Fordism and the Swedish Model.

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Abstract

The paper examines the impact of fordism on the Swedish economy and its institutional structure during the twentieth century. Fordism is conceived as an industrial paradigm of mass production that is characterised by several key features on micro level: the use of special purpose machines, the division of labour in easy operations and production of standardized goods by semi-skilled workers. Fordism comprises the dominance of big corporations in national economy, centralisation of decision-making and stabilisation of costs and markets for mass production goods on macro level. The validity of the term "Swedish Model" is put under discussion and its traditional understanding as a model of centralised wage bargaining between national organisations of workers and employers is questioned.

To make clear what specific features the Swedish economic development demonstrated, a comparative research between the USA and Sweden is made. The period between the early 1930s and 1970s is in focus. The conclusion is that two lands moved towards the same trend despite different cultural background and weight in the world market. The mass production corporations arose, welfare benefits were introduced to stabilise demand, and Keynesian macroeconomic policy was applied. The phenomenon of wage compression is the most essential in the context. Swedish historians traditionally ascribed wage compression that took place in Sweden until the early 1980s to the Marxist-inspired wage solidarity policy put forward by the Swedish trade-unions in the 1950s. But statistical investigations show that not only Sweden but the United States witnessed compression of industrial wages between 1940s-early 1970s as well. The centralised wage bargaining process explains these phenomena in both countries. The difference between two lands consisted in that whereas the wage formation in the United States economy followed the wage bargaining in the automobile industry, a corresponding process became more pronounced in Sweden. The main conclusion is that the Swedish model of industrial relations was not the result of the Swedish labour movement's policy. Instead it implied an explicitly articulated variant of fordism and centralisation of industrial relations posed by development of mass production in Sweden.

Key words: **Fordism, Swedish Model, Wage Bargaining, Wage Compression**

Introduction

The notion of the existence of a special "Swedish model" has been widely debated in Sweden and got attention of international observers as well. The result of this debate is that a generally accepted definition of the model has not arisen. Some researches associate the model with the Swedish universalistic welfare state.[1] Swedish political scientists believe that a special Swedish way of political decision-making based on collaboration and compromise exist.[2] Economists identify the Swedish model with the Rehn-Meidner economic model presented by two trade-union economists at the beginning of the 1950s. It was intended to provide low inflation and stable economic growth as well as wage solidarity policy and full employment.[3]

However, the majority of historians and social scientists attribute the model to a centralised wage-bargaining system that was established between Swedish Confederation of Trade Unions (Landsorganisationen or LO; unites blue-collar workers) and Swedish Employer Association (Svenska Arbetsgivareförening or SAF). In that light, the model of centralised wage-bargaining was achieved by a famous Saltsjöbaden agreement in 1938 and had led to a "historical compromise" between the Swedish employers and labour movement. The first signs of its instability appeared in the 1970s, and in the 1980s the model was finally dissolved when SAF unilaterally abandoned centralised wage bargaining and went over to a firm-based model of wage formation.[4]

In contrast, the impact of mass production and fordism on the Swedish socioeconomic development has not been researched. Those economic historians who were interested in the question strove in the first place to explain why the Swedish growth became lower compared to the rest of Nordic countries after 1975. The general conclusion was that mass production hammered the Swedish growth when the Western economies moved into economic crisis of

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[1] Esping-Andersen, G. *The Three Worlds of Welfare Capitalism*. Cambridge, 1990.
[2] Wetterberg, G. *Det nya samhället. Om den offentliga sektorns möjligheter*. Stockholm, 1995.
[3] See, for example, 'The Rise and Fall of the Swedish Model: Interview with the Rudolf Meidner" in: *Challenge*. 1998. Vol. 41. Issue 1.
[4] Elvander, N. *Den svenska modellen: löneförhandlingar och inkomstpolitik*. 1982-1986. Stockholm, 1988. ; Johansson, A. L., Magnusson, L. *LO andra halvseklet.* Stockholm, 1998; Nycander, S. *Makten över arbetsmarknaden. Ett perspektiv på Sveriges 1900-tal*. Stockholm, 2002.

the 1970s.[1] On the other hand, it is well-known that mass production was established in the majority of Western countries, and its impact on economic and social institutional development was enormous.[2] It means that no comprehensive conclusion concerning the existence of a special “Swedish Model” is possible until the interplay between fordism and Swedish economic development is examined. To make clear what specific features the Swedish case of mass production society demonstrated, a comparative research between the USA and Sweden is made. The United States are taken as a comparison because mass production was pioneered there. This land was the first one which had to deal with the effects generated by mass production on the national economy. According the Swedish economic historian Christer Lundh, Sweden was an opposite case of wage-bargaining system in comparison to the United States that was characterised by an individual firm-based wage formation.[3]

Fordism is conceived in the paper as an industrial paradigm of mass production that is characterised by several key features on a micro level: the use of special purpose machines, the division of labour in easy operations and production of standardized goods by semi-skilled workers. Fordism comprises the dominance of big corporations in national economy, centralisation of decision-making and stabilisation of costs and markets for mass production goods on macro level. Therefore, the notion of the existing of two industrial paradigms, namely flexible specialisation and mass production, developed by American sociologists Michael Piore och Charles Sabel is shared in the research.

The mane claim of this paper is that, contrary to conventional view, the Swedish wage-bargaining system was not something unique in comparative perspective. Some striking similarities in the wage formation system have been existed between the “individualistic” United States and “collectivistic” Sweden during the 1930s-1970s.

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[1] Erixon, L. *The Golden Age of the Swedish Model. The Coherence between Capital Accumulation and Economic Policy in Sweden in the Early Postwar Period*. Stockholm, 1996; Schön L. *En modern svensk ekonomisk historia*. Stockholm, 2000.

[2] See Piore, M., Sabel, C. *The Second Industrial Divide.* N. Y., 1984; Sabel, C. ’Flexible Specialisation and the Re-emergence of Regional Economies’ in: *Post-Fordism: A Reader*. Oxford, Malden, Mass., 2003. 6th ed.

