Econometric Research and Special Studies Department

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ABSTRACT

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This article surveys arguments on the lack of innovative capacity of the Dutch economy as presented by Kleinknecht in several papers. The arguments are critically discussed and in addition an alternative way to calculte productivity figures is presented. The authors conclude that the hypothesis that wage moderation has led to lower innovative capacity of the Dutch economy is rejected.

Key words: labour productivity, R&D, wage moderation
JEL codes: 033, 047, D24

SAMENVATTING

Loonmatiging, innovatie en arbeidsproductiviteit: mythes en feiten opnieuw bekeken
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Onderliggend artikel presenteert de argumentatie over het gebrek aan innovatieve kracht in de Nederlandse economie, zoals die door Kleinknecht in verschillende artikelen naar voren is gebracht. De argumenten worden kritisch bediscussieerd en er wordt een alternatieve aanpak voor het construerenvan productiviteitscijfers gepresenteerd. De auteurs concluderen dat de hypothese dat loonmatiging heeft geleid tot een lagere innovatieve kracht van de Nederlandse economie verworpen moet worden.

Trefwoorden: arbeidsproductiviteit, innovatie, loonmatiging
JEL codes: 033, 047, D24

1 INTRODUCTION

The measuring rod of economically successful performance today is high economic growth and low inflation. Of course in the long run the two are closely related with the latter being a necessary condition for the first. Moreover, and according to theory, they presumably imply full employment of labour and the capital stock. However, this general statement does not say very much explicitly about the microeconomics of innovation and entrepreneurship as a key to economic growth. Thus, the above derives more from the Keynes-Tinbergen legacy than from that of Marshall-Schumpeter. This emphasizes competition, profits, and technological innovations as the result of Research and Development (R&D). The latter is in the Schumpeterian tradition commonly viewed an important means to economic development or growth.

This short article examines the micro and macroeconomic interaction between R&D, increases in labour productivity and economic growth, taking the recent criticism by Kleinknecht (1994, 1998) on wage moderation in the Netherlands as the starting point. Our emphasis is on the positive rather than normative criticism of Kleinknecht, but we are fully aware of the fact that drawing any policy conclusion from our positive analysis has normative implications. Thus, any normative criticism of Kleinknecht's analysis in this article is a logical result of our positive analysis. However, it does not reflect our preferences with respect to any specific policy of wage moderation.

The setup of this paper is as follows. First, we restate Kleinknecht's major points concerning wage moderation and its implications for R&D investment and technological innovations. Second, we consider the empirical evidence on investment in R&D in the Netherlands in an international and global perspective. Third, we discuss the extent to which the Dutch case of a small and open economy may be generalised to other countries, taking into account size, openness and the exchange rate regime. Fourth, an attempt is made to approximate productivity growth on the base of Verdoorn's law in order to test Kleinknecht's hypothesis that wage moderation has hampered increase in labour productivity in the Netherlands. Finally, we draw some conclusions, which might be either positive or normative, and which follow from the analysis given in this paper.

2 THE CRITICISM ON WAGE MODERATION

In several papers Kleinknecht (1994, 1998a,b,c) has challenged the merits of the apparently successful Dutch model of wage moderation or *'loonmatiging'*. This policy was the results of an agreement in 1982 between employers and trade unions concerning restricted wage increases aimed at fighting unemployment. By accepting the *loonmatiging* the trade unions were trying to show solidarity between those with and without jobs. The important question however is whether the social costs incurred justify the agreement between the organisations of employers and employees. From a welfare point of view this is the overriding measuring rod. However, in Kleinknecht's view the social costs incurred are too high because wage moderation has been harmful to technological innovations and economic growth and thus to long-run employment opportunities. In his view this is particularly the case in a small open economy like the Netherlands.

