

Solidarity Forever?

Swedish Wage Levels as an Index of Working Class Marginalisation in Post-Golden Age Scandinavia

Jan Pedersen

University of Copenhagen

The social differentiation and resource base for power that was formerly associated with the collective pay structure does not attract the same attention it once did. Instead, researchers study how individual wages or salaries depend on a wider set of variables with an emphasis on human capital endowment.

Even in political discourse, preoccupation with structural wage differentials has all but vanished. Focus is on the overall degree of inequality as determined by the fiscal and social policies of a redistributive state. This paper represents an effort to reinstate knowledge of the pre-tax pay structure as a prerequisite for understanding society's conditions and dynamics.

Scandinavian wages and salaries around 1990

Empirical data are neither coherent nor consistent across the historical timeframe of this paper. However, covering a few years around 1990, a series of studies confirms some common assumptions: in terms of overall dispersion, the pay structure of Scandinavian labour markets was compressed, which was manifested, for instance, by narrow gender gaps and low Gini coefficients. Return on investment in human capital was relatively low but nonetheless significant – and the risk of unemployment diminished substantially relative to time spent on formal education.

In the public sector, pay on average was lower than in private employment. Disproportionate numbers of women found work in the tax-financed welfare apparatus providing educational, health and social services.

Almost regardless of country, some industries paid consistently more or less than others after adjusting for differences in the use of human capital and gender distribution. Mining, paper, chemicals, insurance, and real estate industries paid remarkably well, while textiles, wood, retail and household services provided relatively meagre

outcomes. Some important industries, measured by employment shares – namely, metal, construction, transport & communication and food manufacturing – showed more average pay levels.¹

With these similarities in pay structures, the subtopic of Swedish manufacturing wages dealt with in this paper may be assumed to reflect at least some general Scandinavian qualities and trends.

Methodology and sources

Register-based data, as in the studies quoted above, allow the use of subtle, statistically robust estimation techniques. The present paper displays only straightforward numerical properties of subgroups defined by a simple occupational taxonomy. One can hope that the rough but immediate realism of this descriptive approach partly compensates for a lack of sophistication and rigor. In any case, the impossibility of providing representative and consistent data on an individual level that covers the entire period leaves no other option than to rely on official statistical output.

Swedish manufacturing

The manufacturing & mining sector carries much weight in Sweden. At the beginning of the period, the sector accounted for more than one third of total employment. Although it declined to less than 20 percent of total output in 2010, it remains a primary source of exports and, thus, a mainstay of the Swedish economy.²

Table 1 shows employment in manufacturing. A vital locus for preserving the economy's international competitiveness are the metal industries, comprising, among other things, the highly specialized and export-oriented steel industry and a wide spectrum of manufactured products from high-quality mass items such as roller bearings and cutting tools to complex machinery.³ Since the 1970s, the metal group has kept up a

1 Niels Westergård-Nielsen (ed.) (1996): Wage Differentials in the Nordic Countries, in Eskil Wadensjö (ed.): *The Nordic Labour Markets in the 1990s*, Part 1, Amsterdam.

2 Lennart Schön & Olle Krantz: Swedish Historical National Accounts 1560-2010, Table VII. Employment 1850-2010, Lund University, Department of Economic History 2012, retrieved 03/11/16 from <http://www.ekh.lu.se/en/research/economic-history-data/shna1560-2010>; Statistics Sweden: Imports and exports of goods by commodity group SPIN 2007, adjusted for non-response, confidential data excluded. Years 2000-2014, retrieved 03/11/16 from http://www.statistikdatabasen.scb.se/pxweb/en/ssd/START__HA__HA0201__HA0201E/ImpExpSPIN2007TotAr/?rxid=b5b51e6e-4def-4eda-baf8-d74b3a020d73.