[3] Lundh, C. Spelets regler. Institutioner och lönebildning på den svenska arbetsmarknade. 1850-2000. Stockholm, 2002.

Fordism as an industrial paradigm in the United States and Sweden

Fordism as an industrial paradigm made its breakthrough at the beginning of the twentieth century and is usually associated with Henry Ford's Model T's success. The advance of the mass production was conditioned by the American economic development during the nineteenths century. Firstly, it was based on the presence of a great domestic market where consumers were ready to accept mass-produced goods despite higher quality that craft production could often supply. Secondly, the growing amount of immigrants became a large army of cheap and law-qualified labour force that could be used by American employers to establish mass-producing industries.[1]

Fordism as an industrial paradigm on a micro level implied the division of labour process into separate easier operations that could be done by semi-skilled workers along assembly line. The production in long series led to lower prices that made mass production supreme to the old craft system. But the standardisation of the labour process had the other side of the coin, because it resulted in mechanization of the labour force. All labour operations were prescribed by management that excluded the initiative from below. Workers had to execute routine pieces of work, so it was no wonder that Henry Ford's company had to witness a great labour turnover. This was met by high increases of wages that strengthened workers' incitement to stay at their plants. These principles were spread to the rest of automobile producers and later to other industries.[2]

Yet fordism was a much more complex phenomenon than just an introducing of conveyer belt and standardized labour methods. Mass production did impact on macroeconomic regulation, national and international economic regime. Figure 1 illustrates the logic of fordism.

Mass production changes dramatically the relation between fixed and variable costs compared to more flexible craft production. Whereas variable costs increase and decrease according to the level of output, fixed costs do not depends on volume of production. They must be paid, whether the firm produces or not. Fixed costs are viewed before an investment

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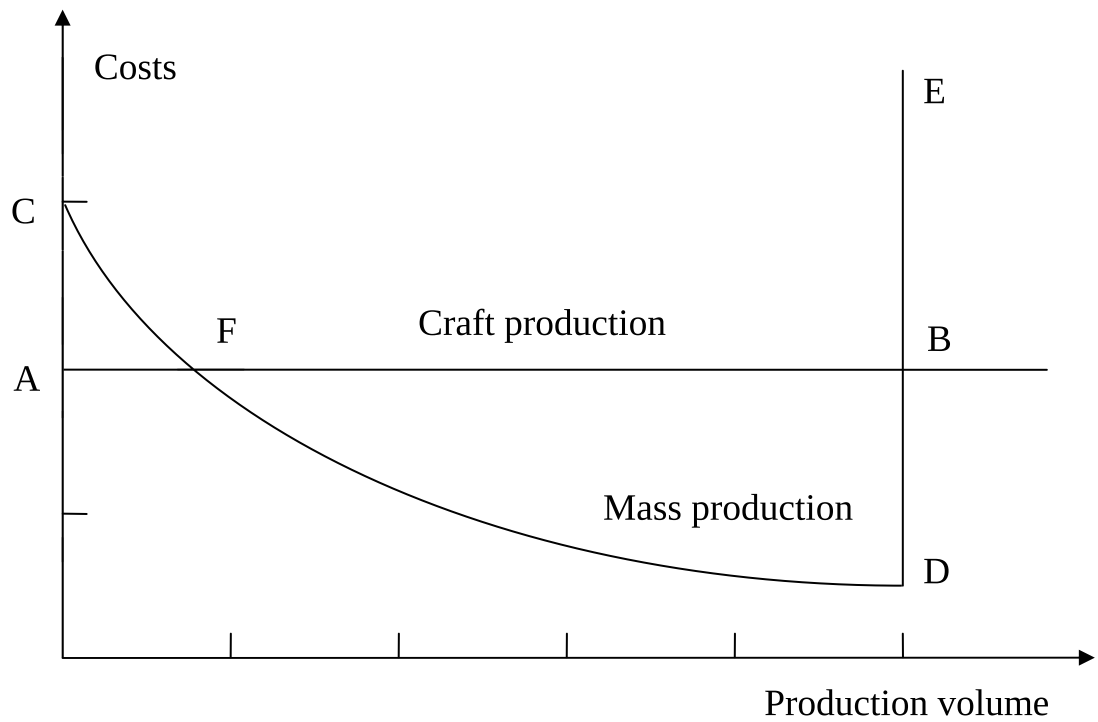
[1] Se about the breakthrough of fordism in the US in Hounshell, D. A. *From the American System to Mass Production*. Baltimore, London, 1984; Piore M., Sabel C. *The Second industrial Divide*. N. Y., 1984. P. 19-48.

[2] Hounshell, D. *Op. cit*. P. 1-13, 303-330; Abramovitz, M., David, P. A. 'American Macroeconomic Growth in the Era of Knowledge-Based Progress: The Log-Run Perspective' in: *The Cambridge Economic History of the United States.* Vol. 3. P. 47-49.

decision is made, and investor must be sure that the product prices will be high enough to repay them. Only higher production volumes can do it. It means that mass production is more rigid compared to craft production, because enormous investments should be done into huge industrial plants and equipment as such. If market predictions fail, it can imply the lost of enormous economic resources.

The curve AB on Figure 3 represents unit costs under craft production. The fixed costs are usually low, and the price does not depend on production volumes. The curve CD shows the mass production alternative where fixed costs are very high (point C on the figure). The existence a firm with this type of costs will be possible only if the production is driven in high volumes. In this case the unit cost drops rapidly while the output expands, until capacity of the further expansion is blocked. The area BDF shows the price difference between mass and craft productions and explains why the former won the competition during the first half of the twentieth century, first in the US, and then in post-war Europe.[1]

Figure 1. Unit Cost Structure of Mass Production and Craft Production



[1] Piore, M., Sabel, C. *Op. cit*. P. 50-54.

