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Mass Production, Economic Growth and Social Justice: Historical Lessons for Russia*

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Abstract
This paper examines the impact of mass production on economic development in the United States and Sweden between the 1930s and early 1970s. It suggests that the historical experience in both countries can be used to illustrate a possible pathway for promoting progressive development of the Russian economy. The article discusses the conditions under which mass production can promote economic growth combined with social justice in post-Soviet Russia.

JEL-classification: N12; N14; N32; N34; O10; O50; O57

Key words: economic history, mass production, wage formation, Fordism, Sweden, United States, Russia’s economic crisis

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Between the 1940s and 1970s the Western world witnessed an unprecedented period of stable economic growth. The prominent statistician in the field of historical economics Angus Maddison characterises this period as a ‘Golden Age’ (Maddison, 1995, pp. 73-86). Indeed, the establishment of the mass production paradigm resulted in a persistent growth of welfare for the majority of Western citizens and implied a decrease in income inequality between different professional and social groups. The Regulation School has highlighted the linkages among mass production, wage formation and development of labour market institutions by using the concept of ‘Fordism’ (Boyer, 1990; Elam, 2003). The purpose of this article is twofold. First, it investigates the institutional pattern that created the conditions for economic growth under mass production in two countries: the USA with its huge internal market and Sweden with its small market highly depended on the world economy. Second, the article relates this historical experience to the current situation in Russia which is still trying to recover after the economic and institutional crisis of the 1990s.

The Regulation School as well as the theory of industrial paradigms developed by American economist Michael Piore and political scientist Charles Sabel (see Piore & Sabel, 1984) form a theoretical basis for the paper. Using ideas from these two schools, the following formulation of the concept of ‘Fordism’ will be applied in the article. Fordism, or the Fordist society, is a model of industrial society defined by mass production and dominated by large corporations in the economy. In the socio-political sphere Fordism rests on centralisation within the institutional order and decision-making involving a system of centralised wage bargaining between employer organisations and trade-unions.

Fordism as industrial paradigm and its impact on the American economic development

Fordism as an industrial paradigm made its breakthrough at the beginning of the twentieth century and is usually associated with success of Henry Ford’s Model T. The advance of mass production was conditioned by American economic development since the nineteenth century. First, it was based on the presence of a great domestic market where consumers were ready to accept mass-produced goods despite the higher quality that craft production could often supply. Secondly, growing numbers of immigrants became a large army of cheap and low-qualified labour force who could be used by American employers to establish mass-producing industries (Hounshell, 1984; Piore & Sabel, 1984, pp. 19-48).
Fordism as an industrial paradigm on a micro level implied the division of labour process into separate easier operations that could be carried out by semi-skilled workers on the assembly line. The production in long series led to lower prices that made mass production superior to the old craft system. But the standardisation of the labour process had another dimension: it resulted in mechanization of the labour force. Managers limited labour operations that depended on the initiative ‘from below’. Workers had to execute routine tasks, so it was no wonder that Henry Ford’s company had to witness great labour turnover. This led to high wage increases and strengthened workers’ incentive to remain at their specific factory jobs. These principles were spread to the rest of the automobile production industry and later to other industries and foreign economies.

Yet Fordism was a much more complex phenomenon than just the introduction of a conveyer belt and standardized labour methods. Mass production had an important impact on macroeconomic regulation as well as the national and international economic regime. It changed 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 depend on volume of production. They must be paid, whether the firm produces or not. Fixed costs are weighed before an investment decision is made. The fixed costs of large firms can be much higher compared with the cost structure within more flexible production within smaller firms and depend on higher production volumes. This means that mass production is more rigid compared with craft production because the demand on mass-production goods should be sufficient to repay investments into huge industrial plants and equipment. If market predictions fail, it can imply the loss of devastating economic resources (Piore & Sabel, 1984, p. 50-53; Lamoreaux, 1987, pp. 1-45, 62-194). Mass production according to fixed product lines is vulnerable to downturns.

Mass production, nevertheless, had one important advantage that played a crucial role for its breakthrough in the twentieth century and subsequently for the emergence of the Western economy’s ‘Golden Age’. The greater volume of mass-production implied that the unit cost drop rapidly while output expands, until the capacity of further expansion is blocked. As a result, the price level on mass-production goods used to be much lower when compared to craft production. This explains why mass production was competitive during the first half of
the twentieth century in the USA, and afterwards in post-war Europe (Piore & Sabel, 1984, pp. 50-54).

