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Wage dispersion – Empirical developments, explanations, and reform options

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ABSTRACT

Market driven wage dispersion is a critical feature of income inequality. In this paper especially the Keynesian perspective on how to explain the global trends of rising wage dispersion is elaborated. Special attention is given to the policy implications derived from the analysis. Keynesian theory suggests that wage dispersion is a result of weaker trade union power, a lack of wage bargaining coordination and an erosion of labour market institutions after the begin of the market radical globalisation project in the 1970s/1980s. These developments are interrelated with the deregulation of financial markets, shareholder value corporate governance systems, extensive outsourcing and permanent deep economic shocks which are directly connected with the type of globalisation that developed during the last decades. Institutional changes to reduce wage dispersion and at the same time active demand management to guarantee high employment are recommended.

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1. INTRODUCTION

The "neoliberal revolution" (Harvey 2005: 29) in the 1970s and 1980s led to structural changes in the capitalist system. Among other things, national and international financial markets as well as labour markets were deregulated. One characteristic of this market development project over the last decades has been a change in income distribution. Wage shares dropped in almost all countries and in many of them, government redistribution policies became weaker, while wage dispersion increased in some. Changes on the dispersion of wages seem to be a key factor to explain changes in personal income distribution.

In most countries, wages account for more than 60 per cent of income. This means that marginal changes in wage dispersion can have disproportionate effects on the distribution of disposable income. The OECD calculated that between the mid-1980 and the mid-2000s over 70 per cent of changes in disposable income distribution in member countries is caused by increasing wage dispersion [1]. Capital income, as a driving force of inequality in disposable income of the working-age population, still is a relatively small contributor to inequality, but its relevance increased steadily (OECD 2011: 236-243)[2].

In this paper, only market-given wage dispersion is discussed. As the aim of this analysis lies on the theoretical side, the empirical overview on the development of wage dispersion given in section 2 is only a short sketch of the evolution and concentration on OECD countries. The proposed explanation for the behaviour of wage dispersion is given in section 3. Section 4 puts forward an interpretation of the historical development. Concluding remarks in the last section contain policy recommendations to reduce wage inequality.

2. DEVELOPMENT OF WAGE DISPERSION

In most OECD countries an increase on the dispersion of wages can be observed during the past decades. However, wage dispersion differs highly among member countries. Figure 1 shows the development from the 9th to the 1st decile (D9/D1) for selected countries from the 1970s until 2011 while average values for each decade are chosen. The ordinate in Figure 1 shows how many times the wage of the ten per cent highest wage earners were higher in comparison with the ten per cent lowest wage earners. Countries like Denmark, Italy, the Netherlands, Finland and Sweden show a relatively low level of wage dispersion with the top ten per cent earning around 2 to 2.5 times more than the ten per cent lowest wage earners.[3]

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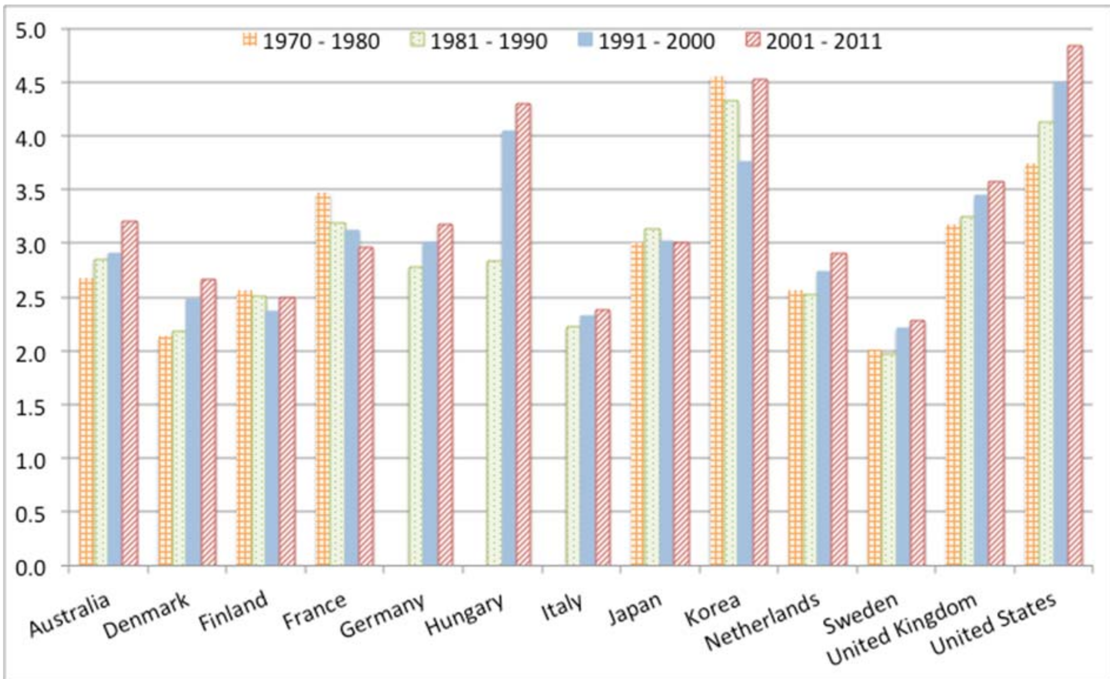
[1] OECD (2011: 240) includes in its analysis Australia, Canada, Finland, Germany, Israel, the Netherlands, Norway, Sweden, Switzerland, Great Britain, and the USA.
[2] According to the OECD 88 per cent of changes of disposable income distribution between the mid-1980s and mid-2000s is caused by changes in wages and changes in self-employment income. The remaining part is explained by changes in capital income (OECD 2011: 238).
[3] The calculations are based on full-time earnings.

Figure 1: D9/D1 decile ratios of wages in selected countries

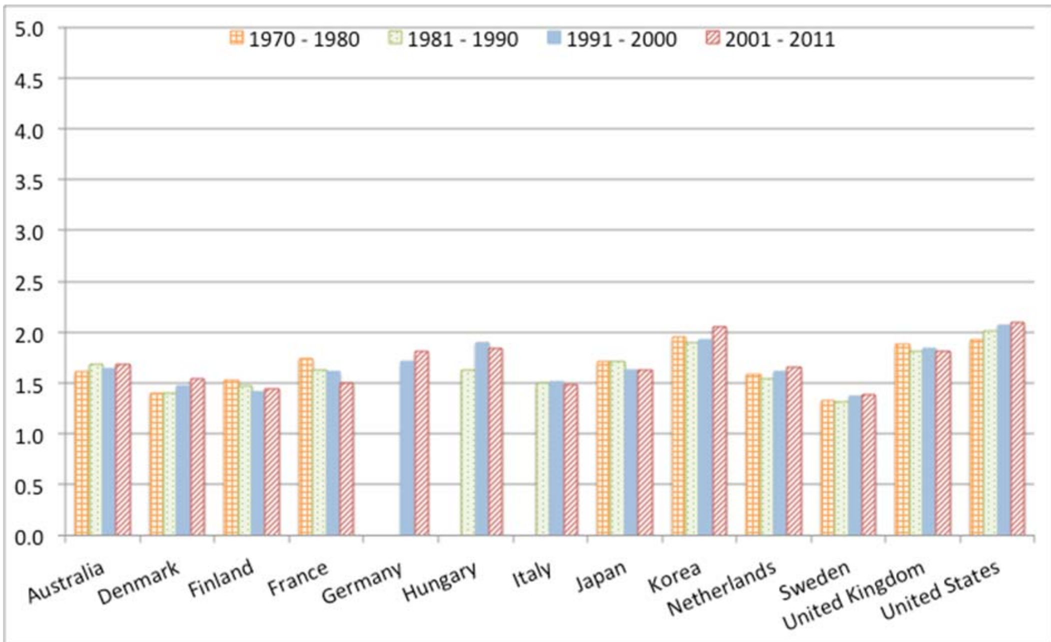


Note: The value for Germany 1981-1990 is taken from OECD (2004), p. 141.
Source: OECD Income Distribution Database (2013), author's own calculations.

However, in most of the countries in this group wage dispersion measured in D9/D1 increased. The outliers can be found in the USA, Hungary and South Korea where the top ten per cent earned around four times higher wages than the bottom ten per cent. France, Germany, United Kingdom (UK) and Australia hover around the middle. Except for a few countries like France and Japan, who faced declining wage dispersion, a distinctive overall upward trend of wage dispersion in most of the OECD countries can be observed.

Figure 2 shows data for 5th to the 1st decile (D5/D1) for selected countries. High values of D5 to D1 indicate a large sector with very low-wages. Within this indicator, the USA and South Korea have the highest values around two. The UK and Australia also have high D5 to D1 values, albeit smaller than of the US, however these did not change substantially over the decades. Sweden also increased its D5 to D1 values however minimally. In Japan and especially France, the lowest ten per cent gained in relation to the middle. In Japan, overall wage dispersion was almost stable over the decades whereas in France it substantially decreased.

Figure 2: D5/D1 decile ratios of wages in selected countries

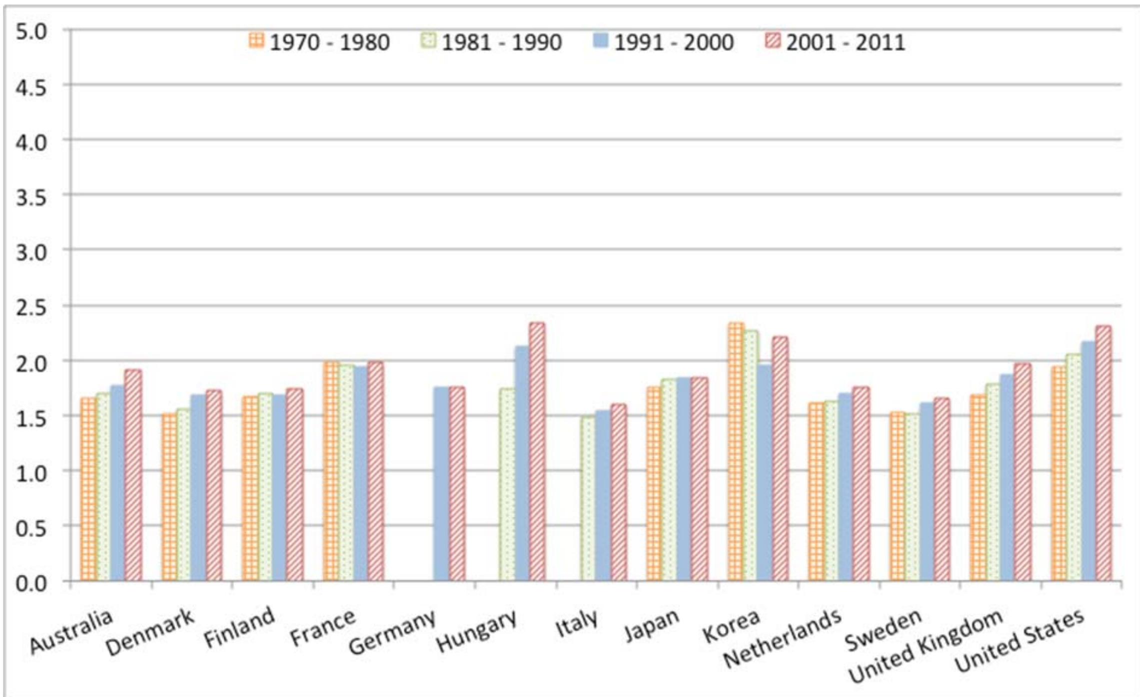


Source: OECD Income Distribution Database (2013), author's calculation.