The logic of mass production presupposed that it was driven in large scale. As a result, a modern corporation with a centralised structure and decision-making arose. Inner activities of corporations were marked by a considerable element of planning.[1] The establishment of fordism as an industrial paradigm had some important consequences for the whole society. Considerable savings of material and humane resources could be done, because large scale production resulted in lower prices. Thus the creating of a higher living standard was possible. To create conditions for expanding of mass production, stable markets for consumer durables should be guarantied. Stabilized costs should be secured in the same fashion that meant stabilisation of labour market relations. All these considerations led to the search for an appropriate regime of macroeconomic regulation.[2] But the way to such a regime was not easy.

Laissez-faire principles dominated economic thought and practical policy before the Great Depression. This kind of economic order should favour both producers and consumers. The state should not intervene in economy.[3] The Great Depression showed, however, that mass producers failed to guarantee macroeconomic stability and secure their markets, because big corporations acted on their own. A good deal of explanations of the causes that led to the Great Depression was put forward.[4] The most fruitful one could be to try to see on the problem from a systemic point of view.

The extremely high fixed costs that mass production entailed implied that they could be repaid in the long run. This could happen only if stabilized markets for mass-production consumer durables existed. This meant that capitalists were ready to invest if they were sure that an appropriate level of demand would exist. If a recession occurred, the propensity to invest decreased dramatically, and economic recovery was being delayed. Because mass production was concentrated on consumer durables (like automobiles) and related industries (steel, rubber), the fordist producers found themselves in the situation when their survival depended on the purchasing power capacity. Thus unemployment could not be eliminated by a simple wage-cut that theoretically could lead to more jobs. As soon as wages were decreasing, it resulted in the decline of purchasing power, and the remedies prescribed by neoclassical economy could lead to opposite effects. Consequently, the lack of

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[1] Galambos, L. 'The U.S. Corporate Economy in the Twentieth Century' in: *The Cambridge Economic History of the United States*. Vol. 3. P. 927-967.
[2] *Post-Fordism: A Reader*. (Ed. Amin, A.). Oxford, Malden, 2003 (6th ed.). P. 252-254.
[3] Vietor, R. H. K. 'Government Regulation of Business" in: *The Cambridge Economic History of the United States*. Vol. 3. P. 969-970.
[4] See, for instance, Couch, J. F., Shughart, II W. F. *The Political Economy of the New Deal*. Cheltenham, UK, Northampton, Mass., 1998. P. 5-18.

macroeconomic coordination on the national level resulted in the most severe economic downturn that the modern world still witnessed. [1]

Compared to the United States, fordism made its breakthrough in Sweden in a later period, and its golden age occurred during post-war period. But conditions for the breakthrough of mass production were created during the first half of the century, if not earlier. At least two circumstances should be noticed in the context.

Firstly, the Swedish industry tended to be dominated by large enterprises from the very beginning of industrialisation.[2] The emergence of the Swedish large companies can be traced to concentration of financial capital that was dominated by several powerful financial groups, in the first place by Wallenberg family. They controlled the majority of the Swedish large companies from the beginning of the last century, with the exception of AGA. The role of Wallenberg group in Swedish industry is unique compared to other lands. The orientation of the Swedish upper classes and Swedish banks, especially Stockholms Enskilda Banken, on the industrialisation of Sweden and later renewals is especially interesting. This fact can help to explain why the Swedish industry was dominated by big corporations compared to the rest of Nordic lands.[3] In contrast to the USA the tendency towards "managerial capitalism" was much weaker in Sweden. Capital owners were able to retain control over their enterprises.[4]

The second factor that could be decisive for the breakthrough of fordism in Sweden was its early export-orientation. In this respect, contemporary globalisation and internationalisation of the Swedish industry is by no means a new phenomenon.[5] Table 1 shows the difference between Sweden and the United States regarding export's importance for their economies. The data implies that Sweden had to search markets for its industrial products outside national borders. This contributed in turn to concentration of industry and

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[1] Piore, M., Sabel, C. *Op. cit*. P. 73-78.

[2] It is very difficult, if possible, to find generally accepted criteria of definition of large enterprise. What can be considered as "large" in Sweden would not be viewed in the same way in the United States. However, the number of 500 employees is applied here like a criterion of being "large enterprise" in Sweden. Of all 5300 companies that existed in Sweden 1980 786 could be characterised in this case as large. See Eidem R. *Aktieägande och demokratin*. Stockholm, 1987. S. 109.

[3] Erixon, L. *The Golden Age of the Swedish Model. The Coherence Between Capital Accumulation and Economic Policy in Sweden in the Early Postwar Period.* Stockholm, 1996. P. 14-16.

[4] Lundh, C. *Op. cit.* P. 145-147.

[5] See Palmer, R. *Historical Patterns of Globalization. The Growth of Outward Linkages of Swedish Long-Standing Transnational Corporations, 1890-1990s*. Stockholm, 2001.

capital accumulation. Consumer durables were growing as an export share whereas raw materials' share was constantly decreasing.[1] But the Swedish home market was important for the establishment of mass production during the 1930s when international trade had shrunk because of political instability.[2]

All factors considered witness that Sweden had favourable conditions for the breakthrough of the mass-production paradigm. One could find here capital to invest in large-scale production as well as long-term orientation of Swedish industry on foreign markets. It is clear that fordism could only strengthen the tendency towards concentration of industrial production. Conveyer belt, assembly-line production, horizontal and vertical integration in big corporations, all things that were invented in the US, were introduced in Sweden as well.[3]

Table 1. Exports as Percentage of GNP

	1900	**1910**	**1920**	**1930**	**1950**	**1960**	**1970**	**1980**
USA	7,8	5,1	9,1	4,3	4.9	5.5	6.4	9.6
Sweden	17.4	18.0	18.5	15.9	17.9	19.2	20.3	24.3
Japan	8.8	12.8	13.8	12.7	12.5	11.5	11.0	15.0
West Germany	--	--	--	--	11.0	20.0	22.0	28.5
France	12.5	15.2	15.3	12.8	16.0	14.0	15.0	21.0
Great Britain	14.2	26.0	26.1	15.5	22.0	20.0	22.0	28.0
Italy	10.3	11.6	11.8	9.7	12.0	13.0	17.0	23.0

Sources: Mitchell, B. R. *International Historical Statistics. The Americas. 1750-2000*. Houndmills, Hamp.; N. Y., 2003. Fifths ed. P. 436, 439, 762, 766; Mitchell, B. R. *International Historical Statistics. Europe. 1750-2000*. Houndmills, N. Y., 2003. Fifths ed. P. 576-580; Mitchell, B. R. *International Historical Statistics. Africa, Asia and Oceania. 1750-2000*. Houndmills, N. Y., 2003. Fourths ed. P. 538, 541, 1025, 1026; Palmer, R. *Historical Patterns of Globalization*. P. 225; Piore, M., Sabel, C. *Op. cit*. P. 185.