What are the facts? Over the 1980s and 1990s annual percentage changes of wage sum per employee in the Netherlands was lower than in the EU-15. Over the same period employment developed more favourable in the Netherlands than in the EU-15, suggesting that slow increases in real wages enhanced production and employment. However, comparison of economic growth in the Netherlands and the EU-15 shows that the growth rate in the Netherlands did not outperform those in other EU countries. This observation seems to be counterintuitive and refutes the logic of Dutch wage moderation since 1982. Therefore it requires further thought and analysis. Kleinknecht's criticism on the policy of wage moderation focuses on three issues. The first is the neo-classical spirit behind the policy of wage moderation, emphasizing that relatively low labour costs hampers the substitution process between vintages of capital stock and labour productivity growth. The second is that wage moderation in the Netherlands has been harmful for the Schumpeterian process of creative destruction. The third is that it has adversely affected effective demand and thereby demand-led product innovations and economic growth.

The reasoning behind the first criticism is that relatively low wages encourage entrepreneurs to postpone new investments to replace technologically old vintages of capital stock. This behaviour prevents entrepreneurs from picking the fruits of advanced technologies and new equipment, showing up in lower labour productivity, which in the short-run protects

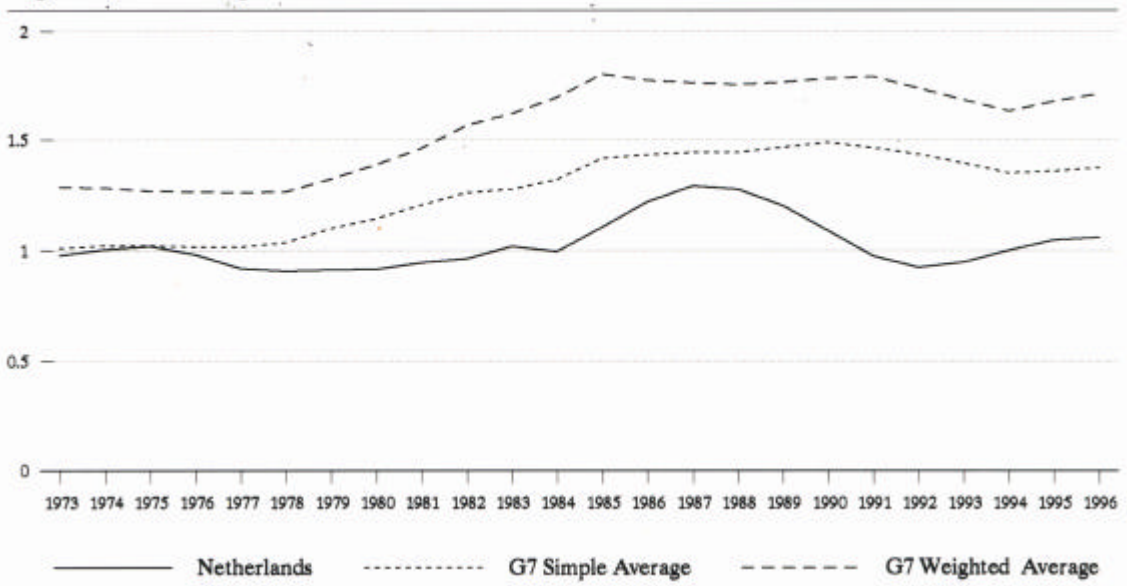
employment. However, it also makes employment vulnerable, the industry more backward and it reduces the positive economy-wide spillovers of advanced technological knowledge. In the long run this may turn out to be damaging. This criticism, which is mainly neo-classical and derived from precise theoretical reasoning supplemented with carefully conducted empirical research for the domestic economy, has played a dominant role in the Dutch economic policy debate during the 1970s to explain the increase in industrial unemployment (see e.g. Den Hartog et al., 1974, 1976). The two other criticisms are Schumpeterian. According to Kleinknecht wage moderation hampers the competitive process as well as product innovation because of the protective environment brought about. This in turn frustrates the process of creative destruction according to Schumpeter's legacy. Kleinknecht supports this Schumpeterian criticism with microeconomic research outcomes taken from the literature, indicating that product innovators create employment growth and jobs of better quality with profits higher than in less innovative firms. The other Schumpeterian argument against wage moderation concerns demand led-innovations. This argument is mainly derived from work by Schmookler who hypothesised that very often innovations are pulled by demand. Therefore wage moderation may be harmful, since it depresses aggregate demand and technological spillovers.