From Figure 1 and Figure 2 it can be inferred that in many countries D9/D1 increases much faster than D5/D1. This suggests that, in the average OECD country the middle and lower wage earners lost in comparison to the top wage earners. Figure 3, which compares the top wage earners with middle wage earners, supports this. D5/D1 increased in most countries less than D9/D5. In the USA and South Korea, a strong polarisation in the wage structure developed with a both substantial low and high wage sectors, whereas the middle lost in relation to the higher wage earners (ILO 2012). Also, in the UK and Australia, sharp increases of the D9/D5 ratio can be seen since the 1970s. In these countries, the middle wage earners lost their relative wage position vis-à-vis top earners even more than in the USA. In these countries, the high wage dispersion at the bottom was stable but inequality exploded at the top. In Germany, D9/D5 did not change whereas D5/D1 increased sharply. This implies a "collapsing floor" in the German wage structure. Germany is one of the countries with a very fast development of a big low-wage sector (Rhein 2013).[4]

[4] For the year 2010 Rhein (2013) investigated that low wage earners in Germany particularly were part-time working women. Only Lithuania had a higher level of low wage workers than Germany with a low wage sector in 2010 of 27.1 per cent of total employment (low wages measured as wages below 2/3 of median wages). Denmark, Finland, Belgium, and Italy show the smallest sizes of around 10 per cent.

Figure 3: D9/D5 decile ratios of wages in selected countries



Source: OECD Income Distribution Database (2013), author's calculation.

Analysing the gender wage gap, which here is understood as the differential between gross hourly wages of men and women; women in the OECD earned 17.6 per cent less than the median wage of men in 2008. Korea, with over 35 per cent, sits atop the gender wage gap in member countries, followed by Japan and Germany. New Zealand and Belgium, both with less than 10 per cent, are at the bottom. In 2011 in the European Union (EU), women earned 16.2 per cent less than their male counterparts. Generally, the gender pay gap for part-time jobs, widely held by women, and older workers, is larger than for full-time jobs and younger workers (Eurostat 2013).

Summarising the empirical development, it appears there is a substantial difference in the analysed countries. In most OECD countries wage dispersion increased. In some countries, a low-wage sector as well as a larger sector with very high wages developed, while in some other countries, the lower part of the wage structure did not change much, but the sector with high wages exploded. However, there is also the case where wage dispersion was almost non-existent or even decreased. The OECD summarizes this as follows: "Overall, using available time-series data, wage dispersion increased in a majority (16 out of 23) of OECD countries over this period, at a 5% level of significance. Only two countries (France and Spain) registered a moderate and statistically significant decline in wage inequality, whereas no significant trend was estimated for the other five countries (Korea, Belgium, Finland, Japan and Ireland)." (OECD 2011: 88). In most countries "the distance between the highest 10% earners and those in the middle has been growing faster than the distance between the middle and the lowest wage earners" (OECD 2011: 86). At this point, it is clear that it is difficult to explain the different developments in the countries via objective factors such as technological development or globalisation, as all of these countries were exposed to similar "objective" tendencies.

3. THEORETICAL EXPLANATION OF WAGE DISPERSION AND EMPLOYMENT EFFECTS

3.1 The background

The nucleus of Keynesian thinking is found in the separation of a theory of allocation and the theory of the level of output and employment.[5] This is in sharp contrast to the neoclassical school of thought. In the neoclassical paradigm, the theory of allocation and the determination of output and employment are identical. Output and employment solely depend on supply side conditions. The free interaction of markets leads to a structure of relative prices including wages, which guarantees optimal allocation and – given the stock and distribution of resources – a maximum of output and full employment. In this approach, crises with unemployment simply do not exist. Furthermore, economies cannot suffer from a lack of demand as any supply creates its own demand.[6]

In the Keynesian paradigm, the level of production and employment depends on aggregate demand, which is made up of investment demand, consumption demand, government demand and exports minus imports (including services). Employment depends on the level of output and existing productivity. By definition, the percentage change of employment is given by the percentage change of output minus the percentage change of productivity.[7] Only in the exceptional case of full capacity utilisation additional demand cannot increase output.

The law of effective demand holds independent of an optimal allocation of resources. If aggregate demand is sufficiently high, even a distorted allocation cannot prevent high employment and economic development.[8] A good example

[5] When we speak about Keynesian thinking it should be clear that different Keynesian schools exist. Our argument is based on Keynes original work, especially Keynes (1930) and (1936) and the Post-Keynesian model which developed in this tradition. Fundamentally different is the Neoclassical Synthesis (the Keynesian model dominating economic thinking after World War II) and New-Keynesianism (which now is the dominant Keynesian school in mainstream thinking) (see Heine and Herr 2013 for an overview).
[6] This is the substance of Say's law.
[7] An increase of real GDP in a country by five per cent and an increase of productivity by three per cent increase employment by two per cent.
[8] "If the Treasury were to fill old bottles with banknotes, bury them at suitable depths in disused coalmines which are then filled up to the surface with town rubbish, and leave it to private enterprise on well-tried principles of laissez-faire to dig the notes up again (the right to do so being obtained, of course, by tendering for leases of the note-bearing territory), there need be no more unemployment and, with the help of the repercussions, the real income of the community, and its capital wealth also, would probably become a good deal greater than it actually is. It would, indeed, be more sensible to build houses and

for the Keynesian argument is the development of China during the last three decades: While there have been a number of distortions on the relative prices and inefficiencies on the microeconomic level, but dynamic growth, driven mainly by credit-financed high investment, together with export demand, could not prevent high real GDP growth in China (Herr 2010).[9]

The nominal wage level is the most important factor to determine the price level (Keynes 1930). When the wage costs increase for all companies in an industry, firms will be able to immediately increase prices independent of the demand situation. It is of no relevance, for example, whether the oil price goes up, the value-added tax increases or if the nominal wage level increases in an industry: firms will increase prices. In all these cases competition does not prevent price increases as all firms are affected in the same way. International competition can complicate the scenario and may, in certain conditions, prevent the roll-over of higher costs, however this does not change the fundamental argument. Unions only can negotiate nominal wages, but no real wages. Keynes (1936: 12 f.), when arguing against the neoclassical recommendations to cut wages to increase employment, was very clear about this: "In assuming that the wage bargain determines the real wage the classical school have slipt in an illicit assumption. {…} There may exist no expedient by which labour as a whole can reduce its real wage to a given figure by making revised money bargains with the entrepreneurs." Keynes showed that falling nominal wages lead to deflation. In recent times Japan is a good example of this.[10]

The Keynesian approach has some unpleasant consequences for unions. Firstly, in almost all economic constellations, workers as a class cannot change the level of real wages by changing the nominal wage level. However, unions are of key importance to establish a nominal wage anchor to prevent deflationary and inflationary developments. Secondly, in almost all economic constellations, workers cannot change the functional income distribution. Functional income distribution is difficult for unions to change as the profit mark-up is given by the financial system and rent seeking polices of firms. To reduce the power of the financial system financialisation has to be turned back and rent seeking by companies has to be reduced. To achieve this, first of all government policies are needed. Unions can play an important role to push for such policies. And of course, unions can play a key role to regulate working conditions and influence wage dispersion.

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the like; but if there are political and practical difficulties in the way of this, the above would be better than nothing." (Keynes 1936: 129)

[9] A passion in economic policy to concentrate on optimal allocation leads a government in the wrong direction. Schumpeter and Marx both argued that the process of capitalist development is a process of permanent creative destruction disturbing optimal allocation. Economic dynamic is created by sufficient aggregate demand and entrepreneurship whereas entrepreneurship must be understood in a very broad sense including policy makers, managers in state institutions and union leaders (Schumpeter 1942).

[10] See the case study in Herr and Kazandziska (2011a).

3.2 Explanation of wage dispersion

The wage bargaining system as a whole is of primordial importance to determine the wage structure. Keynes believed that the relative power of different fractions of the working class is of key importance for wage dispersion. "In other words, the struggle about money-wages primarily affects the distribution of the aggregate real wage between different labour-groups, and not its average amount per unit of employment, which depends {…} on a different set of forces. The effect of combination on the part of a group of workers is to protect their relative real wage. The general level of real wages depends on the other forces of the economic system." Keynes (1936: 14)

If a segment of labour force organised in unions is able to push for relatively high wages, while other unorganised segments cannot increase theirs, wage dispersion most likely is high. Unions organised in specific sectors may act as pressure groups and push up relative wages for their members. A collection of dimensions of the wage bargaining system influences the wage structure: The level of negotiations (firm level, sectoral level, national level), the degree of coordination of the wage bargaining process, extension mechanisms, etc. If the union movement in a country as well as employers' associations are weak, and there is no support from government to extent outcomes of negotiations, firm level negotiations would dominate in segments of the economy; whereas large parts of workers would not be covered by collective bargaining. In such a constellation, wage dispersion is expected to be high. Strong unions and universal extension mechanisms, on the other hand, lead to low wage dispersion. The same can be expected by high statutory minimum wages if they are able to compress the wage structure from below.

Wage dispersion is a key factor to determine relative prices[11] and the structure of production and consumption. Let us make an example: assuming that an increase of statutory minimum wages or wage bargaining compresses the wage structure from below, the following results could be expected. Sequentially, in a first-round effect, all labour intensive productions will increase relatively in price and a new structure of relative prices will be created. It thus becomes more costly to employ domestic workers in low skill positions, like hairdressing or the food industry, as in these industries low wages play a role. There will also be a one-time small increase in the price level (when we assume that the general wage level will not decrease). The living standard of the middle class, including skilled workers will be slightly negatively affected by the increase of wages in the low-wage sector, whereas the living standard of the workers earning low wages will increase. This was the aim. Also, a reduction of the gender pay gap can be expected as in general, more women are working in the low-wage sectors.

[11] For example the price of a car in relation to services like care for elderly.

So far only the first-round effects of increasing low wages were discussed. But as these are sequential outcomes, there are second-round effects to analyse. To illustrate, let us assume low-paid workers are important in the computer chip production. Thus, costs and prices in the chips industry go up. Chips are used as an input in many industries however to a different extent. Therefore, different industries are affected unequally by increasing chip prices and will change prices accordingly. Outputs from these industries are again inputs of other industries including the chip production. The price of chip production changes subsequently and again affects a collection of other industries. The system of relative prices is swirled around until a new equilibrium structure is found. The changes may become even more complicated as firms confronted by a different set of relative prices may change to a more labour or more capital-intensive production technique. In the end, it is not possible to know what kind of price structure including consumption and production structure will result.

Relative prices and the structure of consumption and production depend not only on wage dispersion but on a universe of factors that simultaneously affect these variables including available technologies, preferences of households, functional income distribution, the integration of a country into the world market and government policies via taxes and subsidies.