It is worth to notice that piece work and performance pay, which were one of fordism's most characteristic features, were used in Sweden in greater degree than in the rest of

[1] See Erixon, L. *The Golden Age of the Swedish Model*. Table 7 and Table 9. P. 76, 78.
[2] Magnusson, L. *Op. cit*. S. 421; Palmer R. *Op. sit*. P. 29-32, 43-49.
[3] Lundh, K. *Op. cit*. S. 148-159.

European lands. As a result, Sweden narrowed consistently the productivity gap with the United States, and this happened in the fastest way between 1929 and 1973.[1]

Therefore, it should come as no surprise that Swedish corporations produced the whole set of classical mass-producing consumer goods being traditionally associated with fordism. The majority of these corporations were established before the Second World War. SKF managed to be a leading producer of ball bearings in the world market. Engineering companies like LM Erixon, ASEA (the Swedish General Electric), AGA and Alfa-Laval took advantage of large-scale fordist production as well. Scania-Vabis, Volvo and Saab formed the Swedish automobile industry. Electrolux produced refrigerators and vacuum cleaners. Ship-building industry as well as steel and iron industries had moved in the same direction. The pattern of industrial development that started in the United States with the breakthrough of mass production was successfully repeated in Sweden. However, institutional changes that took place in American and Swedish labour markets are of more importance for the actual research.

Labour market institutions and wage formation during Fordist age

Wages constitutes the largest part of costs. Their fluctuations effect not only wage-earner's living standard but price level and inflation as well. During the age of fordism wage formation played even more important role because of its significance for stabilisation of markets and costs in mass-producing corporations.

Labour market and wage formation in the United States

The American labour market can be characterised by a high level of heterogeneity and segmentation during the whole twentieth century. A great variety of industrial branches based both on fordist principles and traditional craft production existed. Regional differences marked the United States' economy as well. Besides that, contradictions between black and white employees, the presence of numerous ethnical and religious groups and the standing immigrant inflows should be taken in consideration. This diversity made difficult to organise

[1] Swenson, P. *Op. cit*. P. 136-137.

labour-market partners on the national or even on branch level. Yet institutional structure of the American labour market witnessed considerable changes during the twentieth century which had direct connections with the breakthrough if the fordist production paradigm. [1]

The general attitude towards trade unions was hostile before the Great Depression. Whatever militant American unions were vis-à-vis their employers, the last managed to win the struggle and preserved their control on the shop floor. As a result, the degree of unionisation was very law equalled to 16,2 per cent in the early 1930s whereas wage formation remained firm-based. This did not hinder, however, a long-time cooperation between employers and unions in some branches, for instance, in a building sector. Trade-union movement was divided in several national organisations, of which American Federation of Labor (AFL) and Congress of Industrial Organisation (CIO) were the largest ones. Contrary to their European counterparts, American unions had not been influenced by socialist ideology, and a strong political labour party that could make claim on a governmental power did not arise in the United States.[2]

The anti-union attitude of big mass producers did not imply that they tried to exploit their workers as long as profitability of the company was high. Wages on Henry Ford's plants, for example, were very high compared to general standards. He was one of the first employers who introduced an eight-hour working day. An interesting phenomenon called for "welfare capitalism" arose in big American corporations during the 1920s. Under the time of economic upswing they tried to retain the labour force by giving high wages and firm-based welfare benefits of varying character. Some of them were pensions, health and accident insurance, medical treatment, housing, profit-sharing schemes and the like. Some forms of industrial democracy were employed as well. By these measures the big corporations strove to create the sense of firm community and guarantee the workers' loyalty, but independent trade unions were not accepted as such. The policy should help to stabilise labour costs and relations on the shop-floor and contribute to growing productivity and profitability.[3]

The "welfare capitalism" or "American Plan" as it was otherwise called worked well during the time of the 1920s prosperity. However, it failed to secure a long-term economic

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[1] See a general economic-historical overview over the American labour market in: Goldin C. 'Labor Markets in the Twentieth Century' in *The Cambridge Economic History of the United States. Vol. 3.* P. 549-623.

[2] Nycander, S. *Kriget mot fackföreningarna.* Stockholm, 1998; Swenson P. *Op. cit*. P. 50-54; 142-166.

[3] See more abot the ”welfare capitalism” in Carlson, B. *Amerikansk välfärdskapitalism och social ingenjörskonst*. Stockholm, 2003.

growth and to prevent the Great Depression. The big fordist mass-producers tried to reach economic stability on their own and first and foremost for their own corporations. Some form of macroeconomic regulation of the aggregate demand was not created, and the American plan had fallen a victim to the Depression.[1]

The consequences of the Great Depression and New Deal reforms created almost completely different conditions for trade unions and wage bargaining between employees and employer's organisations. The Roosevelt administration took initiative for a new labour market legislation that resulted in the emergency of a new stable system of American industrial relations during the post-war period. This legislation had close connections with welfare programmes.[2] The most important reforms were following:

1. National Labor Relations Act (NLRA or Wagner Act) 1935 laid down the foundations for collective bargaining in the American industry. Union-security clauses guaranteed employees the right of organisation and strike, and employers were obliged to negotiate with unions concerning wages and working conditions. Naturally, managerial control as such was not questioned, but the legislation gave employees the possibility to decide themselves whether they wanted to be unionised or not, whereas employers must accept workers' decision. As a result, a system of collective bargaining did arise in America, and the unionisation of labour force began to grow rapidly, from 11,6 % in 1930 to 35,5 % in 1945. This was despite the fact that a significant part of American employers never abandoned their antiunion philosophy.[3]

2. Fair Labor Standards Act (1938) prescribed minimum wages. The law was intended to raise purchasing power. At the same time it should counterbalance the competition for labour force between the big corporations and "unserious" enterprises with law labour costs. Besides that, FLSA strengthened unions by giving them additional possibilities to follow wage raises that were negotiated in leading industries such as automobile one.