Kleinknecht suggests that these three arguments explain why Dutch economic growth did not respond significantly to the policy of wage moderation practiced since 1982. He concludes that in the long run the social costs of wage moderation are considerable in terms of economic growth, productivity increases and job creation. This criticism is important enough to merit further analysis. The remainder of this short article examines the arguments against wage moderation in accurate detail based on empirical evidence.

3 A CLOSER LOOK AT INVESTMENTS IN R&D IN THE NETHERLANDS

Over a long period of time the level of investments in R&D as a percentage of GDP has been substantially lower in the Netherlands than in most other G7 countries. As Figure 1 shows, the average investment has been lagging between 20% to 60% behind a weighted average of R&D investments of the G7 countries. This may lead to the view that the Dutch economy places too little emphasis on technological innovation, as measured by the increase in labour productivity. Such a line of reasoning however, ignores important arguments why a medium-sized open economy like the Dutch can sustain a lower level of R&D investment without any harm to its economic development. Some of these arguments are discussed below.

Figure 1 R&D Expenditures as % of GDP



Firstly, in a world of high and increasing levels of globalisation, most advanced economies, including the Netherlands, become more and more internationally oriented. Thus when making arguments on the spillover of R&D investments, one should not only look at spillovers on the national level, but increasing attention should be paid to the international presence of these spillover effects. Indeed it seems that spillovers to a large extent do take place internationally [see e.g. Coe and Helpman (1995), Coe, Helpman and Hoffmaister (1997) or Fagerberg and Verspagen (1998)]. Therefore, domestic R&D investments are only one aspect of technological progress, the other aspect being the capacity of the domestic economy to make use of technological spillovers from R&D performed abroad. Coe et al. find

that the impact of imported R&D on productivity is comparable to that of domestic R&D. Their study also shows that for returns to domestic R&D, market size matters. That is, returns to domestic R&D are higher in larger countries, an effect which can be ascribed to their larger potential for domestic spillovers. Since the effects of domestic and foreign R&D are on average comparable in size, in small- and medium-sized economies like the Netherlands, foreign R&D is an important source of productivity growth compared to domestic R&D. This is because in these countries nominal domestic R&D expenditures are likely to be small compared to total nominal foreign R&D expenditures. This line of reasoning implies that compared to large countries, the smaller countries need less domestic R&D in order to keep up a certain level of technological progress. Indeed when we look at the R&D expenditures of small versus those of economically closely related large economies, we see that the smaller economies invest much less in R&D. In Figures 2 and 3 we illustrate this point by showing graphs for Canada vs. the U.S. and for the Netherlands vs. Germany.

Figure 2 R&D Expenditures as % of GDP

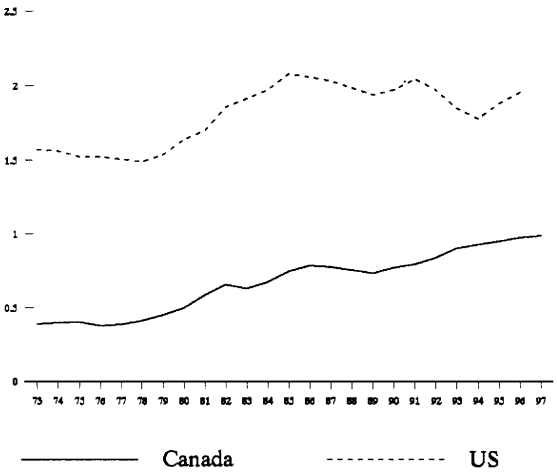
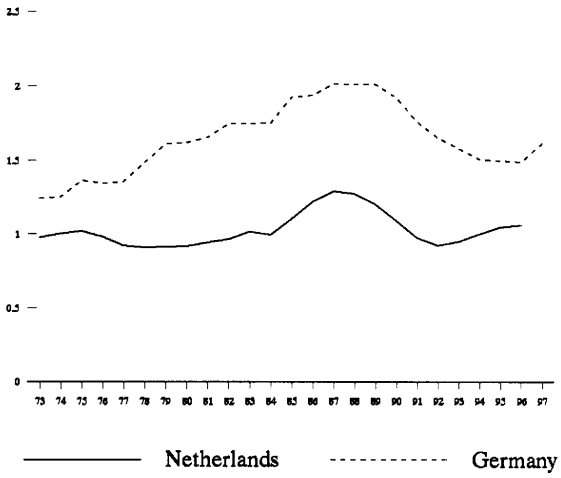


