization is suggestive of a connection with the change in labour market regimes identified below.

[26] Between the mid-1980s and 2007, the standard deviation in wage rates across a subdivision in 14 sectors declined from 3 to 1 percentage points. A more elaborate set of observations is available from 1995 (64 sectors). This shows that after a peak during the Eurocrisis (caused by uncertainty and the strongly differentiated renewal of collective contracts),

variation has further declined since the economic recovery after 2013 (CBS Statline).

[27] Cf. Teulings and Hartog, *Corporatism* (with international empirical evidence for the 1980s).

[28] This concerns the so-called 'referentiemodel' in all formally public sectors (government and education) and from 1999 the so-called 'OVA-covenant' in (publicly financed) health care.

[29] After a transitional period, Poles had free access to the Dutch labor market from May 2007 and from 1 January 2014 this was the case for Romanians and Bulgarians. Net migration from countries within the European Union rose from 5 thousand in 2004 to 45 thousand in 2021. Of these, 25 thousand came from Central and Eastern European countries and 11 thousand from Mediterranean countries. In addition, after 2007 the total migration balance increased from slightly negative to 107 thousand in 2021 (CBS, Statline).

[30] Based on data from the Eurostat Labour Force survey (data starts 1998).

[31] Kleinknecht, Labour Market Flexibility'; also see Stam et al, 'Economische 'Groei'; Wachsen en Blind, 'Labour Market Flexibility'; Smulders et al, 'Flexkenmerken'.

[32] Stam et al. 'Economische Groei'.

[33] Kuznets, *Modern Economic Growth* (1966).

[34] Source for pre-1970 data: CBS, Nationale Rekeningen 1958-1973. Also See Van Zanden, *Klein Land*, 184

[35] Leering en Ligthart, 'Nederlandse investeringsquote'.

[36] CPB, Kerngegevenstabel (includes inventories).

[37] De Ridder, 'Lage Productiviteitsgroei', figure 2c.

[38] Leering en Ligthart, op cit; De Haan, 'Dalende Investeringsquote'. Also see the box on page 54 of the 2011 *Centraal Economisch Plan* by the bureau for economic policy analysis (CPB).

[39] CPB, op cit.

[40] For the Netherlands see Van Riel, *Trials of Convergence*, chapter 8.

[41] Allen, *Macroeconomic Theory*; Van de Klundert, 'Bouwen'. The application of this insight from growth theory in the Harrod-Domar tradition draws on the recent work by Peter De Ridder, 'Lage Productiviteitsgroei'.

[42] Kleinknecht, 'Neoklassieke Econoom'.

[43] Eckaus, 'Factor Proportions'.

[44] Cf. Williamson, 'Impact', 712-4; Ó'Gráda, 'Technical Change'; Van Riel, *Trials*, 319-25.

[45] Cf. Hamermesh, *Labour Demand*, 76-92.

[46] Van Zanden, *Klein Land*, 236-7.

[47] Gales en Sluyterman, 'Outward bound'.

[48] Cf. Barendregt and De Visser, 'New Maturity'.

[49] To understand this expectation, it is useful to note that earlier rates of annual GDP growth below 2 percent had occurred only in 1958 and 1961.

[50] Van Riel en de Vries, 'Dynamiek'.

[51] Modigliani and Miller, 'Cost of Capital'.

[52] Van Zanden, 'Klimaatbeleid'.

[53] Grabska et al., 'Productivity Slowdown'.

[54] The original is Summers speech at the IMF 2013 Economic Forum (14th annual research conference). Also see 'Age' and 'Accepting' and Teulings and Baldwin, 'Oorzaken'.

[55] ECB, 'Slowdown', 63.

[56] De Ridder, 'Lage Productiviteitsgroei'.

[57] Storm, 'Productiviteitscrisis'.

[58] Compare for instance the summary in the Stanford Encyclopedia of Philosophy by Vallier, 'Neoliberalism'.

[59] Source: Lange Tijdreeksen Overheidsfinanciën CPB.

[60] Lindert, *Growing Public*.