The logic of mass production presupposed that it was driven by large scale advantages. As a result, a modern corporation with a centralised structure and decision-making arose. The establishment of Fordism as an industrial paradigm had a number important consequences for the whole society, because it gave considerable savings of material and humane resources. This made possible a general rise of living standard. To create conditions for expanding mass production, stable markets for consumer durables should be guaranteed. Costs should be stabilized in the same fashion that implied stabilization of labour market relations. An appropriate regime of macroeconomic regulation was needed to let mass-production industries grow (Jessop 2003, pp. 252-254). But the achievement of such a regime was not easy.

Laissez-faire doctrine, with its principles of limited state intervention, dominated American economic thought and policy before the Great Depression. It presupposed an unrestrained competition between economic actors under free market conditions. This resembles the view on economic policy that dominated Russian politics under president Yeltsin’s years and Putin’s first term of presidency. Ideally, this kind of economic order should favour both producers and consumers. Before the mass production emerged, these principles did work, despite periodic fluctuations. The Great Depression showed, however, that mass producers failed to guarantee macroeconomic stability and secure their markets by acting on their own. Stabilization of the national system of wage formations was of extraordinary significance for solving the crisis (Piore & Sabel, 1984, pp. 73-78).

The Great Depression demonstrated that mass production created completely different prerequisites for investment climate. The extremely high fixed costs implied that no economic actor wanted to make huge risky investments in the situation of uncertainty. Entrepreneurs were ready to invest if they were sure that an appropriate level of demand would exist. This could happen under condition of stabilized markets for mass-production. If a recession occurred, the propensity to invest decreased dramatically and economic recovery was being delayed (cf. Galbraith, 2000, pp. 178-180). Mass production industries could not recover as quickly as the small-sized craft production enterprises did. 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 their purchasing power capacity. In other words, the mass production economy implied simultaneously a mass consumption economy. Thus unemployment could not be eliminated by a simple wage-cut. As soon as wages were decreasing, it led to the decline of purchasing power. The remedies prescribed by the neoclassical economists could lead to the opposite effect. Consequently, the lack of macroeconomic coordination on the national level resulted in a severe economic downturn. The attempt by single big corporations to regulate demand and wage formation under the era of ‘welfare capitalism’ during the 1920s failed (Gordon, 1994, pp. 242-253).

**National wage formation in the USA under Fordism**

Wages constitute the largest part of costs. Their fluctuations effect not only wage-earner’s living standard but price levels and inflation rates as well. During the age of Fordism wage formation played a key role because of its significance for stabilization of markets and costs for mass-producing corporations.

A set of institutional reforms under President Roosevelt’s New Deal created favourable conditions for the successful development of the Fordist production paradigm on a national scale. As a result, the period since 1940s until the early 1970s was characterised by a stable economic growth. Institutional arrangements on the American labour market and especially system of national wage determination were decisive factors behind stabilization of costs and aggregate demand. Coordinated collective bargaining between trade unions and employers held a center stage in this system.

The American system of wage formation under the age of Fordism rested on five main elements: the model automobile-contract formula established in 1948 by United Auto Workers (UAW) – General Motors agreement; pattern bargaining spread from automobile industry to the rest of unionized industries; the federal legislation (National Labour Relations Act, or Wagner act) that facilitated unionization and forced employers, who rejected union negotiations, to raise wages up to the level achieved by collective agreements; minimum wage legislation that guaranteed a minimal wage level for low-paid groups of workers; wage-setting mechanism in the public sector that followed the wage increases reached by collective

The UAW-GM wage-setting formula used in the auto industry since 1948 was the cornerstone of the American wage-formation 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 the consumer price index. The formula was accepted by unions and became a 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. Employers and unions strove to shrink the wage differentials between professional groups as well as between individual companies. Issues related to labour conditions were regulated in the same fashion. Another important consequence of the new wage-formation system was that the wage level did not depend any more on short-term economic fluctuations (Katz, 1984, pp. 13-34).