3. Compulsory Unemployment Insurance (1938) as a part of Social Security Act had the same regulating functions as FLSA. It should be mentioned that a large part of labour power was excluded from these benefits, namely agricultural workers and employees at small

[1] Piore, M., Sabel, C. *Op. cit*. P. 124-130.
[2] Tomlins, C. 'Labor Law' in: *The Cambridge Economic History of the United States. Vol. 3.* P. 673.
[3] Kochan, T., Katz, H., McKersie, R. B. *The Transformation of American Industrial Relations*. N. Y., 1986. P. 22-28; Swenson P. *Op. cit*. S. 213-219.

enterprises. This depended on the compromise that New Dealers should come to with influential congressmen from the South.

The New Deal labour legislation resulted in the system of national wage formation based on collective bargaining and the rise of trade unionism in muss-production industries. This became a cornerstone of the long-term economic stabilisation. It is true that the degree of unionisation remained relatively law compared to European countries. But union played much more important role if the aspect of wage formation is taken into consideration. 70 per cent of all production workers were covered by union contracts. Even though the minority of workers were union members, their wages followed after the results that were negotiated in leading mass-production industries, automobile industry in the first place.

The American system of wage formation rested on five main elements: the model automobile-contract formula, established in 1948 United Auto Workers (UAW) – General Motors agreement; pattern bargaining spread from automobile industry to the rest of unionized industries; the federal legislation (NLRA) that facilitated unionization and forced employers, who rejected to negotiate with unions, to raise wages up to the level achieved by collective agreements; minimum wage legislation; wage-setting mechanism in the public sector. [1]

The UAW-GM wage-setting formula that was used in the auto industry since 1948 was the cornerstone of the American wage-determination system. It arose as a compromise after the strike movement that occurred after the war. Wage raises were the issue, and the formula was suggested as a solution by General Motor's president Charles Wilson. It was composed by two elements, AIF (Annual Improvement Factor), which was calculated in accordance with increases in productivity, and COLA (Cost-of-living Adjustment Escalator) based on consumer price index. The formula was accepted by unions and became the basis for collective bargaining agreements in the auto industry. Even though the union leaders failed to get centralised collective bargaining on the branch level, the same formula was used in separate agreements between UAW and the Big Three, namely GM, Ford Motors and Chrysler. This model of wage determination was used in the auto industry during 1950-1979. The result was standardisation of wages and wage compression. This meant that wage differentials shrank between professional groups and individual companies.[2]

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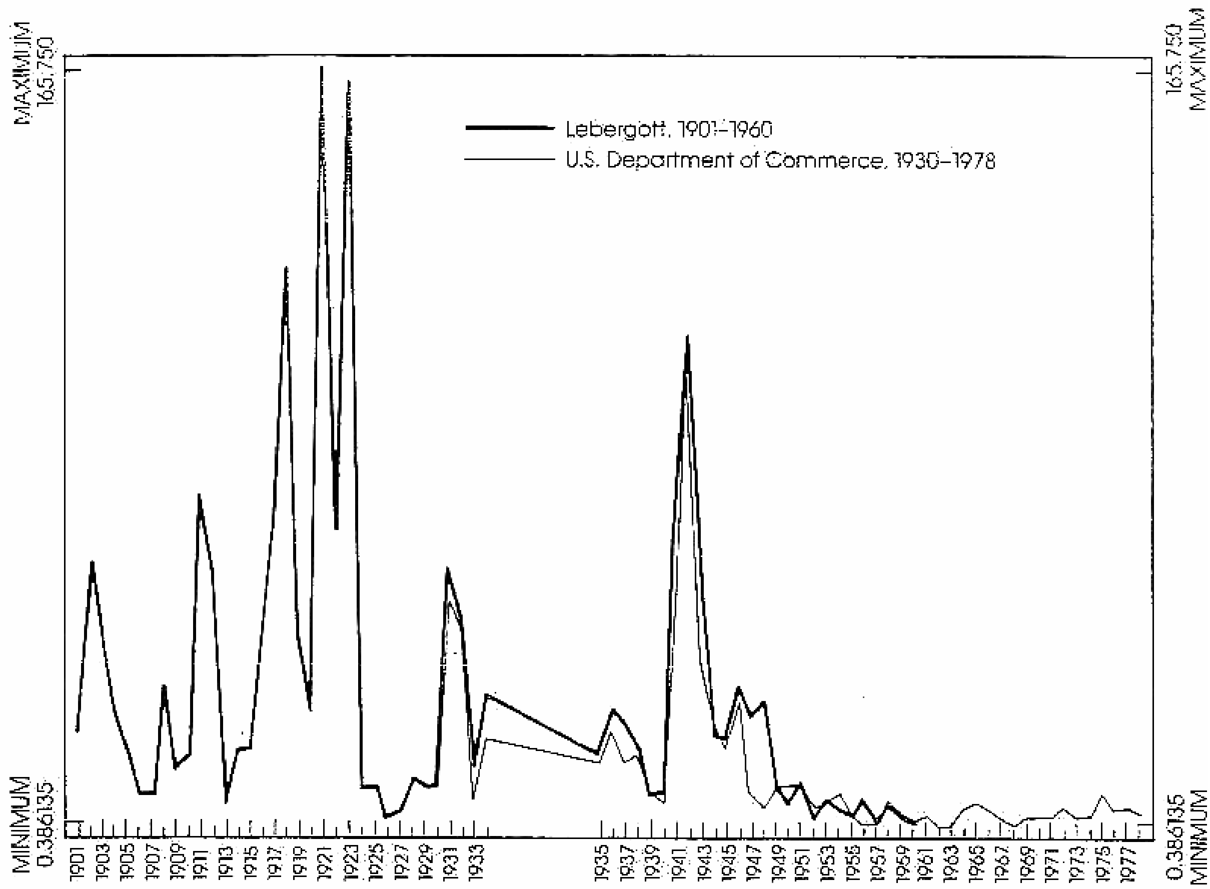
[1] See more in: Piore, M., Sabel, C. *The Second Industrial Divide*. P. 79-89.
[2] Katz, H. *Op. cit*. P. 13-34.