Figure 3 R&D Expenditures as % of GDP



In this international context, R&D expenditures can be regarded as a strategic device tool in the international trade arena, fitting new trade theory, which considers international trade in an imperfect competition framework (see e.g. Krugman, 1994; Richardson, 2000). In fact in a German newspaper interview Kleinknecht (1998b) brings up exactly this point. When a country's government stimulates the development of certain kind of new technology, either by legislation or by subsidizing certain types of technological research, the companies providing this new technology naturally have an edge over their competitors abroad. A particular example fitting this framework is the adoption of tough environmental regulation by one

country without waiting for other countries to follow suit. When the other countries finally do follow, the business environment in the toughly regulated country has already adapted to the new environmental laws and companies have massively engaged in product innovation. As a result, they are producing the latest technology to meet the tough standards. However, because of the larger domestic spillover effects of investments in new technology in larger countries, such a trade policy works better for these large countries than it does for smaller ones. In this context, it makes sense for Kleinknecht to make this argument when targeting a German rather than a Dutch audience.

The Schumpeterian argumentation states that innovative firms drive non-innovative firms out of business in economically hard times, e.g. after a large wage increase has taken place. At the same time innovators are not capable of doing so during economic booms. Below, we claim this to be a fallacy, i.e. that innovative firms also have an edge over non-innovative firms in economically good times. With the selection pressure in favour of innovators being present during the entire economic cycle, Kleinknecht's plea for larger wage increases in order to create the environment in which the innovators have an edge over non-innovators, becomes obsolete: innovators already have such an edge and there is therefore no need to create tougher economic circumstances in order for the selection to take place.

The Schumpeterian view argues that innovative firms use the rents from their tacit knowledge to remain vigilant during recessions, while non-innovative firms are unable to do so and therefore will be hit hard, make lower profits and as a result jobs will be lost. In times of solid economic growth the same argument on rents of tacit knowledge leads to the conclusion that innovative companies have an edge over non-innovate ones. The rents can be exploited by competing more fiercely for market share by e.g. setting low prices. Such a strategy is in accordance with the finding of e.g. Geroski et al. (1993) that in prosperous times the profits of innovators are only slightly higher than those of non-innovators. More fierce competition during economic upturns yields the conquest of larger market shares by innovators and consequently the loss of market share by non-innovators. In other words, selection is in favour of the innovators. This argument on selection in prosperous times is in fact very much similar to the Schumpeterian one presented above in the context of economic hardship and reminds of the Darwinian paradigm of the survival of the fittest. Still, it might be argued that selection pressure is stronger during recessions than in times of booms, because during

recessions more companies drop out of the competition, be it either through bankruptcy or because the company decides that a certain market is no longer profitable for it. However, companies drop out of competition precisely because the market as a whole becomes less profitable, when market demand decreases. As a consequence of lower demand, either market size decreases or profit margins become smaller, both hurting all companies producing in that particular market. Thus although some competitors retract from the market during recessions, thus providing more opportunities for the remaining, innovative, companies, the worsening of the general market environment also hurts the innovators. Which of these effects exerts the stronger influence is not a priori clear. Therefore, the above Schumpeterian claim that selection pressure in favour of innovators is stronger in times of recession than in prosperous times cannot be made without substantial empirical support.

4 WAGE MODERATION IN LARGE AND SMALLER ECONOMIES

In the above the main focus was on the Dutch economy. Below we compare a policy of wage moderation in the Netherlands and Germany. The two types of economies are taken as proxies for respectively a small- to medium-sized and a large open economy.