Standardisation of wage formation spread to the rest of American economy, first and foremost to subcontractors of the auto industry and other mass-producing industries. Collective agreement achieved between General Motors and the UAW became a pattern for agreements with other industries. “What America drives, drives America”, according to the slogan of the American Automobile Association, and this was true for the American wage bargaining system as well. Wage bargaining was coordinated a 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. The result of these collective agreements was spread not only to unionised workers but also to the rest of industrial workers. Thus, the American trade-union movement was much more influential than it could be judged by the degree of unionisation. By international comparisons, it still was relatively low and equalled 34.5 % of the total work force in 1954. The labour movement itself witnessed a considerable centralisation between the 1940s and the early 1970s whereas collaboration between union organisations was strengthened by mutual institutional agreements (Kochan, Katz & McKersie, 1986, pp. 29-46).
The mechanisms and settings considered above resulted in the emergence of a coordinated system of American wage formation and led to wage equalisation from the 1950s until the middle of the 1970s. Wage differentials decreased between industries and professional groups, females and males, the high- and low-skilled labour force, white and black workers, and between regions. This equalisation has been verified statistically and characterised by Claudia Goldin, one of the leading experts in American labour market history, as a ‘Great Compression’. Goldin and her colleague Robert Margo emphasize that this phenomena has been unique in American economic history. The wage compression began in the 1940s, not least because of policies pursued by the National War Labor Board, but preserved during the subsequent decades, even after abolition of the war-time regulations. Wage differentials that existed between the ‘Great Compression’ achieved the level of 1940 as late as 1985 (Goldin, 2000, pp. 599-604; Goldin & Margo, 1992).

Why did the ‘Great Compression’ take place? Goldin and Margo believe that the main explanation lies in the growing demand on the low-qualified labour force during the three decades after the Second World War (Goldin & Margo, 1992, pp. 15-32). The Swedish historian Tommy Isidorsson has shown in his study of working time development in Swedish industry that the growth of low-skilled workers in the total labour force was one of the most characteristic features of Fordism’s domination in economy. This growth was related to mechanisation, intensification and rationalisation of work (Isidorsson, 2001, pp. 265-266).

Standardisation of the wage formation process and wage compression meant stabilization of production costs and purchasing power that grew at the same rate as labour productivity. This created conditions for long-term economic growth and prosperity in the post-war USA. Indeed, the wage compression in the American economy between 1930s and 1970s was part of greater income redistribution (Williamson & Lindert, 1980, pp. 82-95, 135-153). These changes were closely related to establishment of Fordism and domination of mass-production industries in American economy. Welfare reforms of the 1930s and 1940s played an important role for recovery after the Great Depression and supported the new institutional order on the American labour market. Welfare reforms were aimed at creating high level of purchasing power and by this stabilised markets for mass-producing industries (on the interdependence between mass production and welfare state, see Jessop, 2003, pp. 254-257 and Piore & Sabel, 1984, pp. 89-91). Not only low-income Americans benefited from the
welfare reforms of the 1930s and 1940s. Naturally, big Fordist corporations had their own interest in supporting the introduction of social insurance for the American poor. Not surprisingly, the prominent representatives of the big American business became initially one of the driving forces behind the welfare reforms of the Roosevelt era (Swenson, 2002, pp. 191-249, 293-308).

**National wage formation in Sweden under Fordism**

In contrast to the United States, the Swedish labour market was characterised by greater homogeneity. Ethnical and religious differences were insignificant during the most of the twentieth century. The Swedish labour market was small compared to the American one. During the Fordist epoch the Swedish industrial structure was homogeneous and was dominated by large export-oriented engineering corporations and raw-material companies (Schön, 2000, pp. 336-341).

All these factors created favourable conditions for centralisation of labour market institutions compared to what could be achieved in the United States. The advance of the Swedish trade union movement at the beginning of the last century is remarkable, especially with regard to the degree of unionisation and the close ties between the Swedish Trade Union Confederation (Landsorganisationen, or LO) and the ruling Swedish Social Democratic Party (SAP).

Compared to the USA, Sweden only had a strong labour movement with a more durable Socialist tradition but also a stronger centralised Swedish Employer Association (Svenska arbetsgivareförening, or SAF). The recent empirical research of the relations between unions and employers’ federation shows that the Swedish employers encouraged the unions towards centralised wage bargaining on branch and national levels (Swenson, 2002, pp. 71-141; Lundh, 2002, pp. 77-136). The process of centralisation of wage bargaining took several decades. The famous Saltsjöbaden agreement between LO and SAF from 1938 became an important stage towards centralisation that institutionally confirmed the main principles of wage bargaining and solving labour market conflicts. This agreement is viewed as a starting point of the Swedish model of industrial relations. However, only in the early 1950s could SAF and LO reach their first collective agreement, and wage formation became profoundly centralised (Lundh, 2004, p. 126; Johansson & Magnusson, 1998, pp. 86-95).
Hence, the question arises as to why the Swedish employers were interested in centralised wage bargaining and strong national union organisation as well as decreased wage differentials between industries, firms and professional groups. The answer was to be found in the position of Swedish industry, especially of engineering corporations, towards foreign and domestic markets. The Swedish export-oriented companies had to survive in hard competition with their American and European counterparts. Therefore, Sweden’s largest and most influential Fordist engineering corporations had to press down their wage costs below the level that market forces would dictate them. This is the main explanation of why the Swedish employers took initiative for the centralisation of wage bargaining. An additional reason was to decrease the number of industrial conflicts (Swenson, 2002, pp. 77-78). Mass production was driven by a ‘no-stop’ principle that could cover large fixed costs and guarantee some profits.