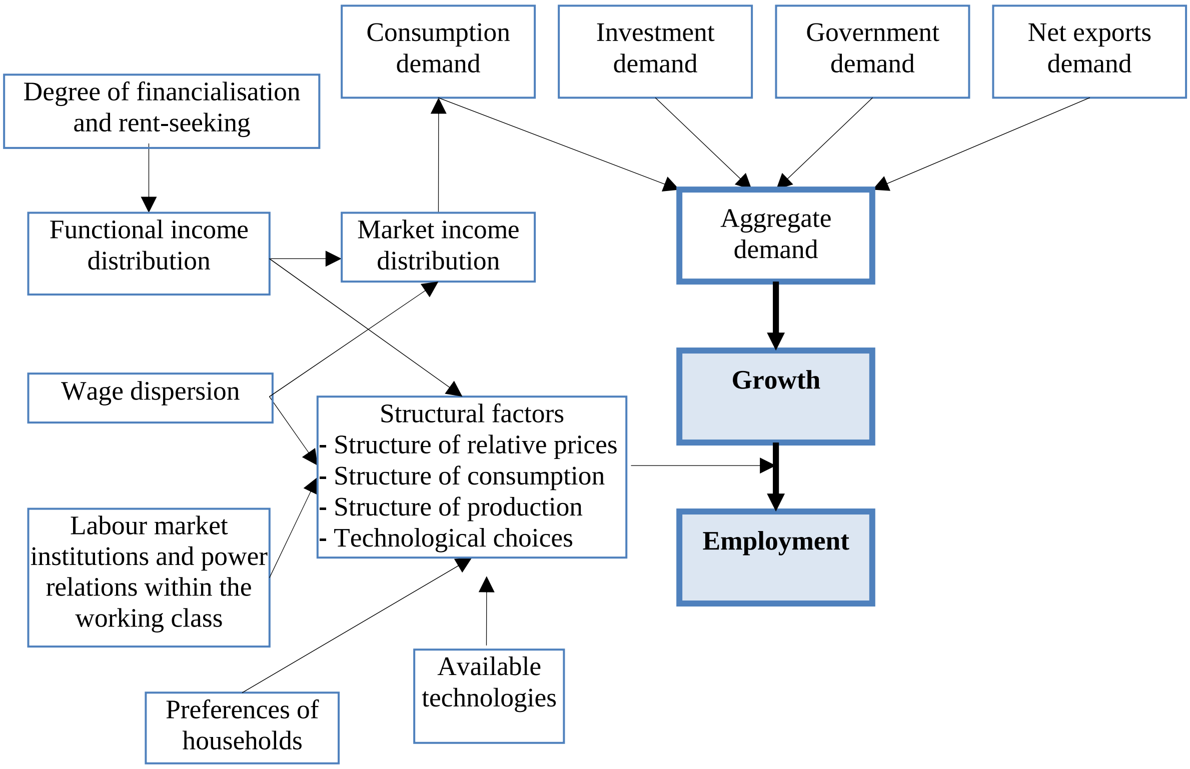
To sum this point: Labour market institutions including wage bargaining institutions, statutory minimum wages and other government policies are important factors to explain wage dispersion. Of course, market forces can create scarcities in some segments of the labour market and more than average unemployment in others. This was always the case and is part of structural change and economic development. But how this is reflected in relative wage developments depends on institutional factors, the relative power of the different groups in the labour market and government policies (for example, supporting social mobility) and not on objective factors like (marginal) productivities[12]. Skilled workers usually earn more than unskilled workers, but this foremost reflects conventions. There is no possibility to objectively determine that a skilled worker should earn 1.3 or 4 times the wage of an unskilled worker. In many cases, unskilled workers earn more than skilled workers. For example, staff nurses in Germany earn less than drivers of pallet transporters. As well, the gender wage gap can be found in conventions and not in objective factors. Additionally, wage dispersion is concerned with the understanding of social justice and fairness. Today, high wages of athletes or managers in the financial system and elsewhere earning much more than leaders of governments in former times would have been judged as extremely immoral. The neoclassical model tries to explain wage dispersion by defining specific marginal productivities of workers. We think this approach must fail as marginal productivities cannot be measured in any meaningful sense.

[12] For such an argument see also Levy and Temin (2010).

3.3 Wage dispersion and employment

The independence of allocation, level of production, and employment suggests that there is no clear-cut relationship between wage dispersion, GDP growth and employment. There can be countries with both low and high wage dispersion experiencing high GDP growth and high employment; there can be countries with high and low wage dispersion suffering low GDP growth and low employment. This theoretical openness should be of no surprise as wage dispersion is only one element to explain the structure of prices and the overall economic constellation of a country, which also depends on aggregate demand. However, high wage dispersion, as one of the most important factors for personal income distribution, can become an obstacle for prosperous economic development or even prevent it. Too high personal income inequality and thus too high wage dispersion as a key factor to determine personal income inequality and potentially leads to a lack of consumption demand. Consumption demand is the biggest demand element in all countries in the world (usually around two third of total demand). Consumption demand, among other factors, depends on income distribution. An unequal income distribution sooner or later will lead to a lack of aggregate demand as consumption demand becomes insufficient. Higher income groups without doubt consume more than lower income groups (in absolute terms), but higher income groups have a lower propensity to consume out of income than lower income groups. This well-known Keynesian argument (Keynes 1936, Book III) implies that a more equal income distribution increases aggregate demand and in this way output and employment. Figure 4 summarises the Keynesian approach. The key argument is that aggregate demand determines output and employment whereas structural factors of different kind influence the relationship between aggregate demand and output and employment. Government tax, expenditure and transfers also influence relative prices and the structure and volume of demand. However, this lies beyond the scope of this paper.

Figure 4: The structure of wages, prices, output, and employment in the Keynesian paradigm



Credit-driven consumption demand may help overcome the negative demand effect of an unequal income distribution, or the stimulation of export surpluses or government demand can increase demand. However, credit-driven consumption expansions are not sustainable, export oriented demand strategies lead to international imbalances, fiscal expansion also has limitations and in the long run is not a preferred substitute for a lack of consumption demand. Investment demand is in need of other demand elements; otherwise excess capacities will be created which, in the end, will lead to a stagnation of investment demand. High inequality very likely prevents sustainable economic development as it creates a structural lack of demand. For unions and politicians this is good news: Wage dispersion can be changed radically without negative employment effects. To compress the wage structure in a situation of high inequality cannot only lead to a more equal society; it is also part of an economic regime with sufficient aggregate demand and economic dynamic.[13]

[13] For an overall reform option see Dullien et al. (2011).

4. INTERPRETATION OF THE DEVELOPMENTS SINCE THE 1970S

4.1 Uncontrolled Globalisation

Economic globalisation has two dimensions, which are important here: First, it increases a commonly unregulated international trade, and second, it pushes for a deregulation of international capital flows.

International trade

World trade (exports plus imports of goods and services) in per cent of world GDP, increased from around 24 per cent at the end of the 1960s to over 50 per cent at the early 2010s (Trading Economics 2013). This shows that trade links in the world became much closer.[14] In addition, new strong players substantially changed the pattern of the international distribution of labour. China and India and other Asian countries integrated quickly into the world market. The same happened with the countries in former times belonging to the block of the Soviet Union. This is also true for Latin America and even more recently some African countries have increasingly integrated into the world market. The development was pushed both by a neoclassical agenda, and the World Trade Organisation (WTO,) in an ideological way, which only argued for the positive effects of free trade.

There is a tendency of low-tech industries, like textile or shoe production, to move to developing countries while jobs in these industries disappear in developed countries. Based on this observation in respect to wage dispersion, the usual argument is the following: unskilled jobs were transferred from the developed world to the countries of the South whereas developed countries concentrated more on high-tech production, which needs skilled labour and experts. The consequence, as per the argument, is a decrease of demand for unskilled labour in developed countries and at the same time an increase of the demand for skilled labour and experts. As a result, wages of unskilled workers in developed countries drop and wages for skilled workers and experts increase. In developing countries the opposite effects can be expected. It cannot be disregarded that in deregulated labour markets such processes can develop.[15] However, this type of globalisation does not fit with empirical evidence. In almost no developing country a positive effect on wages of low-skilled workers can be found. Also in many developed countries, such as the USA, the middle group of workers, the semi-skilled, had to accept a relative decline in wages. Also

[14] However, trade shares in some countries did not increase significantly (USA, Germany, Italy, France, Sweden) or even has not reached the level before World War I (United Kingdom, Japan, Australia, Denmark) (Feenstra 1998).
[15] See for example Schettkat (2006). The neoclassical model argues in this way.

empirically, it was found that international trade does not play an important direct role for changing wage dispersion. One possible explanation is that trade between developed and developing countries is not big enough to really change wage dispersion in a relevant way.[16] However, there is also a theoretical argument. The structure of wages, which is given by institutional factors, influences the structure of international trade as much as the structure of international trade influences wage dispersion. If labour market institutions do not allow decreasing wages in the low-wage sector an international distribution of labour will result which reflects this wage structure.

Classical trade theory in the spirit of Ricardo assumes trade in different products, as in the traditional example of Portuguese wine and English cloth, and these goods are traded among those nations that produced them. Nevertheless, this type of international trade is not the only one. Trade *within* one industry is also important. To illustrate, the following example shows the potential development of cotton processing in a multinational environment: Country A produces the cotton, in another one (country B) the process of being spun is undertaken, while in country C it is tailored into the garments using designs or machinery that originate from country D, etc. Accelerating imports of intermediate goods represent the dominating international trade pattern (Feenstra and Hanson 2001).

There is a group of economic models capturing such processes (see especially Feenstra and Hanson 1996). In these models production within one industry is separated in different tasks. Certain tasks then can be fulfilled in different countries and inputs can be bought abroad. For example, firms in developed countries can buy low-tech intermediate goods. Also, the service to develop a marketing concept or architectural services can be bought from a foreign country. A specific type of intra-industry trade is export processing. In such a case, an intermediate product is exported to a foreign country (probably in an export zone), then some value adding takes place, and then the product is imported back.

Mainly, for developed and developing countries, international trade in goods and services and also tasks is welfare increasing and does not necessarily change wage dispersion. However, there is one difference between developed and developing countries. Developing countries have difficulties to develop high-tech industries, which are important for development as the logic of markets pushes them towards an international distribution of labour concentrating low-tech and labour intensive production in them. For successful development in the tradition of Friedrich List, active support and protection of domestic industries, which are important to develop the productive forces in a country, is needed.[17] Finally, if

[16] See for example Feenstra and Hanson (2001), Slaughter (2000) and Krugman (1994a).
[17] The theoretical argument is that for certain investments social return is much higher than private return. Investment in a new industry, for example, is too risky and too big and too long-term oriented for private capital. For a debate about selective protection and economic development see Chang (2003), Stiglitz (2006) and Herr and Priewe (2006).

working conditions in developing countries are bad and ecological harmful productions are carried out in these countries; firms in developed countries will exploit these conditions and will buy these products relatively cheaply.