3 Pontus Braunerhjelm & Bo Carlsson (1999): Industry Clusters in Ohio and Sweden, 1975-1995, p. 288, *Small Business Economics*, Vol. 12, No. 4, 279-293; John Cantwell (2000): Technological lock-in of large firms since the interwar period, pp. 167f, *European Review of Economic History*, Vol. 4, No. 2, 2000, 147-174.

share well over 50 percent in spite of downswings and restructuring in the maritime and – more recently – automotive industries.⁴

Table 1. Employment in Swedish manufacturing 1953-2008

Year:	1953	1960	1970	1980	1990	2008
Share of blue-collar workers in:						
Mining	2%	2%	2%	2%	1%	1%
Basic metal industries			7%	8%	6%	6%
Metal and engineering	42%	46%	41%	44%	47%	47%
Non-metallic mineral products	5%	5%	5%	3%	3%	3%
Woodworking	9%	9%	10%	9%	8%	7%
Pulp & paper	7%	8%	7%	8%	14%	6%
Printing	4%	4%	4%	4%		3%
Food manufacturing	7%	7%	7%	8%	10%	9%
Beverages and tobacco	1%	1%	1%	1%	0%	
Textiles & clothing	15%	11%	8%	4%	3%	1%
Leather & fur products	4%	4%	1%	1%		
Chemicals, drugs etc.	4%	4%	6%	7%	7%	7%
Other manufacturing			1%	1%	0%	9%
Sum	100%	100%	100%	100%	100%	100%
Total number of blue-collar workers	631,856	698,680	674,921	612,388	530,174	376,000
Share of female blue-collar workers	18%	18%	21%	23%	24%	20%
Total number of employees	790,125	895,587	921,578	866,480	779,847	613,900
Share of salaried employees	20%	22%	27%	29%	32%	39%

Note: For 2008, the group “Other manufacturing” is more comprehensive than previous years. Furniture is one notable item now included.

Sources: 1953-1990: Statistisk årsbok för Sverige [Statistical Abstract of Sweden], retrieved 03/11/19 from <https://www.scb.se/hitta-statistik/aldre-statistik/innehall/statistisk-arsbok-1914-2014/>. 2008: Public database of Statistics Sweden (Statistikdatabasen), Average hourly pay and confidence interval, manual workers private sector (SLP) by region, occupational group (SSYK) and sex. Year 2008 – 2014, retrieved 03/11/19 from http://www.statistikdatabasen.scb.se/pxweb/en/ssd/START__AM__AM0103__AM0103A/SLP9aKI07/?rxid=41945727-c4d0-44ba-a98d-a582d1541205.

Textiles, clothing, shoes, etc. present the adverse image. These industries – due to post-war trade deregulation – were also subject to strong international competition.

4 René Taudal Poulsen, Hans Sjögren & Thomas Taro Lennerfors (2012): The Two Declines of Swedish Shipping, p. 101, in Stig Tenold, Martin Jes Iversen & Even Lange (eds.): *Global Shipping in Small Nations: Nordic Experiences after 1960*, London, 100-128; The Economist Intelligence Unit: Sweden: Saab restarts car production (02/12/13), retrieved 03/11/16 from <http://www.eiu.com/industry/article/201293404/sweden-saab-restarts-car-production/2013-12-02>.

The consequences were severe, moving gradually from one fifth of all blue-collar employment in manufacturing to only a minuscule share. By the end of the period, little more than niche businesses such as technical textiles⁵, specialized fashion brands and companies with long supply chains were left. Hennes & Mauritz, a global design and retailing company, is the obvious example.⁶ Whereas metal manufacturing provides space for technology-based specialization, embedded in consolidated, yet innovative business clusters handed down from the past, textile and leather products are typically dependent on low labour costs within a homogenous international technology regime.

This principle applies to food & beverages as well. However, the physical properties of the goods make a difference. Generically, garments and shoes are easy to transport and store. In the food industry, many items are perishable and, therefore, manufactured relatively near the point of consumption despite increasing international trade. The fact that some products in high demand – for instance, highly-processed convenience food – are untradeable over long distances helps the domestic food industry remain competitive,⁷ persistently holding a share between 8 and 10 percent of total blue-collar employment in Swedish manufacturing.