The Netherlands has set an astounding economic record over the last couple of years of the last decade. The growth of GDP has been high, the unemployment rate has reduced rapidly, while at the same time the government budget has been restructured. Some economists have compared the Netherlands' achievements during this period to those of the United States over the same period. In this context they refer to the Netherlands profiting from a 'new economy' very much like the U.S. These claims seem unjustified in the sense that while the U.S. has enjoyed high labour productivity growth. The Netherlands have actually experienced a period of relatively low measured productivity growth. Comparing the Netherlands' economy for instance to Germany's shows a striking difference in labour productivity growth over the last couple of years. In the years 1995-1998, productivity growth per employee in the Netherlands has averaged 1.7%, while for the same period Germany scored an average of 3.1%.

Kleinknecht and Naastepad (2000) explain these data for the Netherlands by referring to wage moderation, which led to a labour intensive economic growth and thus to lower productivity growth. However, a large fraction of the labour force in the Netherlands works part time and this fraction has increased considerably and, more importantly, at faster rythms than in Germany. According to Eurostat data, the average workweek in the Netherlands between 1995 and 1998 has become shorter by 1.2%, while the German workweek has become 1.2% longer over the same period. This leads to the conclusion that a comparison of the data on the productivity per hour worked looks much more favourable for the Netherlands than Kleinknecht and Naastepad infer.

In judging productivity data, one should take into account the economic circumstances behind them. After the reunification Germany experienced a period of massive industrial restructuring, which led to the loss of over 2 million jobs over the period 1992-1998. In such a restructuring process, the employees that are relatively unproductive are fired the first, resulting in a higher average labour productivity. Vice versa, the Netherlands' economic

policies from 1994 onward, which were geared towards the creation of jobs and thus towards a labour intensive growth, have probably led to a somewhat lower productivity growth. If so, this is the 'price' society has paid for having more people employed. From a welfare perspective it is hard to judge the Dutch outcome as inferior to the German outcome, in particular because the latter country experiences high, until very recently non-declining, unemployment rates. Apparently, the Netherlands has chosen a policy enabling most people who are willing and able to work, to get a job. The cost of this employment-creating policy has been a lower productivity per employee, but not per hour worked. As a matter of fact, this can be seen as a modest redistribution of available labour. A key factor in this policy has been that the employees are still rewarded according to their marginal productivity which, according to neoclassical standards, is still efficient and economically optimal from a welfare point of view. Illustrative for this is that the capital stock has not aged since 1982 while the capital intensity has actually gone up, as Table 1 shows. Now perhaps the policy aimed at job creation has reached the limit to which it can be stretched, since the labour market is getting tight with the unemployment rate being less than 3%. However, a crucial element in this economic picture is that because of the openness and small size of the economy, the fallout of domestic demand resulting from wage moderation has been overcompensated by export growth.

Table 1 Wages and capital intensity in the Netherlands
(1982=100)

	1982	1990	1995
Wages	100	113	133
Cost of capital	100	104	91
Average age capital stock (years)	8	8	8
Capital intensity	100	116	126

Source: Van der Wiel (2000).
Explanatory note: the cost of capital is based on Jorgensons 'user cost of capital'. The capital intensity is the ratio between the capital stock and the number of hours worked.

An interesting question is what would happen to a large economy like Germany if a policy of wage moderation were to be introduced. From the Dutch experience it would seem that such a policy can be quite successful when it is aimed at reducing unemployment and thus at