It is a common belief that the national wage level and the national wage structure are important for the competiveness of a country[18]. One can delve about the competitiveness of a firm or the international competitiveness of an industry. But what is the international competitiveness of a country? Krugman (1994a: 41) suggests international competiveness of a country is a “meaningless concept”. In fact, all countries are “competitive” if the right exchange rate can be chosen. We know, since David Ricardo, that without net capital flows the current account of a country must be balanced and the structure of relative prices determines the comparative cost advantages between countries whereas the latter determine the structure of trade. Thus a certain wage structure leads to a certain structure of prices and a certain structure of international trade. And even the complete absence of a low-wage sector or the most luxury welfare state is compatible with a balanced current account.[19]

Problematic for all economies are quick and deep changes in the international distribution of labour, which must be considered as shocks for some industries, but not for all. Firstly, industries can lose international competitiveness “overnight” when exchange rates move quickly. For example, the extreme increase of the external value of the US Dollar from the late 1970s until the mid-1980s destroyed the competitiveness of a number of US industries. In such industries firms struggle for their survival and push for lower wage increase or wage cuts. It is not very likely that unions in these industries will push for the same wage increases as unions; for example, in the public sector or in industries, which are not affected by the world market. A completely different scenario arises when an industry slowly disappears and workers and capital slowly moves to other industries and the government probably supports the structural change via

[18] Countries with an own exchange rate are assumed. For regions in a currency union different economic processes apply. Thus, for example, the following analysis cannot be applied for the European Monetary Union.

[19] Let us illustrate the argument assuming no international capital flows and flexible exchange rates. We also assume that the USA produces shoes for the home market, but China now enters the market and offers much cheaper shoes (measured in US Dollar). The US American shoe market looses competitiveness and Americans will buy shoes in China. Assuming no capital flows, the only ways US Americans can get Renminbi to buy the Chinese shows is either Chinese buying more products from the US or the US buying less other goods from China. Indeed, higher demand for the Renminbi because of cheaper Chinese shows leads to depreciation of the US dollar respectively an appreciation of the Renminbi. Chinese now start to buy more US goods, lets say clothes, or the US buys less Chinese goods, lets say cameras. Now more clothes from the US are exchanged for shoes from China and/or US Americans buy less Chinese cameras. During this process it is not possible to say that the US as a country lost competitiveness. What if the USA now increases minimum wages in such a radical way that the low-wage sector disappears? Certain US American goods would become more expensive due to the wage increases. Demand for US dollars decreases, the dollar depreciates, and as a result demand for certain US American goods will rise. The US American current account will still be balanced. The same would happen if a luxurious welfare state would be introduced.

subsidies and mobility support. A good example for such a scenario is the fading out of coal production in Germany in the 1950s and 1960s. Secondly, world market crises can draw export dependent industries in deep crises. The Great Recession for example, via a reduction of world exports in many countries led to a deep crisis of export industries.

To sum up the argument: International trade per se does not increase wage dispersion, but international trade that develops quickly and that is characterised through many shocks because of exchange rate instability and/or crisis of the world market does. As a matter of fact, the economic development after the deregulation in the 1970s and 1980s is characterized by huge current account imbalances, currency turbulences and worldwide crises. Flexible exchange rates between the key currency blocks and unregulated international capital flows turned the international monetary system to a shock machine with volatile exchange rate movements. The resulting shocks for firms and industries increased the pressure for more wage flexibility and flexibility in general. Permanent world market shocks make a coordinated nationwide wage development very difficult. They must be seen as one of the important factor for increasing wage dispersion.

International capital flows

The deregulation of international capital flows is one of the cornerstones of the project of radical globalisation. Capital flows exploded much more than international trade. The stock of global foreign investment assets increased from 10 trillion US dollar in 1990 to 96 trillion in 2010. In comparison, the nominal US GDP in 2010 was around 14.66 trillion US dollar. This shows the extremely fast increase of international capital flows and the resulting stocks of international assets over the last 15 years. Thus, the 1990s showed a new quality of international capital flows. From the 96 trillion 31 trillion were non-securitised loans, 21 trillion debt securities, 14 trillion equity securities, 21 trillion foreign direct investment and 9 trillion official international reserves (Roxburgh et al. 2011: 31).

International capital flows are very volatile and create, via exchange rate movements and current account imbalances, which typically in currency crises quickly adjust, huge shocks for international trade. What is more important for the debate about wage dispersion is that international capital flows can be used as “threat factor” by management to demand wage concessions. The key mechanism is offshoring. Offshoring of certain tasks in the production chain or even the whole production can take different forms (Feenstra and Hansen 1996). It can mean buying an input or task in the international goods market or to use export processing models (production is taken over by an independent foreign firm probably only working for the offshoring company). In the most comprehensive type of offshoring tasks or whole productions are shifted to a joint venture or a subsidiary abroad. In the latter case foreign direct investment plays a role, which exploded over the last 15 years. Blinder (2006) suggests offshoring as the next industrial revolution. Offshoring gives management a very powerful tool to threaten their employees and trade unions. There is a fundamental asymmetry. Management of big, and increasingly of medium-sized companies can go global and can optimise its value chain all over the world whereas unions in almost all cases are organised on a national level and usually do not have the possibility to act on an international level.[20] In many cases unions in different countries even compete against each other and are not able to respond to the strategies of multinational companies. There is the added danger that offshoring leads to an international "race to the bottom", as Stiglitz (2012: 58 ff.) denotes; this means that, as in all countries the threat of offshoring leads to low wage increases and the erosion of working conditions And, as employees and unions in different companies can be threatened by management in different degrees depending on the industry and the possibilities of offshoring, then it becomes very likely that wage dispersion increases and a coherent wage development in a country breaks down.

Permanent shocks from international trade combined with offshoring practices changed the world fundamentally during the last 30 years. A large proportion of firms and unions are exposed to almost permanent shocks from the world market. Flexibility even for wages became an important element of management strategies. Higher wage dispersion is the result. International capital flows and especially foreign direct investment and offshoring strengthened capital and weakened unions. In many cases trade unions act on a national level and cannot fight any longer with capital on the same level as capital acts internationally. Weaker unions have to accept higher wage dispersion.

4.2 Shareholder value corporate governance systems

A major mechanism of financial power and its inherent "logic" to the corporate sector is the shareholder-value approach, which was developed in the 1980s. Due to financial deregulation beginning in the 1970s after the breakdown of the Bretton Woods system, institutional investors such as pension funds or life insurance firms strengthened. This can be seen as the first step to a shareholder-value bias (Lazonick and O'Sullivan 2000).[21] Berger et al. (1995: 59) ascertain "five areas {of increasing power of financial intermediaries}: expansion of bank powers, reduction in reserve requirements, formalization and tightening of capital requirements, deregulation of deposit accounts, and the liberalization of the rules and policies regarding geographic diversification." However, there was another movement working simultaneously. Agency theorists detected a "problem of risk sharing" (Dünhaupt 2011a: 4). A new approach of corporate governance, one where shareholders should be in charge and discipline managers, developed by

[20] Econometric analyses cannot capture this dimension of globalisation, as these results show that globalisation only has a small effect on wage dispersion has to be read with caution.
[21] Financialisation began in the USA, other countries followed. Germany, for example introduced deregulatory policies like tax reliefs for wealthy and private equity funds as well as „subsidies for private old age pension schemes (*Riester Rente*)" since the early 1990s (Dünhaupt 2011b: 6).

Lazonick and O'Sullivan (2000). Pioneers for the new corporate governance philosophy were Jack Welch, CEO of General Electric, and Alfred Rappaport (1999). Corporate management frameworks based on shareholder-value logic are supposed to provide an above-average return on shareholders' investments. Compensation schemes in this high-wage sector were based on the ideology, that money is the best motivator to bring about social returns as well (Stiglitz 2012). In order to create an optimum incentive structure, the management is rewarded in part by share options and bonus payments based on profits. The shareholder-value system substituted the stakeholder corporate governance system. In the former system, management searched for a compromise between the different stakeholders in a company, especially the unions, the owners, the creditors and the local community. Management was controlled by all stakeholders and could not increase salaries beyond the normal increase of incomes. Such a system did not only exist in corporatist Continental European countries, but also in countries like the United States (see Galbraith 1967).

The shareholder-value approach has led to a system where management only has to follow the interests of the owners, the shareholders. While in the latter, the new finance driven system was a declaration of war against unions as it includes a short-term oriented strategy to maximise profits with all means possible, a more risky management strategy, higher dividend payments and a lower equity base by companies, and a suffering of long-term oriented investment and job creation (see Hein 2012).[22]

The shareholder-value system led to higher wage dispersion. On one hand it led to disproportionately high salaries for top management and substantial increases of salaries for the middle management. It pulled up wages of all types of experts, especially in the financial system. On the other hand management used all strategies available to reduce wages for skilled and unskilled workers including offshoring and pushing for precarious jobs as flexibility buffers.

[22] Even Rappaport (2005), criticised the short-sightedness of management strategy and pointed out that he did not recommend to link bonus payments to the general share price development but only to a more than average increase of share prices.

4.3 Union density, extension mechanisms and wage coordination

In this part we first discuss union density, then the level of wage bargaining and wage coordination, and then the role of extension mechanisms. Finally a short overview about different wage bargaining systems will be given.

Union density

Weaker unions lead to higher wage dispersion. The reason for this is that unions almost always introduce an element of solidarity into wage bargaining processes while trying to prevent a sector with wages as outliers at both ends of the spectrum. As a matter of fact, in empirical analyses there is a great consensus that higher union density is correlated with relatively low wage dispersion.[23]

The figures in Table 1 view wage earners who are organised in trade unions as a share of the total number of wage earners in the selected countries. In the latest year where data is available there are countries with very high union density (Denmark, Finland, Norway, Sweden) and countries with very low union density (Australia, France, Mexico, the Netherlands, the US). In the selected data, only Italy managed to have increasing rates of union density since 2007/2008. Overall union density declined steadily in European countries from 55 to 39.6 per cent and in OECD countries from 32.7 to 17.5 per cent, the latter being significantly lower than the European average. Scandinavian countries compensate for the low union density in the rest of Europe. Countries loosing more than half of their union density since 1980 are Australia, France, South Korea, New Zealand, Portugal, Turkey, the United Kingdom, and the United States.

[23] See from the many studies the seminal work by Freeman (1980); Bound and Johnson 1992; DiNardo et al. 1996; Gordon and Slemrod 1998; Lee 1999; Card et al. 2003; Saez 2004; Autor et al. 2005; Burniaux et al. (2006) and Koeniger et al. (2007). For an overview see Kierzenkowski and Koske (2012).

Table 1: Union density in selected OECD countries

	1980	1985	1990	1995	2000	2005	2010	2011
Australia	48.48	45.46	39.55	32.12	24.49	21.91	17.99	17.99
Austria	56.72	51.60	46.93	41.06	36.64	33.33	28.12	-
Canada	35.31	36.67	35.53	35.70	30.21	29.88	29.50	28.84
Denmark	78.61	78.16	75.34	76.96	74.25	71.70	-	-
Finland	69.39	69.08	72.55	80.44	74.97	72.43	69.96	-
France	18.28	13.61	9.99	8.83	8.02	7.70	-	-
Germany	34.90	34.67	31.22	29.22	24.57	21.68	18.49	-
Italy	49.58	42.49	38.81	38.07	34.80	33.59	35.14	-
Japan	31.15	28.79	25.37	23.97	21.54	18.80	18.40	19.00
South Korea	14.67	12.39	17.23	12.52	11.43	9.92	9.68	-
Mexico	-	-	-	13.68	13.69	15.06	12.97	13.24
Netherlands	34.78	27.72	24.57	25.95	22.93	20.56	18.63	18.16
New Zealand	69.12	55.98	49.66	27.20	22.35	20.85	20.78	20.82
Norway	58.34	57.49	58.53	57.33	54.39	54.89	54.81	54.60
Portugal	54.83	44.61	27.97	25.36	21.65	21.25	19.34	-
Spain	-	10.23	12.54	16.33	16.74	15.22	-	-
Sweden	77.96	81.29	79.42	83.11	79.11	76.03	68.37	67.65
Switzerland	27.65	24.94	22.66	22.67	20.62	19.31	-	-
Turkey	-	-	19.19	13.39	9.94	8.17	5.85	-
United Kingdom	49.74	44.26	38.18	33.11	30.18	28.43	26.50	25.84
United States	22.06	17.45	15.45	14.32	12.91	11.96	11.38	11.33
EU average*	55.03	51.37	48.72	49.50	46.22	44.43	42.65	39.64
OECD countries	32.76	28.71	25.72	23.37	20.24	18.66	17.47	17.48

Note: Figures are adjusted for self-employed and non-active trade union members.
EU average covers Austria, France, Germany, Italy, Netherlands, Portugal, Spain, Switzerland, and Turkey.
Source: OECD Income Distribution Database (2013).