Table 2 indicates that, between 1960 and 1980, the range of workers' wages became increasingly compressed. The proclaimed solidaristic principle of the era was defensible in terms of national political economy – indeed, as part of a national class compromise – because the need for international competitiveness determined the appropriate level. A mutual understanding among industrial employers, the blue-collar national union federation, and the government imposed a norm on the labour market as a whole. When the system reached maturity, wages and salaries as a whole were, perhaps, more levelled out in Sweden than any place else in the capitalist world. However, 1983 marked a watershed as the centralized bargaining system began to break down. That year, metalworkers and their employers broke out and signed an independent deal because their joint hegemony was increasingly being challenged.⁸

5 EurWORK (24/7/13): Sweden: The representativeness of trade unions and employer associations in the textile and clothing sector, retrieved 03/11/16 from <http://www.eurofound.europa.eu/observatories/eurwork/comparative-information/national-contributions/sweden/sweden-the-representativeness-of-trade-unions-and-employer-associations-in-the-textile-and-clothing>.

6 Hip H&M. The Swedish retailer reinvents the world of affordable fashion, *Business Week*, 11/11/02; Company Profile. H & M Hennes & Mauritz AB, 2013 (MarketLine, cf. <http://www.marketline.com>); Atle Hauge, Anders Malmberg & Dominic Power (2009): The Spaces and Places of Swedish Fashion, *European Planning Studies*, Vol. 17, No. 4, 529-547.

7 Cf. John L. Park (1998): The Proposition of Fresh Prepared Foods: Retail Practices and Systemwide Implications, *Review of Agricultural Economics*, Vol. 20, No. 2, 435-447.

8 Torben Iversen (1996): Power, Flexibility and the Breakdown of Centralized Wage Bargaining: Denmark

Table 2. Relative wages in Swedish mining & manufacturing (housebuilding/construction added) 1953-2008, mean values by industry and gender, index numbers (mean of all male workers in mining & manufacturing = 100)

Year:	1953		1960		1970		1980		1990		2008	
Index numbers regarding:	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Mining	127	63	126	61	112	94	112	101	113	98	117	114
Basic metal industries							107	102	109	102	108	103
Metal and engineering	106	76	104	74	100	84	97	91	97	88	99	93
Non-metallic mineral products	91	63	95	63	96	77	100	90	103	92	101	92
Woodworking	87	66	90	70	91	79	92	87	93	86	95	92
Pulp & paper	96	72	99	69	99	79	110	93	117	99	114	104
Printing	109	75	109	74	118	85	119	101	111	94	105	90
Food manufacturing	91	69	90	69	96	78						
Beverages and tobacco							100	88	98	87	97	88
Textiles & clothing	86	67	84	66	86	73						
Leather & fur products	95	68	94	68	93	77	91	83	90	82	93	84
Chemicals, drugs etc.	99	70	97	69	95	77	100	88	103	90	104	93
Other manufacturing							90	85	89	81	85	80
Mining and manufacturing, total	100	69	100	69	100	79	100	90	100	89	100	91
Housebuilding (2008: Construction)	137		134		122		114		117		104	
Coefficient of variation	0.16	0.06	0.15	0.07	0.11	0.07	0.09	0.07	0.10	0.08	0.09	0.10

Sources: Based on figures from Statistics Sweden. 1953-1990: Löner 1929-2003, retrieved 03/11/19 from <https://www.scb.se/hitta-statistik/aldre-statistik/innehall/sveriges-officiella-statistik-sos/loner-19292003/>. 2008: See Table 1.

Since then, pay levels between groups and individuals have moved apart. This, however, was not the case for blue-collar workers in manufacturing.

The gender gap

The most significant change in the period was the strong improvement in female workers' wages, relative to male. There had been an off-and-on levelling process in phases earlier in the century. Nevertheless, the continuously increasing gender equality in pay over the two decades after 1960 was remarkable. From about 1980 onwards, the difference has remained at the same 10 percent level with little movement up or down.