redistributing labour. If however wage moderation were not accompanied by a shorter average workweek, the adverse effects Kleinknecht and Naastepad sketch might start to play a role. Such a policy of rewarding employees below their marginal productivity for a prolonged period of time would indeed lead to less investment in the capital stock and thus to the ageing of the existing stock. It is for this reason that it can be harmful to an economy in the long run, which is exactly one of Kleinknecht's arguments. We interpret Kleinknecht's plea against wage moderation as a warning therefore, for what might happen when wage moderation is part of a policy strategy which does not include a reduction in the hours worked per employee. To investigate this question a little further, we have done a policy simulation study using the Netherlands Bank's multicountry model for Europe, EUROMON. This is a macro-econometric model for the major European countries, the United States, and Japan. Point of departure is a moderation of wages by 1.5%-point over a time span of 4 year, i.e. a 6%-point total wage moderation, in the Netherlands. This is contrasted with an analysis with the same amount of wage moderation in Germany. It turns out that indeed wage moderation leads to higher exports, lower labour productivity and a reduction to GDP growth and employment. However, the effects are noticeably larger for the Dutch economy than they are for Germany. Both GDP growth and labour productivity decline more in the Netherlands than they do in Germany. Moreover, while the Dutch economy still experiences adverse effects on employment after eight years, German employment actually rises by a small percentage. These results are perfectly explained by the higher degree of openness of the Dutch economy compared to the openness of Germany. If the Netherlands, being an open economy, is less dependent on wage costs, then the effects of wage cuts should be less felt in the Netherlands than in Germany. This typical property is for instance reflected by the estimated long run sentitivity of the consumer price level with respect to a one percent increase of import prices or wage costs for the two countries considered as set out in Table 2.

Table 2 Long run sensitivity of private consumption prices

	Import prices	Wage costs per unit
The Netherlands	0,42	0,58
Germany	0,22	0,78

Source: EUROMON, De Nederlandsche Bank (2000).

These numbers show that wage moderation has a stronger impact on the general price level in Germany than in the Netherlands. This means also that the real wages decrease less in Germany than in the Netherlands. For this very reason a policy of wage moderation seems to be less effective and it is this more modest real wage decrease that sees to it that the effects are less pronounced in a large economy like Germany.

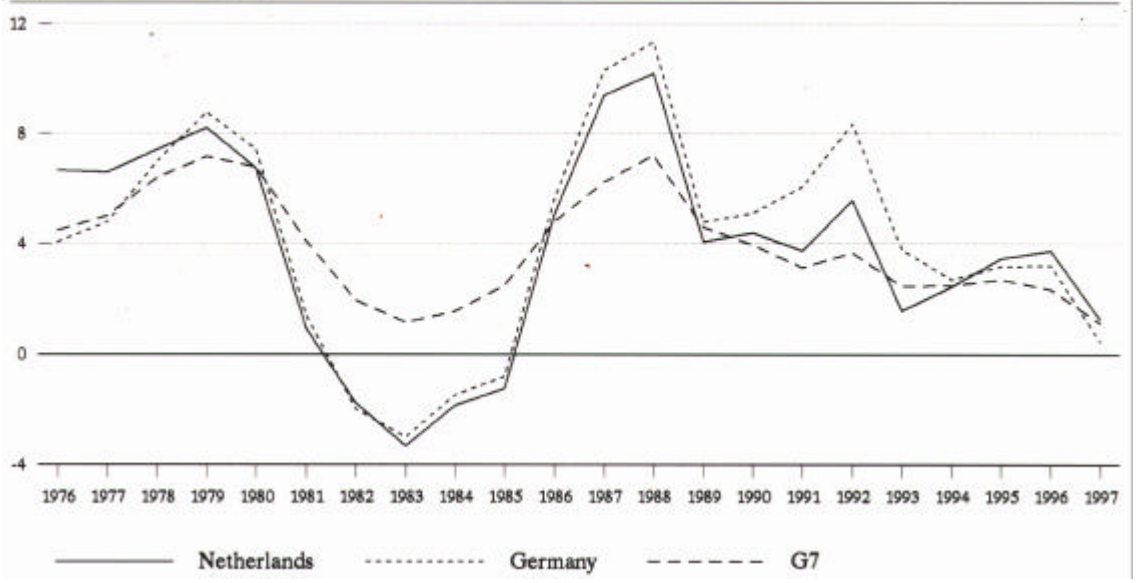
The larger decrease in the price level in Germany compared to the Netherlands is not due just to the larger wage cost sensitivity, but also to Germany's larger economic impact on the EU-15. When the German price level decreases, the other European countries see a decrease in a major component of their import price level. Thus the general price level in Europe decreases, resulting in higher real wages. This effect is much stronger for a wage decrease in Germany than in the Netherlands, simply because of the much larger nominal value of German exports compared to Dutch exports.