Standardisation of wages spread to the rest of American economy, first and foremost to subcontractors of the auto industry and other mass-producing industries. "What America drives, drives America", as the slogan of American Automobile Association sounded, and this was true for the American wage bargaining system as well. Wage negotiations were coordinated on national level in the sense that unions followed wage raises in the auto industry and made claim for corresponding raises for their own industries and companies. And the collective agreements covered not only unionised workers but all employees in corresponding enterprises.[1]

Figure 2. Variability of relative wages. All American industries, 1907-1978



Source: Piore, M., Sabel, C. *The Second Industrial Divide*. P. 83. The variance measures the degree to which the rate of change of wages differs in different industries

[1] Se Kochan, T., Katz, H., McKersie, R. B. *The Transformation of American Industrial Relations.* P. 30-37.

Minimum wage legislation and wage-setting mechanisms in public sector implied that wage raises in these sectors followed the patterned reached by collective agreements in the private sector. A special set of rules was used for this purpose.[1]

Thus, the wages were stabilised during the long period that in turn meant stabilisation of production costs and purchasing power that were growing at the same rate as productive capacity. The wage level did not depend on short-term economic fluctuations. Wage drift took place in American industries, of course, but the United States were characterised by a standardised wage system from the 1950s until the middle of the 1970s. Wage differences were pressed between different industries and professional groups. The phenomenon of wage compression is presented in Figure 2.

The compression did not affected wages only. The same tendency can be traced with regard to prices.[2] Claudia Goldins data shows the same picture. Wage differentials decreased dramatically during the 1940s. According to Goldin, they began to increase again since the second half of the 1970s, even though the gender differences as well as gap between white and black workers continued to decrease in the 1980s.[3]

In sum, we find that during 1940-1960s the phenomenon of great compression took place in the American industry. This phenomenon was rooted in the mass-producing industries and was one of the most important, if not the most essential, prerequisites for the stabilisation of wage costs and prices. It created conditions for macroeconomic stabilisation and long-term economic growth that continued up to the oil crises in the 1970s. The fordist mass producers were the driving force behind this stable economic growth.

Labour market and wage formation in Sweden

Contrary to the United States, the Swedish labour market was characterised by greater homogeneity. Ethnical and religious differences did not practically exist during the most part of the twentieth century. The Swedish labour market was little compared to the American one. Only the American auto industry had 8,053,000 employers in 1979[4] that was comparable to the whole Swedish population. During the fordist epoch the Swedish industrial structure was

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[1] Piore, M., Sabel, C. *Op. cit*. P. 81-88.
[2] *Ibid*. Figures 4.1 (b-c) and 4.2 (a-c). P. 83-88.
[3] Goldin, C. *Op. cit*. P. 599-609.
[4] Katz, H. *Op. cit*. P. 2.

homogeneous as well and was dominated by large engineering corporations and raw-material companies.[1]

All these factors created favourable conditions for centralisation of labour market institutions compared to what could be reached in the United States. The advance of the Swedish trade union movement at the beginning of the last century is striking. By the middle of the 1930s the unions became the strongest in the world, if the grade of the unionisation and connections with the ruling Social Democratic party is taken into account. It is stated sometimes that this advance depended on favourable attitude that the old Swedish "political establishment took towards unions since the late nineteenth century. This situation differed of course from the American one.[2] But an analysis of the developments in the labour market and wage-formation system shows that the unique power of the Swedish unions has another explanation that can be even more important than the cultural factor.

If one turns to the history of the Swedish labour market one can find not only a strong labour movement with socialist tradition but an exceptionally strong and centralised Swedish Employer Association (Svenska arbetsgivareförening, or SAF) as well. The recent research of the relations between unions and employers' federation shows that it was employers who encouraged the unions towards centralised wage bargaining on branch and national levels.[3] The Swedish employers accepted on early stage workers' right for organisation as well as principle of collective agreement. What they defended harshly was their managerial prerogatives in the production sphere (the right "to lead and divide the work" according to SAF's statute, i.e. to hire and fire employees and to supervise work). It is true that before the 1930s the Swedish labour market was one of the most turbulent in the world and was characterised by a high rate of strikes and lockouts. But the Swedish employers did not use the tactics of lockouts in order to destroy the unions as institutions. They strove instead to discipline unions and get them to accept the principal of centralised collective agreement as well as to stop trade-union attempts to intervene into there managerial control. The process of centralisation of wage bargaining took several decades and should not be viewed as a conscious strategy pursued by employers. It implied much more their interests in the sphere of wage formation. SAF became centralised before the same internal centralisation was the fact in blue-collar union confederation, LO (Landsorganisationen), that could take control over its

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[1] Schön, L. *Op. cit*. S. 336-341.

[2] Nycander, S. *Makten över arbetsmarknaden. Ett perspektiv på Sveriges 1900-tal*. Stockholm, 2002. S. 96-99.

[3] See Swenson, P. *Op. cit*. P. 71-141; Lundh, C. *Op. cit*. S. 77-136.

affiliates not earlier than 1941.[1] These developments led to a long-term cooperation between SAF and LO that was institutionally legalised by the famous Saltsjöbaden agreement 1938. The agreement implied that wage formation would be determined by collective negotiations between the labour-market partners on national level. However, only in the early 1950s could SAF and LO reach their first collective agreement, and wage formation became profoundly centralised.