According to the default interpretation, the narrowing of the gender gap is one thread among others in the egalitarian trend of the epoch. Svensson argues, however, that this explanation ignores the effect of independent market forces. By the beginning of the 1960s, homemakers offered an as-yet underutilized pool of labour, now mobilized through increased demand and its natural companion: higher wages. Productivity increase often occurred through capital deepening without augmenting human capital. Female workers with little previous training and experience, whose wages gradually rose but were still relatively cheap, were attractive to hire in this context.⁹ Steeply rising relative wages for women workers, thus, represented a conflation of egalitarianism and employers' rational response to competitive pressure. Accordingly, the female share of blue-collar occupations rose from 18 percent in 1960 to 23 percent in 1980. Presumably, the still rather modest share, declining again in later years, has to do with the overwhelming representation of female labour in the public sector.¹⁰

Male workers' wages

Male worker's wages became increasingly uniform across the board – here, expressed by the coefficient of variation. It moved from 0.15 in 1960 to 0.09 in 1980, remaining at that level in 2008.

and Sweden in Comparative Perspective, pp. 405, 420, *Comparative Politics*, Vol. 28, No. 4, 399-436; Magnus Gustavsson (2006): The evolution of the Swedish wage structure: new evidence for 1992-2001, p. 279, *Applied Economics Letters*, 13:5, 279-286.

9 Lars Svensson (2003): Explaining Equalization. Political Institutions, Market Forces, and Reduction of the Gender Wage Gap in Sweden, 1920-95, *Social Science History*, Vol 27, No. 3, 371-395.

10 Per-Anders Edin & Robert Topel (1997): Wage Policy and Restructuring: The Swedish Labor Market since 1960, p. 169f, in Richard B. Freeman, Robert Topel & Birgitta Swedenborg (eds.): *The Welfare State in Transition: Reforming the Swedish Model*, Chicago, chapter downloadable from <http://www.nber.org/chapters/c6522>, retrieved 03/11/16.

Reservation is called for when appraising the value of this measure. A larger variation may underlie the mean value of each industry. Furthermore, no weighting according to the size of the groups has been made. The coefficient of variation is used here as a crude descriptive statistic to indicate the degree of difference between the mean values of the main groups.

Housebuilding was added to the calculation as a yardstick against which manufacturing may be measured. In addition, it compensates for the lack of top values within manufacturing alone. Well-paid construction workers are a numerically significant group from the same socio-economic sphere as industrial workers; their inclusion provides a more realistic picture of the blue-collar wage structure.

Some groups maintained a privileged position within the more compressed hierarchy while others saw a clear decline. In each case, there may be different causes for the original position and the subsequent change.

For the metal industries, one reason for the relative immobility over the years is simply the numerical weight of the group in determining the total mean. On the same note, the weight of the group during nationwide collective bargaining processes was so heavy that it influenced the outcome in other groups. This was the case in periods with a strong centralization of the process and even later as a benchmark by which other groups could take their bearings during independent negotiations.¹¹

Measuring the metal industries against manufacturing as a whole, a slight downward trend is observable until 1980. At the end of the period, a minute recovery is discernible. More competitive, hi-tech, tailored or specialized engineering may have curbed the downward trend.¹² Reward for more flexibility and skill among the workforce is only weakly reflected in the figures quoted here, however.

Wages in mining were among the victims of the compression, but they remained at a level significantly above average. This specialized, isolated segment of the labour market saw shifting combinations of corporate governance forms, labour relations and work conditions. In the important northern region, mining was not just an industry but an entire community system and lifestyle in which high wages rewarded the commitment and hardiness of the workers, although to a lesser extent from the 1960s onwards.¹³

11 Erik Bengtsson (2014): Labour's share in twentieth-century Sweden: a reinterpretation, p. 305, *Scandinavian Economic History Review*, Vol. 62, No. 3, 290-314.

12 Torben Iversen (1996), *op. cit.*, p. 408; Lars Pettersson (1999): The Swedish Model and Manufacturing Industry: A Pattern of Change, pp. 54f, *Scandinavian Economic History Review*, Vol. 47, No. 2, 45-62.