Union density decreased as market deregulation policies in the labour market created a hostile legal and ideological environment for unions. In OECD countries industries with traditionally high union density – mining, metal industry, state-owned enterprises etc. – lost importance in relation to industries with traditionally low union density – like the service sector. Firms outsourced productions increasingly to union free companies. Finally the sector with precarious jobs increased. Women dominate the low-wage sector, as they are more likely to have part-time jobs. This group of workers is even more difficult to organise (OECD 2012b).

Level of wage bargaining and wage coordination

One dimension of the wage bargaining process is the level where wage negotiations take place. Calmfors and Driffill (1988) in their seminal article pointed out a hump-shaped relationship between the level of wage bargaining and wage increases. They argued that a high degree of centralisation or decentralisation lead to moderate wage development whereas negotiations in the middle lead to higher wages increases. A tendency to higher wage increases would result in higher unemployment. Firm unions negotiating on the firm level take into account the well-being of their firms. At the other extreme, unions negotiating on a macroeconomic level understand the negative effects of high wage increases for employment and therefore, do not increase wages substantially. Unions negotiating wages on a middle level, or in a worst-case scenario, unions organising only one profession and negotiating on sectoral level, lack the microeconomic and the macroeconomic incentive for wage constraints. International institutions support the Calmfors-Driffill approach, but clearly favour firm based wage negotiations (see for example OECD 2004). At least between the mid-1990s and mid-2000s in OECD countries, with the exception of Eastern Europe, no relevant change in the dominant level of wage bargaining over time could be observed (Caju et al. 2008: 10). For different reasons the Calmfors-Driffill argument is questionable.[24]

First, firm based wage negotiations lead to higher wage dispersion within the industry and society. They tend to take into account only firm based productivity developments and firm based profitability so that "good" firms pay higher wages while "bad" firms pay lower wages. Lower wages in one company compared to other firms within the same industry may reduce the motivation of workers and reduce their effort to work efficiently. Firm based wage bargaining thus increases inequality and the wage struggle.

Second, firm level wage negotiations do not automatically lead to a functional macroeconomic wage development. A perverse microeconomic coordination towards higher or lower wages can take place (Soskice 1990). From a macroeconomic point of view the nominal wage level should increase in relation to trend productivity development of the total economy[25] plus the target inflation rate of the central bank.[26] In Japan, for example, after a longer period of

[24] The Calmfors-Driffill hypothesis is difficult to back up empirically. Driffill (2005) for example finds that Belgium, Norway, and Finland account for high unemployment and high levels of coordination. The hypothesis additionally is challenged by studies stating that an intermediate level of coordination may have positive employment effects (Caju 2008: 18).

[25] If productivity increases are difficult to measure real GDP growth can be taken as indicator for productivity development.

[26] If the wage level follows this norm nominal unit-labour costs increase according to the desired inflation rate. Then nominal wages become a nominal anchor for the desired (low) inflation rate and deflationary and inflationary processes are prevented – at least the ones

low GDP growth the nominal unit-labour costs started to fall as firm unions accepted or even supported nominal wage cuts to outcompete other firms. If all firms follow such a strategy the outcome is deflation (Herr and Kazandziska 2010).

Third, Soskice (1990) points out that negotiations at the firm level are not a good indicator for a certain wage development. A more important issue is whether there is a *coordinated* wage bargaining process or not. In case of national negotiations there is almost always a coordinated wage bargaining process guaranteed.[27] However, also sector level negotiations can be highly coordinated. For example, sectoral unions can informally coordinate their wage demands, pattern bargaining can lead to wage coordination when one sector in the economy takes lead in the wage round and all other sectors more or less follow the outcome of wage bargaining in the leading sector; in countries with weak unions statutory minimum wages can lead to wage coordination; even firm based negotiations can lead to a certain macroeconomic coordination if the wage round starts in some big firms and this gives a signal for the whole wage round.

A coordinated wage bargaining process is of key importance not only for a functional macroeconomic wage development but also for the prevention of unacceptable wage dispersion.[28] Vertical coordination in one industry is important to overcome the shortcomings of firm based negotiations. However, what is also required is a horizontal coordination among different sectors. In case of only vertical coordination there is the tendency that sectoral productivity is taken as one of the yardsticks for sectoral wage development. Then, in industries with high productivity gains wages go up, but in industries with no or low productivity – for example in some parts of the service sector – wages remain low. Or wages in one sector with high profits, say the gold mining sector, pays very high wages whereas other sectors pay very low wages. If horizontal coordination does not exist, large wage differentials between the wages in different industries must be expected.[29]

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which are based on nominal wage development. For a debate of this point see Keynes 1930, Herr 2009, Herr and Kazandziska 2011a, Herr and Horn 2012.

[27] Blau and Kahn (1996) found out that a higher degree of centralisation of the wage bargaining system has a positive effect on equality. In her study more centralised wage setting arrangements have Norway, Sweden, Italy, Austria, Australia and Germany, less centralised are the United States, United Kingdom and Switzerland.

[28] Checchi and García-Peñalosa (2008, 2010); Pontusson et al. (2002), and Koeniger et al. (2007) found that coordination reduces the 90/50 percentile ratio but not the 50/10 percentile ratio.

[29] Freeman (1980) and Katz and Murphy (1992) for the United States or Card, Lemieux and Riddell (2003) for the USA, Canada and the United Kingdom or the OECD Employment Outlook (2004: Chapter 3) find positive effects on equality within the organised industries but rising inequality between the organised and the non-organised industries. Overall, the positive effect of increasing within-sector equality due to unionisation compensates for the negative effect throughout industries (Freeman 1980). In a cross-country study based on household data of 32 countries Fournier and Koske (2012) find increasing wage dispersion within certain sectors. In “agriculture/hunting/forestry/fishing”, “hotel/restaurants”, “other community, social and personal service activities/others” earnings at the lower end of the earnings distribution decreased. In “financial intermediation” earnings gain are concentrated at the higher end of the earnings distribution.

As in the case of the level of wage bargaining no big changes in coordination mechanisms took place since the mid-1990s (Caju et al. 2008); but looking at longer time periods substantial changes happened in some of the countries. In the United States for example, after World War II pattern bargaining led by the automotive industry dominated, although today there is no coordination left in the US (Levy and Temin 2010).

Wage bargaining coverage

There is a potentially big difference between union density and the coverage of workers by wage bargaining. In some countries employers pay non-union members the same wage as union members, simply to give no incentive to workers to join a union. In other cases there are labour market institutions which extent wage bargaining outcomes to more workers than the organised ones in unions. For example in Austria, employers are forced by law to join an employers' association. In many countries there are legal extension mechanisms. In France, for example, wage bargaining outcomes are almost automatically extended to all workers in an industry by law.

Union density declined substantially, but coverage of wage bargaining in many OECD countries did not decline much or even increased (see Table 2). Interestingly, Continental European countries have low union density but high wage bargaining coverage with more than 76 per cent due to widely used extension mechanisms.

Table 2: Wage bargaining coverage in selected countries and years

	Total economy		
	1995	**2006**	**2006 vs. 1995**
Austria	High	High	↑
Belgium	High	High	→
Cyprus	Moderate	Moderate	↑
Czech Republic	Low	Moderate	↑
Denmark	High	High	↑
Finland	High	High	→
France	High	High	↑
Germany (West)	Moderate	Moderate	↓
Germany (East)	Moderate	Low	↓
Greece	High	High	→
Hungary	Low	Low	↓
Italy	High	High	→
Japan	Very low	Very low	→
Lithuania	Very low	Very low	→
The Netherlands	High	High	→
Norway	Moderate	Moderate	→
Poland	Moderate	Low	↑
Portugal	High	High	→
Slovenia	High	High	→
Spain	High	High	↓
Sweden	High	High	→
United Kingdom	Low	Low	↓
United States	Very low	Very low	↓

Number of countries were changes are calculable					
	Very low	**Low**	**Moderate**	**High**	**Total**
1995	3	3	5	12	23
2006	3	4	4	12	23

Note: 0%<VL=Very Low<25%, 26%<L=Low<50%, 51%<M=Moderate<75%, 76%<H=High<100%
1995 refers to 1997 in France, 1994 in Denmark and 1998 in Hungary. 2006 refers to 2004 in Germany, 2005 in Spain, 2004 in France, 2000 in Denmark, 2004 in Hungary, 2001 in Poland.
Source: Adapted from Caju et al. (2008).

In Table 2, the effects of the Great Recession and the crisis in the EMU are not covered. It seems to be an explicit strategy by the *Troika* (EU Commission, European Central Bank and International Monetary Fund) to push crises countries like Spain, Portugal, Greece, Italy, etc. to more firm based wage negotiations and a radical reduction of extension mechanisms. In Greece for example, extension of sectoral collective bargaining was suspended; or in Greece and Portugal the scope for work councils to conclude firm based agreements was increased (see Blanchard et al. 2013). France also should, according to these institutions, go into the same direction.

Clusters of wage bargaining institutions in OECD countries

Wage bargaining institutions can have different effects on wage dispersion. In one extreme, there are firm based wage negotiations in a part of the firm sector which take firm based productivity developments as a guideline for wage development. Extension mechanisms do not exist. In the other extreme there is a vertical and horizontal coordinated wage bargaining system on sectoral or even national level taking macroeconomic productivity as a guideline for wage development in all industries. Extension mechanisms are widespread. In the first scenario wage dispersion has to be expected to be much higher than in the second scenario, even if union density is the same.

Many wage bargaining systems are somewhere between these two extremes. Caju et al. (2008) characterise wage bargaining institutions in 23 European countries, Japan and the United States in the mid-2000s coming to the result that collective bargaining mainly covers high-skilled full-time workers rather than both part-time and low-skilled workers. Looking at the predominant level of wage bargaining: (a) Bargaining on a company level respectively a bargaining system which is characterised by a high degree of decentralisation can be found in the Czech Republic, Estonia, Hungary, Poland, Lithuania, Luxembourg, UK, and US. (b) Sectoral wage bargaining dominates in Austria, Belgium, Denmark, Germany, France, Greece, Italy, Japan, the Netherlands, Norway, Portugal, Slovenia, Spain and Sweden.[30] (c) National wage bargaining dominates in Ireland, Finland and Slovenia where negotiations between trade unions and employer associations set the stage for negotiations at the regional, (inter-)sectoral, occupational and company level.