The increase in exports after Dutch wage moderation can be ascribed to a specific trait of the monetary policy in Germany and the Netherlands. It is the case that during the last few decades the Dutch guilder has been pegged to the German mark. To this end, the Dutch central bank has closely followed German interest rate policy. Germany being The Netherlands' most important trading partner, pegging currencies makes sound economic sense. As a consequence of this monetary policy, the implications of wage moderation for the Dutch price level were fully reflected on the price of exports to Germany, i.e in the price Germany paid for its imports from the Netherlands. If Germany were to practice wage moderation, as a consequence of the lower inflation rate it would bring about, the Deutsche mark would have appreciated vis-à-vis the currencies of its major trading partners, leading the price advantages not to be fully reflected in German export prices.

5 AN ALTERNATIVE ROUTE FOR MEASUREMENT OF PRODUCTIVITY

So far, the discussion on labour productivity in the Netherlands and other European countries has focussed on traditional statistical measurement. However, productivity measurement is difficult and we conjecture that at least the existing statistical data are weak and perhaps less reliable. Therefore we consider an alternative route of observing labour productivity by using the elasticity between labour productivity and GDP growth. This elasticity is approximately constant over long periods of time and estimated at 0.45 [see e.g. Fase and Winder (1999)]. The theory of this constant elasticity was posed by Verdoorn (1949) and has since been known as Verdoorn's law. Verdoorn found that the amount of labour input used rises less than GDP and thus that labour productivity rises with GDP. Seen in this way, Verdoorn's law simply indicates economies of scale in the macro production function of the entire economy. An important condition for Verdoorn's law to hold, however, is that the ratio between capital stock and production is constant in the long run. Moreover, statistical tests by e.g. Fase en Van den Heuvel (1988) suggest a two-way causality between growth and labour productivity increases. On the basis of these empirical findings we conjecture that observable economic growth mirrors unobservable but genuine labour productivity growth, which in econometric terminology is a latent variable. Using Verdoorn's law on the basis of a three year moving average growth for the Netherlands, Germany and the G7 we have calculated an average yearly productivity increase of 3.3% in the Dutch economy, of 3.8% in the German economy

Figure 4 Productivity increases according to Verdoorn's law



and of 3.7% in the G7 countries. The results over the years 1976-1998 are set out in Figure 4 and show considerable spread.

Clearly Dutch productivity growth conjectured according to Verdoorn's law is not lagging much behind German productivity growth and is overall only somewhat lower than average productivity growth in the G7 countries. Of course this is directly due to the fact that GDP growth in the Netherlands is comparable to that of Germany and lags behind the G7 average only slightly. However, the main conclusion of this inference from an economic regularity is that the statistically measured productivity growth in the Netherlands is perhaps biased downwards and the genuine productivity growth is likely to be more favourable. This finding contradicts the hypothesis that wage moderation in the Netherlands has resulted in lower growth of labour productivity.

An important question is whether this conclusion also holds if we take the perhaps biasedly measured productivity figure as a starting point. In table 3 the relevant OECD-figures are shown. These indicate that this conclusion still holds. The table also clearly indicates that productivity growth has speeded up over the last couple of years.

Table 3 Productivity growth per year in indicated period

	1976-1993	1994-2000
The Netherlands	1.2	1.4
Germany	1.2	1.5
G7	1.2	1.5

Source: OECD, Economic Outlook nr 67.

6 CONCLUSIONS

In the foregoing sections several theoretical and empirical arguments have been developed for a critical assessment of the implications of the policy of wage moderation for economic growth and innovation. Our first conclusion is that the statistics on R&D in the Netherlands ignore the fact that technological innovation is a global phenomenon. For a country with so many multinationals, expenditure on R&D as a percentage of GDP therefore does not have much meaning as an indicator for innovation. Thus it is difficult to infer that a policy of wage moderation in the Netherlands has thwartened technological innovation.