Hence, the question arises why the Swedish employers were interested in centralised wage bargaining and strong national union organisation, the process that in general led to elimination of wage differences between industries and firms. Some Swedish researchers traditionally ascribed wage compression that took place in Sweden until the early 1980s to the Marxist-inspired wage solidarity policy put forward by blue-collar trade unions in the 1950s. The policy meant that low-paid workers got higher wages compared to what the market equilibrium would prescribe whereas higher-paid workers had to accept a lower wage level.[2] The reality was, however, that the Swedish employers had their own interest in the decreasing of wage differentials, i.e. some kind of "wage-cost solidarity policy". The answer to this paradox lied in the position of the Swedish industry, especially engineering corporations, towards foreign and domestic markets. The export-oriented companies must survive in the hard foreign competition. Therefore, what they needed was to press down their wage costs below the level that market forces would dictate them. The wage solidarity policy was needed inter alia to discipline the building sector's employers who competed with engineering corporations for the same labour force, but were able to offer higher wages. [3] This is the main explanation of why the Swedish employers take the initiative to the centralised wage bargaining. It should come as no surprise that the big fordist engineering corporations were the driving force behind the policy.

The situation became more urgent during the 1960s when the international competition was growing and a wave of rationalisations spread in the industry. As a result, the demand for semi-skilled workers was growing as well, and wages increased for this group of labour force. This led in turn to further compression of wage differentials.[4]

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[1] Lundh, C. *Op. cit*. S. 181-186.

[2] This argument is most articulated in Hedbord, A., Meidner, R. *Folkhemsmodellen*. Stockholm, 1984. S. 60-71.

[3] Swenson, P. *Op. cit*. S. 77-78, 99-100.

[4] Svensson, L. 'Ideologin och marknaden sätter löner' i: *Verkstadsindustrin, lönebildning och framtiden.* Stockholm, 1996.

Figure 3. Variance coefficient for male workers wages in 11 branches of the Swedish manufacturing industry

Source: Lundh, C. *Spelets regler*. S. 203. Variance coefficient is a standard deviation as a percentage of the arithmetical mean and shows the dispersion of branch wages in relation to the average wage for the whole manufacturing industry.

Despite the fact that it was SAF which took initiative for centralised wage bargaining, the Swedish unions were favoured by this centralisation as well. Indeed, a deep coincidence of interests occurred in 1950-1970s between LO and SAF. Firstly, the process implied that the union confederation achieved considerable strength by all international standards, and the degree of unionisation of blue-collar workers was up to 85 % at that time.[1] Taking into account near relations between LO and the ruling Social Democratic party, it is easy to understand that LO became a strong power in the Swedish politics. This power could be used for pursuing the reform policy in the interests of LO members. Secondly, the wage

[1] Korpi, W. 'Labor Movements and Industrial Relations' in: *Nordic Democracy*. Copenhagen, 1981. P. 308-323.

differentials squeezed as a result of wage solidarity policy, and law-paid groups of workers did see their wages increased.[1] At any rate, the society as a whole won on the cooperation between employers and workers because the policy implied lower inflation and peace on the shop-floor.

The long-term process of wage-formation centralisation resulted in the tendency towards wage compression in the Swedish manufacturing industry that is confirmed by statistical data presented in Figure 3.

The wage compression during 1940-70s was not a slump coincidence but reflected a long-term tendency towards centralisation of wage formation since the very beginning of the twentieth century. The process reached its peak simultaneously with the breakthrough of the fordist mass production paradigm during the post-war period. Until the end of the 1970s the LO-SAF collective agreement was leading for the rest of employees, first and foremost for white-collars in both private and public sectors.[2]

The centralised wage-formation contributed to the long-term macroeconomic stabilisation. It stabilised wage costs and prices as well as domestic aggregate demand. However, the last was not of exceptional importance for Sweden because of its export dependency. To supplement the effects of central collective bargaining, reforms in welfare and governmental economic policy were introduced.

Welfare state and macroeconomic policy

The main welfare reform offensive in the United States occurred as a part of New Deal in the 1930s. At the beginning of the Great Depression the big mass-producing corporations did not react as a neoclassical theory would predict. Instead of decreasing wages to restore market equilibrium, they preferred to retain them on the pre-crisis level. Henry Ford decided even to increase wages at his factories up to seven dollars per day. He hoped by this gesture that the rest of American employers would follow his wage policy. Indeed, until 1931-1932 the wages and benefits had not been reduced. Mass producers knew perfectly what kind of production they run, and they were aware about the necessity to secure an appropriate level of aggregate

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[1] Whyman, P. *Sweden and the 'Third way'. A Macroeconomic evaluation*. Aldershot, 2003. P. 46.

[2] Johansson, A. L., Magnusson, L. *LO andra halvseklet*. Stockholm, 1998. S. 77-108, 253-256

demand to create the purchasing power for their products. This was just this sort of argument that was expressed by Ford when he proclaimed about the wage raise. This understanding was shared by the rest of American mass-producing employers, and its theoretical explanation came later in form of Keynesianism.[1]

The strategy failed in the early 1930s. Whatever big the mass-producing corporation were, they could not stabilize the economy on their own without some form of macroeconomic coordination on national level. The welfare reforms played an important role for a recovery after the Great Depression and became one of prerequisites for the national-wide wage formation considered below. The emergency of the American welfare state was the result of cooperation between Roosevelt's administration and the Big Business' representatives.[2]

The welfare reforms such as Fair Labor Standards Act and Social Security Act from 1938 were intended to create a higher level of purchasing power and to stabilize markets. The big mass producers welcomed reforms, despite the fact that the largest employer organisation National Association of Manufactures was against them. But the attitude taken by the management of the biggest corporation were decisive, and its favourable character depended on the existence of interrelation between mass production and welfare. As soon as the Great Depression occurred, the mass fordist companies were exposed to a hard competition from law-waged enterprises. Because the state took a responsibility for minimum pensions as well as had all employers to introduce compulsory unemployment insurance and pay minimum wages, this competition was successfully eliminated. All companies began to contribute to the welfare system and had to share costs for its creation. [3] Thus the mass-producing employers were the main winners, and coordinated wage formation based on collective agreements became possible after the war.