While some kind of coordination could be found in most countries, Hungary, Poland, UK and US are exceptions with no coordination. Austria, Germany, Norway and Sweden follow pattern bargaining, i.e. one sector starts the wage round (usually one with a strong union movement) and gives a signal for the whole bargaining round. Three broad overall clusters can be distinguished (Caju et al. 2008):

[30] In most countries where sectoral wage bargaining is dominant bargaining on a national level is important as well (Caju et al. 2008).

(a) The first group covers countries with highly deregulated labour markets, low trade union densities, decentralised wage bargaining frameworks, low levels of collective agreement coverage, the general absence of coordination, and no important extension mechanisms. In this group the Czech Republic, Estonia, Hungary, Japan, Lithuania, Poland, the UK and the US are found; the US is the role model for this cluster. In this group of countries the highest wage dispersion can be found.

b) The second group has a widely regulated wage bargaining systems with widespread extension mechanisms, high level of collective agreement coverage and a dominance of sectoral wage bargaining. Explicit coordination is absent. However pattern bargaining and statutory minimum wages lead to a relevant degree of coordination. Countries in this group include Austria, Denmark, France, Greece, Ireland, the Netherlands, Norway, Portugal, and Sweden. Germany and Italy are somehow between this group and the first group as coordination for the whole economy is relatively weak and there are no statutory minimum wages.

c) This third group has an even more regulated wage bargaining process. In addition to group b) there are strong elements of inter-sectoral agreements and coordination and the function of the government in wage bargaining is important; for example via indexation of wage development. This group is comprised by Belgium, Cyprus, Finland, Luxembourg, Slovenia, and Spain. In the second and third group many countries with low wage dispersion can be found.

Over the last decades, except in Scandinavian countries, union density has been reduced. However, in many countries the level of bargaining and due to extension mechanisms wage bargaining coverage did not change as much as union density. The character of wage coordination in most countries also changed slowly. Taking all dimensions together, declining union density, and inertia in labour market institutions, give a strong theoretical and empirical argument for increasing wage dispersion.

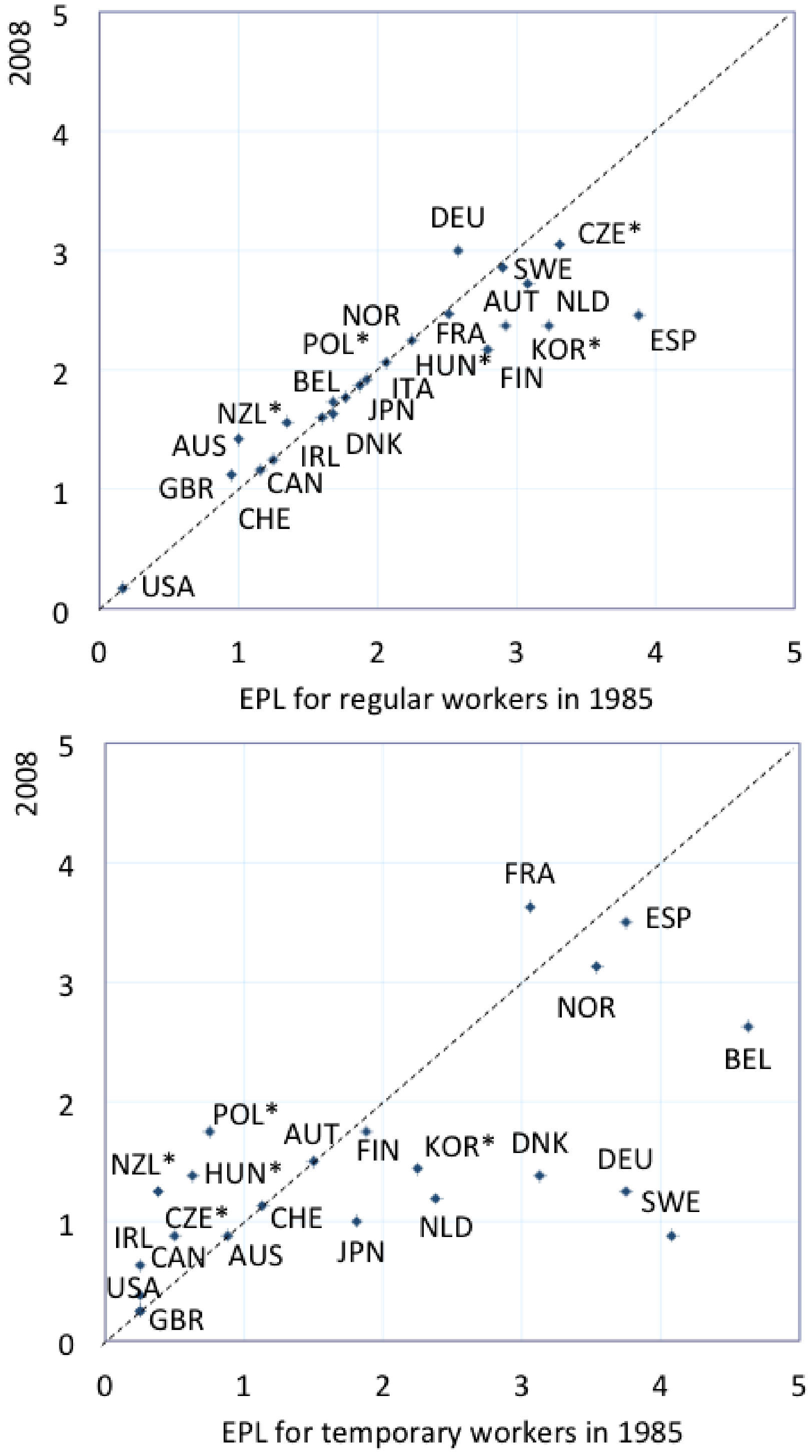
4.4 Labour market policies

In most OECD countries government policies substantially contributed to increasing wage dispersion. On the one hand precarious working conditions were allowed, on the other hand a low-wage sector was actively created.

Precarious work

The number of workers affected by precarious working conditions increased in OECD countries. Precarious workers in member countries are usually not focused in the informal sector, but under legally allowed conditions. Precarious work takes the form of temporary work, fixed-term contracts, part-time work and contract for work labour. These types of work increased over the last decades. Let us look at temporary work as an example of precarious work. Policies to protect employment developed differently for temporary and regular workers. While protection of regular workers tended to converge among OECD countries and were relatively stable, protection of temporary workers declined drastically in 11 of 23 countries (OECD 2011: 101). The developments from 1985 to 2008 are summarised in Figure 5. The dotted line dividing the figures shows no changes over the period of time. Countries appearing on the left side of this line introduced stricter employment protection, countries on the right side of the dotted line show increasing flexibility, liberalisation and deregulation since 1985. The scales show a ranking of Employment Protection Legislation (EPL). A value of 5 indicates very strict regulation, null shows liberalised labour markets. Figure 5 shows that the USA has an almost completely deregulated labour market for regular workers followed by the UK, Switzerland, Canada and Australia. Highly regulated markets for regular workers can be found in Germany, Austria, Czech Republic or the Netherlands. Germany regulated markets for regular worker even stricter, whereas Spain and Korea, in particular, deregulated markets for regular workers; although they are still on a high level of regulation. The regulations for temporary workers show a different picture. In Sweden, Germany, Denmark, Korea, the Netherlands and Japan them market for temporary workers was substantially deregulated creating a two-class system for these types of workers. France for example, regulated this market on a high level of regulation further.

Figure 5: Employment protection legislation (EPL) in selected countries



Note: A value of 5 indicates very strict regulation, null shows liberalised labour markets. The dotted line indicates no change in employment protection legislation. Countries in the left section increased their employment protection legislation, countries in the right section decreased it.
Series for Hungary, New Zealand, and Poland begin in the mid-1990s.
Source: OECD (2011: 100 f.).

In a number of countries, labour markets for non-regular workers, temporary workers became substantially unregulated, creating a dual labour market with precarious and usually badly paid jobs. Regulation arbitrage leads to outsourcing inside the country. In such a scenario the sector with formal precarious jobs growths quickly at the cost of the better regulated sector of the economy. This development added substantially to increasing wage dispersion in the countries, which allowed the existence of such dual labour markets.

Lower Statutory minimum wages

Another feature of the changing labour market institutions were active policies to create low wage sectors (OECD 1994). The idea behind is that wage and labour market flexibility increase jobs. A key policy to reduce wages at the lower end of the wage scale was to keep minimum wages low.

14 out of 23 OECD countries have statutory minimum wages.[31] Traditionally Scandinavian countries have no statutory minimum wages. High union density and coverage of wage bargaining allow to fix sufficiently high low wages during the normal wage bargaining process. This is why unions in Scandinavian countries do not want statutory minimum wages. In Germany before the 1990s the situation was similar. However, the declining union density and the increasing share of workers, which are not covered by collective bargaining led in Germany after the 1990s to an explosion of a low-wage sector. After a difficult debate, now all German unions campaign for a general statutory minimum wage.

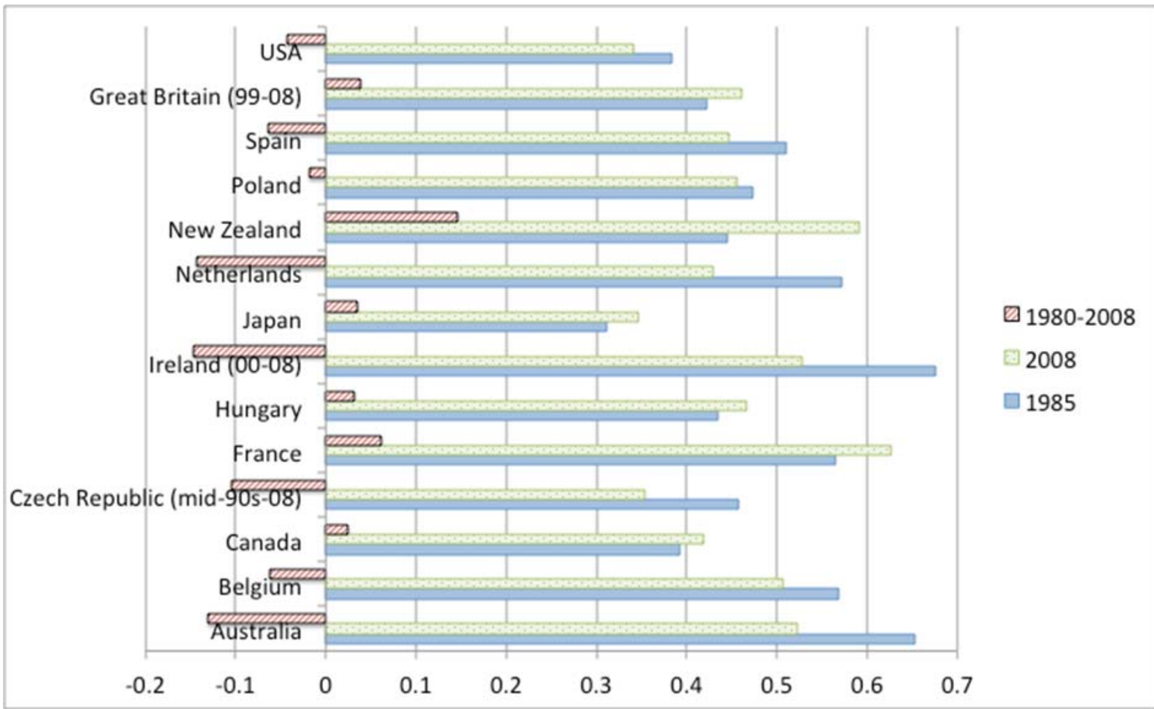
In Figure 6, the development of statutory minimum wages in relation to median wages is shown graphically. In some countries statutory minimum wages increased. New Zealand had the highest increase from 44 per cent to 59 per cent of the median wage. Minimum wages increased by about 5 per cent in France and Great Britain from 1985 to 2008. However, eight countries, USA, Spain, Poland, the Netherlands, Ireland, Czech Republic, Belgium, Australia, faced declining shares of minimum wages to median wage. Remarkably high were the negative rates in the Netherlands, Ireland during the 2000s and Australia with more than 10 per cent. The levels of statutory minimum wages with values around or below 40 per cent of median wage are especially low in the USA, Japan and Canada.[32]

[31] In 2008 statutory minimum wages do have the United States of America, Great Britain, Spain, Poland, New Zealand, the Netherlands, Japan, Ireland, Hungary, France, Canada, Belgium, Czech Republic, and Australia. Austria, Denmark, Finland, Germany, Italy, Korea, Norway, Sweden, and Switzerland do not have statutory minimum wages.