The centralisation of wage formation on the national level went hand in hand with the establishment of the Fordist production paradigm in Sweden. The big Fordist engineering corporations were the main protagonists in favour for centralisation of wage bargaining. During the 1930s with its diminishing world trade and growing protectionism the Swedish export-oriented engineering corporations could pay lower wages than would be expected in a more open economy with expansive growth and new entrants. This implied that employers of the engineering corporations strove to decrease the wage level in the domestic-oriented industries. The situation changed dramatically after the 1940s. Now it was engineering corporations that had to offer higher wages under the pressure of strong demand from the world market whereas the home-protected industries became low-paid. This led to a situation when the Swedish engineering companies were highly interested in pressing their wage costs down to the level of the enterprises protected from the world market. The economic pressure for wage equalisation was the largest in the 1950s and 1960s, i.e. the period of the Fordist ‘Golden Age’ (Swenson, 2002, pp. 127-133; Lundh, 2004, pp. 122-128).

According to employers’ preferences, Sweden witnessed a considerable decrease of wage differentials for all groups of workers. The wage compression in Swedish manufacturing industry took place since the 1930s until the middle of 1980s and has been verified by statistical data (Lundh, 2002, p. 203; Stråth, 1998, p. 295). The official ideology of the solidarity wage policy pursued by the Swedish trade union movement became possible
because of overlap of interests between labour movement and employers from the big Fordist corporations. The latter could lower their production costs, but trade unions took advantage of the policy as well.

First, LO became an extraordinarily strong and highly centralised organisation. The degree of unionisation of blue-collar workers in Sweden was one of the highest in the world between the 1950s and 1980s. This power could be used and actually was used for pursuing the reform policy in the interests of LO members. Second, wage differentials were squeezed as a result of wage solidarity policy and low-paid groups of workers saw their wages increase (Svensson 1996). 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 wage compression in Sweden reflected a long-term tendency towards centralisation of wage formation in Sweden 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 took the lead for agreements for the rest of employees, first and foremost for white-collar workers in both private and public sectors.

The centralised wage-formation contributed to long-term macroeconomic stabilization. It stabilised wage costs and prices as well as domestic aggregate demand, even though the last was not of exceptional importance for Sweden because of its export dependency. Reforms in the field of the famous Swedish universal welfare state complemented the results of wage compression achieved by centralisation of wage formation. The welfare state in Sweden was directly related to collective bargaining and found strong support from the Swedish manufacturing employers (Swenson, 2002, pp. 268-274, 281-300). Its development coincided with the culmination of the Swedish mass production and the process of wage equalisation between the 1940s and 1970s.

**Mass production and Russia’s recovery from the economic and institutional crisis after the fall of Communism**

The model of Fordism that emerged in the United States rested on the existence of a huge domestic market. Domestic demand gave impetus to the development of American mass
production economy. On the contrary, Sweden as a small country had to develop mass-producing industries oriented to exports. However, despite different starting conditions, historical development with the USA and Sweden between the 1930s and early 1970s led to quite similar results with regard to economic growth and wage determination.

How can the Western experience considered above be useful for recovery of the Russian economy after the crisis of the 1990s and early 2000s? The situation in post-Soviet Russia was much more severe compared to the USA under the Great Depression. Actually, the economic depression in Russia of the 1990s was deeper and was more devastating than any in recorded peacetime period anywhere (Millar, 2007, p. 135). The inequality of income distribution and poverty in post-Soviet Russia have increased markedly (Lane, 2005, pp. 97-100). Despite the relatively favourable development of the Russian economy under president Putin, growth has been based on high price for Russia’s oil exports that lasted until autumn 2008. This model of economic development cannot secure Russia’s place in the developed world and create welfare for Russian citizens. Modernisation of the Russian economy based on further development of mass production can be a possible alternative to economy based on export of raw materials. However, such a development can be successful only under by creating an institutional pattern that would favour long-term growth of mass-producing industries. There are a number of convincing arguments that suggest that mass production is a basis for economic recovery. Mass production, but not an economy based on small and medium-sized enterprises, can combine the two aims of economic growth and social justice. Mass production can under certain conditions exploit the relative advantage of fixed costs and create a stable long-term economic growth that tends to give greater output compared to flexible production of small enterprises. It favours more equal distribution of incomes by decreasing wage differentials and creation of the modern welfare state.