Since the prerequisites for the stable growth of mass-producing corporations along fordist paradigm were created, a theoretical justification of governmental policy was needed. New Deal's reforms did not have direct interconnections with Keynes' theories. However, in the late 1930s his ideas made breakthrough in the United States. A theory speaking about the possibility to steer demand in order to increase purchasing power and achieve full employment matched perfectly as a legitimization of Roosevelt's economic policy. Apart

[1] Kochan, T., Katz, H., McKersie, R. B. *The Transformation of American Industrial Relations*. P. 26.
[2] See a detailed historical evaluation of this process in Swenson, P. *Op. cit*. P. 191-244.
[3] Swenson, P. *Op. cit*. P. 197-213.

from that, Keynesianism suited very well as an argument for creating budget deficits to finance government expenditures. This kind of policy was pursued until Ronald Reagan administration of the 1980s.[1] However, the key factor behind stable economic growth was not economic policy as such, but a regime of macroeconomic regulation that created conditions for expanding of the fordist mass production paradigm.

Sweden is considered as a classical case of a universalistic modern welfare state characterised by a high degree of equality and social security. The Swedish welfare model is described as an opposite one to the American liberal welfare system based on means-tested assistance and private insurance.[2] But contrary to the claims of some Swedish researchers affiliated with the Swedish labour movement, no significant welfare reforms were introduced until the middle of 1940s. In fact, until this time was American welfare system more universal than Swedish. Comparison of welfare reforms that were introduced in two lands at that time shows that American ones were more advanced than their Swedish analogues. But since 1946 something happened in Sweden, and one welfare reform after another came into being, so since 1970s Sweden became the leading nation with regard to welfare universalism and public sector's size as a percentage of GNP. The most characteristic feature of this welfare model is a greater percentage of public employees compared to Continental Europe and the United States.[3] The paradox of the acceleration of the Swedish welfare state between 1940s-1970s has not been properly explained by researchers. The fact is that this acceleration coincided with the golden age of the Swedish fordism and centralised wage bargaining.

Sweden is often presented as a land where innovative economic policy was invented and implemented in practice. Among other things, it has been well-accepted that the land was the first that introduced Keynesian methods of economic regulations. But as recent research has shown, the Swedish recovery after the Great Depression depended much more on favourable demand on Swedish raw-materials and underestimated *krona* in the 1930s.[4] Rehn-Meidner economic model is an additional example of the Swedish innovativeness. This model was presented by LO economists in the early 1950s and was intended to solve a complex of

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[1] Brownlee, W. E. 'The Public Sector' in: *The Cambridge Economic History of the United States. Vol. 3*. P. 1043-1055.
[2] See Esping-Andersen, G. *The Three Worlds of Welfare Capitalism*. Cambridge, 1990. och i synnerhet P. 26-33.
[3] Swenson, P. *Op. cit*. P. 245-292.
[4] Schön, L. *Op. cit*. S. 345-352.

problems like creating a stable growth and law inflation as well as full employment and wage solidarity policy. If the model had been implemented as it was prescribed it would have implied a break with a traditional Keynesian thinking. This did not happen, however. Just one element of the model, namely active labour market policy, was consequently implemented. The revision of Keynesianism did not arise, and some kind of dramatic change of the Swedish economic policy did not occur during the 1950s-1970s.[1]

Conclusions

To summarize, we should made conclusion about the existence of a special “Swedish model”. If it existed, can the centralised wage-bargaining system be the core of this model? To answer the questions put in the introduction, a comparative research between Sweden and the United States has been made. Table 2 presents the result of comparison between fordist societies in Sweden and the United States.

Basing on the presented research, the conclusion is that during the expansion of the fordist mass-production paradigm two lands moved towards the same trend despite different cultural background and weight in the world market. Firstly, the economies of Sweden and the United States were dominated by big mass-producing corporations. Secondly, the labour market relations were marked by a national-wide wage-formation system based on collective bargaining. As a result, the phenomenon of wage compression occurred in both countries. Thirdly, macroeconomic regulation was supplemented by welfare reforms and Keynesian economic policy. It means that those tendencies towards coordination of wage-formation process and centralisation of labour-market relations that arose at first in the USA were successfully repeated in Sweden. Moreover, these tendencies resulted here in a stronger variant of centralisation and wage compression. Thus, the main conclusion is that the Swedish model of industrial relations was not the result of the Swedish labour movement’s strength only but implied an explicitly articulated variant of fordism. Indeed, such kind of model never existed in reality but was to a great degree a mental construction invented by some Swedish and foreign social scientists and politicians. Homogeneity of the Swedish labour market and strong dependency of the Swedish industry on exports made possible to achieve a higher

[1] See more about Rehn-Meidner model in: Erixon, L. *A Swedish Economic policy: The Theory, Application and Validity of the Rehn-Meidner model*. Stockholm, 2001; Whyman, P. *Sweden and the “Third Way”. A Macroeconomic Evaluation*. Ashgate, 2003; *Den svenska modellens ekonomiska politik*. Red. L. Erixon. Stockholm, 2003

degree of centralisation of wage-formation process compared to what took place in the United States.

Table 2. The fordist societies in Sweden and the United States, 1930s-1970s

The cornerstones of fordist societies	Sweden	**USA**
Big corporations' dominance in the economy	Yes	**Yes**
A big domestic market	No	**Yes**
Dependency on export	Yes	**No**
A national-wide wage formation system based on collective bargaining	Yes	**Yes**
Wage compression	Yes	**Yes**
Centralised national employer and trade-union organisations	Yes	**No**
Macroeconomic policy	Keynesian	**Keynesian**
Universalistic welfare state	**Yes**	**No**

It should come as no surprise that as soon as the crisis of the 1970s came into being, and the fordism mass production ceased to be the a motor behind economic growth, both wage compression and systems of national-wide wage formation disappeared. This happened first in the United States, and was repeated later in Sweden. Because Sweden had a more centralised national wage-bargaining system, the changes were viewed as exceptionally dramatic and were presented as a "collapse of the Swedish model".

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