[32] There is an extended debate about employment effects of minimum wages. Empirical evidence challenges the neoclassical postulate of negative employment effects due to statutory minimum wage increases. Most empirical studies use a supply side and partial analytical approach and do not take into consideration demand effects. Even with this unsatisfactory approach the empirical outcome of these studies show no clear picture about employment effects of higher minimum wages. See for most recent studies for example Card and Krüger (2000), Dickens and Draca (2005), and König and Möller (2007). Negative effects of rising minimum wages on employment are not significant in these studies or do not exist. Some studies find positive effects.

Statutory minimum wages are the most efficient instrument to set a wage floor at least in developed countries with a small informal sector. A soft minimum for wages can be set by a so-called reservation wage, which can be fixed by social transfers.

Figure 6: Development of minimum wages relative to median wages in selected countries



Note: The bar 1980-2008 shows the change during this period of time.
Source: OECD (2011: 101)

Regulation arbitrage inside the country

As soon as a lower regulated sector in the labour market exists for temporary workers, there is a high incentive to outsource production or certain tasks to the unregulated sector in the economy or to substitute irregular workers for regular workers. Privatisation processes can play an important role for regulation arbitrage. With privatisation, trade unions can be kicked out and avoided; compared to the regulated public sector privatised sectors can thus pay much lower wages. There is a multitude of examples for outsourcing inside a country motivated by regulation arbitrage. Cleaning, security services, bookkeeping, etc. is outsourced from firms in the regulated sector with wage bargaining coverage, for example the metal industry, to firms in industries which are not covered by wage bargaining, for example the service industry. In the worst case companies which take over outsourced productions and tasks work with temporary workers or only other precarious jobs. Even firms in the regulated sector of the economy can substitute “costly” normal jobs with “cheap” precarious jobs creating a group of privileged core employees and a group of peripheral workers with uncertain and badly paid jobs. Or certain jobs originally taken over by employees are substituted self-employed, for example employed butchers become self-employed doing exactly the same job as before. It is obvious that these developments lead to higher wage dispersion and more inequality in general.

The problem of regulation arbitrage is that it leads to an accelerating erosion of the regulated sector of the economy, as firms have an incentive and are driven by competition to use the deregulated sector of the economy to a higher and higher extent. In this deregulated sectors, pressures organised sectors to become more liberalised (Driffill 2005: 14; Blanchard et al. 2013).

4.5 Development of high wage segments

The development of the last thirty years did not only show the increase of a low-wage sector. In many countries, a polarisation of the wage structure took place with extremely high wages earned by part of the employees (see the empirical part above).

After the 1970s in the financial sector, but also for management in general, wages including rewards from bonus payments increased extremely. This reflects changes in the financial system and its repercussion on corporate governance.[33] Bonuses were paid to link management's incentives with the interest of shareholders. But not only management earns obscenely high wages. Superstars in sports, movie stars, famous pop stars, fashionable designers etc. earn income not imaginable 30 years ago and much higher than leaders of government or Nobel Prize laureates or top scientists contributing to human knowledge. There are several factors, which can explain these very high wages.

In the 1980s, together with the deregulation of labour and financial markets, marginal income tax rates, which in many countries, such as the United States and United Kingdom, reached 70 per cent or even 90 per cent, were substantially cut. This gave an additional incentive for top management to use its bargaining power to increase their net income. With high tax rates, top corporate executives may have concentrated on growth of the company or "unproductive" expenses as kindergartens or recreation facilities in firms to increase their personal utility (Piketty et al. 2011).

Top salaries, as the ones for top executives in financial institutions, traditional multinational companies or lawyers in law firms are largely undetermined. This means there is no objective explanation why a top manager should earn 20, 100 or 500 times the wage of the lowest paid in a company. The changes in the corporate governance systems in the 1980s led to an increase of performance

[33] In the USA for example, the top 1 per cent income share (including capital gains) more than doubled since the 1970s. In 2008 and 2009 the top 1 per cent income share declined from around 24 per cent to about 19 per cent but began to rise again to more than 20 per cent in 2010. „Over the period 1980 to 2007, when the top 1 percent share rose by some 135 percent in the United States and the United Kingdom, it rose by some 105 percent in Australia and 76 percent in Canada" (Alvaredo et al. 2013: 5). In France, Germany, Japan, and Sweden the estimated top 1 per cent income share (including capital gains) has been ranging between the highest share of about 15 per cent in Germany in the 1960s and mid-2000s, and the lowest share of nealy 5 per cent in Sweden in the 1980s (Alvaredo et al. 2013).

based salaries, increased the power of management also in the field of wage bargaining and gave room for increases in management salaries not known before. Wage dispersion in general depends on wage codes reflecting considerations of fairness. This wage codes eroded in the 1980s especially for top management salaries (Lemieux et al. 2009).

In the area of mass communication there is an additional explanation for very high salaries.. Broadcasting a sporting event, selling a compact disk or marketing a product in television can reach millions of people. Products of superstars can be sold in such quantities that even a very low unitary price can make a profit of millions, or more. Rosen (1981) pointed out that even though the number of people making a tremendous amount of money is little, they appear to dominate their profession. He further argued that even small differences in talent lead to the superstar phenomenon. But the argument that talent is the most important base to become a superstar is not convincing (Dew-Becker and Gordon 2005: 51). In many cases it is pure luck or even the artificial creation by clever marketing which makes a person a superstar (see Taleb 2007 or as well Rosen 1981).

High wages for top management and superstars most likely changed the perception of what fair wages and income are. Here, one of the main factors which changed the convention how the wage structure should look like and what is fair wage dispersion is observed.

5. SUMMARY AND POLICY RECOMMENDATIONS TO REDUCE WAGE DISPERSION

During the last decades, market given wage dispersion, in increased in a number of countries substantially and was one of the main reasons for a more unequal income distribution in general. This is not only a problem of justice and fair participation of all in society; it is a central economic problem because too high wage dispersion leads to a lack of consumption demand financed out of income. We conclude that in most OECD countries (and even more in countries beyond the OECD) wage dispersion has to be reduced. Scientifically it is not possible to define which level of wage dispersion is optimal or welfare maximizing. There is nothing like a macroeconomic utility function. Distribution questions are normative in nature, and depend on consideration of fairness and power relationships in societies. They have to be decided politically.

Labour market institutions in many different facets are of key importance for explaining wage dispersion. Wage dispersion also depends on the solidarity and power relations within the working class. Not all fractions of the working class are automatically in favour of a compression of wages dispersion. A higher increase of wages in the low-wage sector than in the remaining wage sectors reduces the real income of workers with higher wages. It would be an illusion to increase low wages faster than higher wages and finance such wage increases to bite into profits. Increasing wages for domestic workers or employees in restaurants increases the price for the services provided by the economic sectors the wage increase in and reduce real wages of other employees. Workers in high wage segments like management or in the financial sector, may show limited willingness for wage compression from above.

Before going into details of reform options it should be mentioned that a reduction of wage dispersion does not destroy jobs. The opposite is the case. A reduction of wage dispersion increases consumption demand as lower income groups consume more out of their income than higher income groups. But to reduce wage dispersion is – in spite of positive demand effects – not a job machine guaranteeing higher employment. Policies to reduce wage dispersion have to be combined with macroeconomic demand management. Besides the stimulation of consumption demand investment demand – the only demand increasing production capacities and embodying new technology – is needed and government demand for example to deliver public goods. In what follows we will discuss the most important policies to reduce wage dispersion. A summary is given in Table 3.

Table 3: Recommendations to reduce wage dispersion

Problem area	Recommendation
Increase union density	
Union density decreased in many countries	Policies to increase union membership (strategies of mobilisation, e.g. Ghent system in Scandinavian countries, where employees need to be union members in order to receive for example unemployment benefits)
Strengthen wage bargaining In many countries there are tendencies towards decentralised wage bargaining systems and a lack of a coordinated wage bargaining system	Sectoral wage negotiation (not firm level negotiation) respectively vertical coordination in an industry
	Horizontal coordination (e.g. central wage bargaining, informal or formal coordination of sectoral unions, pattern bargaining)
	Medium-term macroeconomic productivity development as guideline for wage development in all economic sectors

Extension mechanisms In many countries government has to support wage bargaining as unions are too weak	Wage bargaining outcomes have to be followed by all firms in a sector (all firms have to join employers' organisation, extension by law, etc.) Negotiation fee paid by non-unionized workers
Sufficiently high statutory minimum wages	
Wage bargaining in many countries in not able to fix a sufficiently high minimum wage	Statutory minimum wages of at least 40 per cent of the median (or average) wage annually negotiated in tripartite commission on a national level
	One centrally fixed minimum wage and general a small number of minimum wages
	No link to pensions and social transfers
Offshoring and outsourcing	
In many countries offshoring and outsourcing weakens unions and is used as a threat factor against unions	Trade union involvement in management decisions including investment (stakeholder governance) Socially managed outsourcing (e.g. increase costs of outsourcing by strict dismissal protection, control of decent working conditions in case of outsourcing to other countries) No regulation arbitrage within a country (i.e. no sector without wage bargaining, horizontal wage coordination to reduce wage differentials between sectors, wages in firms taking over outsourcing functions within the country should be same as in the outsourcing company)
Stakeholder corporate governance The existing shareholder value governance system weakens unions	Establish a stakeholder model of corporate governance with important role of unions to influence investment decisions and outsourcing, to develop a new wage code with lower wage dispersion and lower top income, reduce the importance of bonus systems, etc.

Tax policy Tax policy can substantially modify market given wage dispersion	Lower tax burden for low wages, progressive income tax system for higher wages
	Bonus payments should not be costs, but profits in accounting
Reduce macroeconomic shocks Exchange rate shocks and economic crises burden wage coordination	Relatively stable exchange rates and the absence of deep economic crises support vertical and horizontal wage coordination
	To stabilise exchange rate capital controls and a new international governance system is needed Stable developments of exogenous prices (oil and food prices) can be supported by reducing speculation in these markets
	Macroeconomic management and regulation avoids deep crises
Reduction of informal sector	
Wages and working conditions in the informal sector are unacceptable, this sector is difficult to organise by unions	Give small enterprises incentives to formalize (e.g. tax exemptions, subsidies and access to formal credit)
	Provide access to formal social security system as soon as workers are integrated in formal sector
	Increasing government enforcement of the rule of law
Migration A neoliberal migration regime can distort labour markets.	Political regulation of migration is needed

Union density and wage bargaining systems

The Scandinavian countries and empirical analyses show that a high union density leads to a reduction of wage dispersion. Increasing union density and making the union movement stronger is an important element to reduce wage dispersion.