The economic history of the United States between the 1930s and the early 1970s will be of greater importance to Russia than Sweden’s experience. As in the case of America, Russia has a possibility to develop its own mass-production industries by increasing domestic demand for consumer durables. This demand should grow simultaneously with growth of the national economy’s production capacity. However, there are some factors that can hinder establishment of mass-production industry. First, the Russian manufacturing industries are comparatively high energy-consuming because of cold climate and long geographical distances. Second, the emerging mass-producing industries will not be capable to compete
with their counterparts from Asian countries. The latter develop mass production using comparative advantage of low prices and labour costs. Low wages can not be acceptable for Russian economic recovery if the purpose of social justice is taken into consideration. At the same time, stimulation of the aggregate demand by raising wages, pensions and social security payments will not create stable economic growth without supportive policies. The stimulation is pointless if it leads to growth of imports without increasing demand on domestic producers. Mass-producing corporations require long-term stabilization of demand and costs to make large investments. To secure this demand, Russia should at the first stage of its Fordist model of growth pursue a protectionist trade policy and devalue the rouble. The reason for these measures is obvious: Russian industry is not competitive today on the world market.

A number investment sources for development of Russian mass-producing industry can be used. First, foreign investments should be welcomed because foreign companies bring both capital and new production technologies. Second, the use of oil and gas revenues for investment in the production sector by the Russian state should be one of the highest priorities of Russian governmental policy. Considering the current level of the Stabilizations fund, this choice is quite logical. Moreover, since 2006 the Russian state has pursued an active investment policy. For the first time since the collapse of the USSR, the Russian manufacturing industry has demonstrated a strong growth in investments, without taking into account the oil and gas sectors (Alfa-Bank, 2007). Though this trend is positive, it is still too early to judge whether Russia has escaped the danger of the ‘Dutch disease’. Consequently, the state investments will not be enough for a full-scale economic recovery on innovative basis. That’s why private economic actors should be encouraged to make investments in mass production. Russian society should accept legitimisation of privatisation that occurred after the collapse of communism, even though privatisation has not been fully in accordance with the Russian legislation.

However, historical experience of the growth models based on mass production shows that an increase in investments is insufficient for guaranteeing stable economic growth. What the current Russian political and economic actors should realise is that a new model of growth will not be effective without a well-thought out strategy in the field of industrial relations. Like the New Deal actors in the USA in the 1930s and the Swedish social democrats in the 1940s, the Russian government and labour market partners should formulate a new
institutional order to stabilise demand and costs in the long term. This order should comprise a nation-wide system of wage formation with clear rules for setting wage increases and mechanisms for decreasing wage differentials between industries and enterprises; social and labour legislation aimed at protecting appropriate labour conditions; creation of modern welfare state to support the growth of the aggregate demand on consumer durables. Such a model of industrial relations should be based on tripartite collaborations between the state, employer organisations and unions, i.e. corporatism. It is too early to conclude as to whether Russia will use a historical opportunity that has emerged from the recent oil boom to create a model of far more stable economic growth.
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This paper examines the impact of mass production on economic development in the United States and Sweden between the 1930s and early 1970s. Its purpose is twofold. First, it investigates the institutional pattern that created the conditions for economic growth under mass production in two countries: the USA with its huge internal market and Sweden with its small market highly depended on the world economy. Second, the article relates this historical experience to the current situation in Russia which is still trying to recover after the economic and institutional crisis of the 1990s. A special attention is given to the process of wage formation and its centralization in the age of Fordism. The Regulation School as well as the theory of industrial paradigms developed by American economist Michael Piore and political scientist Charles Sabel form a theoretical basis. The paper suggests that the historical experience in both countries can be used to illustrate a possible pathway for promoting progressive development of the Russian economy. The article discusses the conditions under which mass production can promote economic growth combined with social justice in post-Soviet Russia.

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