Our second conclusion is that it is difficult to generalize the implications of a policy of wage moderation, regardless of the size and degree of openness of a particular country. This finding is empirically supported by policy simulations with a multi-country macroeconomic model.

Our third conclusion is that the impact of wage policy on productivity growth cannot be ignored. On the other hand a sharp distinction should be made on the short run and long run implications. On the short run lower productivity creates jobs but in a small open economy also income because it enhances exports and domestic output. The latter, however, may induce demand-led technological innovations, which should be considered a positive implication of wage moderation.

Our fourth conclusion is that perhaps productivity growth in the Netherlands is like elsewhere and does not seem to be frustrated by Dutch wage policy since 1982. Perhaps myths should be replaced by facts or virtual reality.

REFERENCES

Coe, D.T., and E. Helpman, 1995, 'International R&D spillovers', *European Economic Review 39*, pp. 859-887.

Coe, D.T., E. Helpman, and A. Hoffmaister, 1997, 'North-South R&D spillovers', *Economic Journal 107*, pp. 134-149.

De Nederlandsche Bank, 2000, *EUROMON: the macro-econometric multi-country model of De Nederlandsche Bank for policy analyses within Europe*, Monetaire Monografieën (forthcoming).

Fagerberg, J. and B. Verspagen, 1998, *Productivity, R&D spillovers and trade*, working paper no. 98.2, Eindhoven Centre for Innovation Studies, Eindhoven University.

Fase, M.M.G. and P.J. van den Heuvel, 1988, 'Productivity and growth: Verdoorn's law revisited', *Economics Letters 28*, pp.125-139.

Fase, M.M.G. and C.C.A. Winder, 1999, 'Baumol's law and Verdoorn's regularity', *De Economist 147*, pp. 277-291.

Geroski, P.A., S. Machin, and J. van Reenen, 1993, 'The profitability of innovating firms', *Rand Journal of Economics 24*, pp. 198-211.

Hartog, H. den and H.S. Than, 1974, *Investeringen, lonen, prijzen en arbeidsplaatsen: een jaargangenmodel met vaste coëfficiënten voor Nederland*, CPB Occasional Paper nr. 2.

Hartog. H. den and H.S. Tjan, 1975, 'Investments, wages, prices and demand for labour', *De Economist 124*, pp. 32-55.

Hartog. H. den, Th.C.M.J. van de Klundert and H.S. Tjan, 1975, 'De structurele ontwikkeling van de werkgelegenheid in macro-economisch perspectief', in: *Werkloosheid: aard, omvang, structurele oorzaken en beleidsalternatieven*. Preadviezen voor de Vereniging voor de Staathuishoudkunde, pp. 49-110.

Kleinknecht, A., 1994, 'Heeft Nederland een Loongolf nodig?', *Tijdschrift Politieke Economie 17*, pp. 5-24.

Kleinknecht, A., 1998a, 'Is labour market flexibility harmful to innovation?', *Cambridge Journal of Economics 22*, pp. 387-396.

Kleinknecht, A., 1998b, 'Löhne rauf für den Fortschritt', *Die Zeit 47*, November 12, 1998.

Kleinknecht, A., 1998c, *Mythen in de polder*, inaugural lecture, Faculteit Techniek, Bestuur en Management, Technische Universiteit Delft.

Kleinknecht, A. and C.W.M. Naastepad, 14 July 2000, 'Subtopper in de "nieuwe economie"?', *Economisch Statistische Berichten 85*, pp. 576-578.

Krugman, P., 1994, *Peddling prosperity: economic sense and nonsense in the age of diminished expectations.*

Richardson, J.D., 2000, 'The WTO and market-supportive regulation: a way forward on new competition, technological and labor issues', *Federal Reserve Bank St. Louis Review 82*, 4, pp. 115-126.

Van der Wiel, H., 29 September 2000, 'Subtopper in de "nieuwe economie"?: een reactie', *Website Economisch Statistische Berichten* at www.economie.nl.