The next point of paramount importance for wage dispersion is the wage bargaining system. Even in countries with relatively low union density the wage bargaining system can help to prevent high wage dispersion. Firm based wage bargaining almost automatically leads to high wage dispersion within one industry and in the whole economy.[34] To reduce wage dispersion within one industry sector wage negotiations are of key importance.

Sectoral level negotiations do not automatically lead to low wage dispersion. If some sectors in a country are able to push for relatively high wages and others not and if there is no horizontal coordination mechanism wage dispersion can be high. To reduce wage dispersion a horizontal coordination of wage development has to be guaranteed. In case of negotiations on a national level this is automatically realized. But such systems are rare and difficult to implement in larger countries. Pattern bargaining or intensive debates between top union leaders about the strategy and wage demands before the start of the wage round are possible mechanisms of horizontal coordination. In a coordinated wage bargaining system macroeconomic productivity development should play the central role in wage negotiations. A guideline must be medium-term productivity development to take out short-term fluctuations of statistically measured productivity by business-cycle effects. In case that a macroeconomic productivity development is difficult to measure the industrial productivity development could become a guideline for wage development in all sectors. In addition to medium-term productivity development the inflation target of the country should be taken into account. Such a wage bargaining system increases the relative price of products with low productivity increases (for example services in health care) in relation to sectors with high productivity increases (for example computers).

Extension mechanisms

If union density is not sufficiently high and employers' associations are not sufficiently widespread to guarantee an equal wage development in a sector, extension mechanisms of wage bargaining outcomes are needed to prevent high wage dispersion. These need government regulations and actions. A positive example for an extension mechanism is Austria which forces all firms to join employers' associations. In most countries with low wage dispersion and

[34] Theoretically, pattern bargaining can work in a system with firm based wage negotiations. In such a case the wage round starts in some big companies and the outcome of the bargaining has a signalling effect for the wage development in other companies (as traditionally in Japan or after World War II in the United States). Also strong employers' organizations can lead to a more equal wage development (see Soskice 1990). But such mechanisms are imperfect and can easily erode in crisis constellation.

relatively low union density the government declares the outcome of wage negotiations as binding for all firms in a sector. France, as well as other Continental European countries use this mechanism. The disadvantage of extension mechanisms is that workers who are not organized in unions can free ride. They benefit from negotiations but do not pay contributions as union members. Such an incentive structure can reduce union membership. In some countries, a kind of negotiation fee below union membership contribution should to be paid by non-unionised workers to strengthen the financial power of unions.

Minimum wages

Several government policies can directly compress wage dispersion from below. Statutory minimum wages can play an important role. In most countries statutory minimum wages are between 40 and 60 per cent of median (or if not available average) wages. Minimum wages below 40 per cent of median wages must be considered unexceptionally low. The best way to fix minimum wages is that they are negotiated on a national level by a tripartite body with unions' representatives, employers' representatives and government appointed persons.[35] Preferable seems to be one centrally fixed national minimum wage for all workers. In big countries higher minimum wages on regional levels should be possible. The number of minimum wages in a country should be as small as possible; the adjustment should be yearly; the minimum wage should not be automatically linked to pensions and social transfers to avoid budgetary problems of higher minimum wages; a percentage of medium wage seems to be a better way to define the minimum wage than a basket of goods which never can be defined in a satisfactory way.[36] Important is that statutory minimum wages are enforced.[37]

In some countries minimum wage development takes over the function of macroeconomic wage coordination. In such countries, usually a tripartite commission debates minimum wage development and makes recommendations to the government. The changes in statutory minimum wages then give a signal for wage development in the whole economy. This means workers above the minimum also get an increase according to the hike of the minimum. In some countries minimum wages are given even for specific occupations regionally differentiated.[38] For countries with weak unions such a model can be functional, but it is not preferable. Statutory minimum wages should fix a wage floor for all

[35] A possible model is the British Low-Wage Commission with unions' and employers' representatives and independent experts where each group has one third of the members in the commission. It recommends a certain increase of minimum wages; however, the government has the last word. The Low-Wage Commission also carries out research about the low wage sector and sharpens the awareness of such a sector.
[36] For a more detailed debate see Herr and Kazandziska (2011b).
[37] For a debate about this see Benassi (2011).
[38] In several African countries (for example Ghana or Tanzania) but also in some of the Central and Eastern European countries statutory minimum wages play an important role in wage coordination. In India thousands of statutory minimum wages exist differentiated according to professions and regions.

and especially in sectors where unions are relatively weak. Wage bargaining then should bargain wages above the minimum wage.

Reducing the informal sector

Work in the informal sector is purely market based and is characterized by all negative effects an unfettered labour market products. Unemployment, the lack of government regulations, and the lack of sufficient union organisation in the informal sector make living conditions poor and uncertain for most people. The reduction of the informal sector and its integration into the formal sector is of key importance to reduce wage dispersion and income inequality in general, especially in developing countries. In the last years Brazil had some success to reduce the informal sector by giving small enterprises incentives to formalize via tax exemptions, subsidies and access to formal credit, which is cheaper than credits from moneylenders. An important incentive to reduce the informal sector is to allow workers and small entrepreneurs access to the formal social security system as soon as they become part of the formal sector. Last but not least increasing government enforcement of the rule of law reduced the informal sector (Baltar et al. 2010). Of course, reducing the informal sector and creating a formal precarious sector is not sufficient to reduce wage dispersion. The formal sector must be regulated in a way, which improves the living conditions of persons switching from the informal to the formal sector.

Offshoring and Outsourcing

Outsourcing inside the country or offshoring in foreign countries can potentially create a situation which strengthens capital and weakens workers and can be a "threat factor", which can lead to wage cuts in certain firms and sectors to prevent outsourcing. Two strategies seem to be of key importance to control outsourcing in an acceptable way for unions and society. Firstly, unions should become involved in investment decisions including decisions about outsourcing. Desirable is a stakeholder model of corporate governance, which gives unions a real influence in all decisions by a firm. Secondly, offshoring is not undesired as such and can – as international trade – increase the welfare of nations while being beneficial for workers in an outsourcing company. What is needed is a socially "managed" offshoring. This can be achieved by a stakeholder-value approach, by increasing the costs of offshoring by strict dismissal protection and other legal obstacles. Foreign companies taking over offshoring functions must respect decent working conditions.

Outsourcing inside a country can – as international trade and international outsourcing – be beneficial – when advantages of economies of scale can be exploited. What has to be prevented is outsourcing based on regulation arbitrage. Outsourcing inside countries can best be fought against by having a as high as possible coverage of employees by collective bargaining and a horizontally coordinated wage bargaining process which allows a relatively equal wage level in all industries. Another possibility is to define what is meant by domestic outsourcing – key activities of a company – and then force companies which take over outsourced tasks to pay the same wages as in the company outsourcing. Such rules can become part of wage negotiations or even law.

Stakeholder-value corporate governance system

The abolishment of the shareholder-value corporate governance system is needed for a multitude of reasons – one-sided focus on the interest of owners, short-sightedness and too risky behaviour of management which reduces long-term growth and productivity, the tendency to distribute to much profit to shareholders or weaken equity by buying back own shares, etc. One important reason to abolish the shareholder value system is also to reduce wage dispersion (and at the same time increase the quality of corporate governance). Firstly, in a stakeholder system management's strategy to push for a low wage segment in the company with precarious jobs is limited as soon as strong unions have influence on management decisions. Secondly, in a stakeholder system management is controlled also by unions and the obscenely high salaries and bonus payments for management will not be able to prevail. One has to learn from the management systems after World War II – the so miracle years of the Golden Age – when even in market-liberal countries like the USA management had to search for a compromise between the different stakeholders and were not able to remunerate itself in the way it does under the finance dominated version of capitalism which developed after the 1970s.[39]

Reducing macroeconomic shocks

A coordinated wage bargaining system with low wage dispersion comes under pressure as soon as single companies or whole economic sectors bend by economic shocks caused by either deep economic crises or quick and substantial exchange rate movements. For a working income policy including low wage dispersion, a stable development of the economy including high employment is of key importance. To achieve this, a regulated type of capitalism and a comprehensive macroeconomic demand management is needed (see Dullien et al. 2011). The exchange rate has to be relatively stable; also "exogenous" prices such as oil and food prices should develop in a stable way – even if they increase in the long-run – and should not show the volatility of last years which is at least partly caused by speculation in future markets. To avoid mega exchange rate movements a mechanism has to be created which keeps current account

[39] Paul Krugman (2002) quotes John K. Galbraith who exactly stresses this argument: "Consider the description of executive behavior offered by John K. Galbraith in his 1967 book, 'The New Industrial State': 'Management does not go out ruthlessly to reward itself - a sound management is expected to exercise restraint.' Managerial self-dealing was a thing of the past: 'With the power of decision goes opportunity for making money. {…} Were everyone to seek to do so {…} the corporation would be a chaos of competitive avarice. But these are not the sort of thing that a good company man does; a remarkably effective code bans such behavior. Group decision-making insures, moreover, that almost everyone's actions and even thoughts are known to others. This acts to enforce the code and, more than incidentally, a high standard of personal honesty as well.'"

imbalances stable and leads to early adjustments of exchange rates in case current imbalances become too high (Herr 2011). Also speculation in food and natural resources has to be reduced to achieve the aim of more smooth food prices and natural resource price developments. Controls of international capital flows are needed to reach these aims. However, a lot can be done to reduce wage dispersion even in economies affected by world market shocks; for example, many jobs in the low-wage sector produce non-tradables (security services, services in restaurants, services domestic workers deliver, etc.). For these jobs, low wages cannot be caused by world market shocks.

To sum up: a package of measures is needed to reduce wage dispersion. A lot can be done by the unions themselves. However, in most countries government policies are needed. There is a lot of room to change wage dispersion on a national level even in an environment of a market radical globalisation. Some policies recommended, however, imply a different type of economic development model.

Additional remarks on migration and tax policy

A neoliberal migration regime can lead to market pressure, which brings certain wages down. For example, high migration of low-skilled workers increases labour supply in the segments of the low-skilled. In a situation of insufficient institutions to prevent wages to decrease the additional inflow of migrants can lead to an increasing low-wage sector. On the other hand, an outflow of experts from a country – let us say form India to the US – can lead to shortages of certain groups of workers. Depending on labour market institutions this can lead to higher wages in our example of experts. To keep wage dispersion low, migration has to be politically regulated.[40] The aim for unions is to strengthen solidarity amongst different groups of workers and to ensure equal pay for equal labour.

In this paper market given wage dispersion is discussed, but it should be mentioned that tax policy can in a very effective and comprehensive way to change market given income distribution. Low wages can be burdened with a low duty. Higher wages can be taxed by a progressive income tax system. In such a system all kinds of bonus payments, share options etc. have to be taxed as income. Bonus payments for management, share options and the like, should not any longer be allowed to be booked as costs in tax accounting but as profits –, what in substance, they are.

[40] Migration due to humanitarian reasons is another story, of course.

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