13 Edmund Dahlström *et al.* (1971): *LKAB och demokratin. Rapport om en strejk och ett forskningsprojekt*,

A striking exception to the levelling of wages during the first decades of the period is printing, which only lost altitude in the latter part of the period. At that point, it helped maintain the compressed wage structure. Over recent decades, electronic typesetting and layout facilitated the access of other vocational groups to what used to be the domain of skilled typesetters and graphic designers, thereby putting a strain on the wage level. Furthermore, once a pre-print file is ready, it can be transmitted at the click of a mouse to print shops in more or less distant lands with lower labour costs.¹⁴

Housing construction is leading a more pronounced case of relative decline, and the timing was very different from that of printing. Whereas the latter rose considerably over the first part of the period from a high, yet still modest level and then went into decline, building slid gradually from a massive third above average to only five per cent more than male wages in manufacturing.

Historically, the various trades in housing construction and the tasks workers perform are often heterogeneous and demand skill although they may also be repetitive and based on time-honoured routines. Jobs vary in character. This constitutes the background for a myriad of conflict-ridden pay systems.¹⁵ However, in Sweden as elsewhere, prefabrication, mechanization, and standardization of techniques and procedures affected the building trade.¹⁶ Furthermore, over at least two decades, the 'solidaristic wage policy' promoted inflexibility in local wage formation. Indeed, between 1980 and 1990, relative wages in housing construction recovered a little as the negotiation of contracts was decentralized and inter-industry linkages severed.

Later, however, the process of decline restarted. A probable primary cause was the cooling-off of the Swedish economy in the 1990s with an ensuing downward pressure on wages. Towards the end of the period, this cannot explain the situation, however. Very likely, wage competition posed by migrant workers and Eastern European building companies operating out of their own national territory exerted an influence after 2004 with the enlargement of the EU.¹⁷

Stockholm 1971, pp. 17-25, 203-209; Tage Alalehto (1992): *Teknik och konflikt. LKAB 1946-1987*, Umeå *Studies in Sociology*, No. 102, p. 139f; Dale T. Mortensen (2003): *Wage Dispersion: Why Are Similar Workers Paid Differently?*, Cambridge, MA, p. 26.

14 John Giles (2010): *Desktop Publishing Marks 25 Years*, *Quick Printing*, Vol. 33, No. 8, 26-28; Gateway Baltic: *The Baltic Printing Industry – Nearshoring for Nordic Publishers* (21/02/12), retrieved 03/11/16 from <http://www.gatewaybaltic.com/EN/Export-Intelligence/The-Baltic-Printing-Industry-Nearshoring-for-Nordic-Publishers.html>.

15 D. Bishop (1972): *Productivity in the Building Industry*, p. 560, *Philosophical Transactions of the Royal Society of London*. Series A, Mathematical and Physical Sciences, Vol. 272, No. 1229, 533-563; V. L. Allen (1952): *Incentives in the Building Industry*, p. 599ff, *The Economic Journal*, Vol. 62, No. 247, 595-608.

16 Jan Ch. Karlsson (1982): 'Byggandets industrialisering' och motsättningar mellan anläggare, pp. 35-41, *Sociologisk Forskning*, Vol. 19, No. 1, 34-54.

17 Jon Horgen Friberg & Line Eldring (eds.) (2013): *Labour migrants from Central and Eastern Europe*

Stable wages in a declining industry

According to Davisa & Henriksen, “wage-setting institutions and direct policy interventions played a major role in bringing about Sweden’s compressed wage structure” although “conventional market forces” were active as well.¹⁸ The stable position of the otherwise downward-spiralling textile industries, etc., within the hierarchy of wages is a remarkable symptom of the former. The corporative Swedish labour market model was set up to avoid pressure on wages when uncompetitive firms succumbed and not all redundant workers acquired jobs in other lines of business. The model was embedded in the centralized bargaining processes by which blue-collar mining & manufacturing workers, represented by the LO, the powerful cross-industrial National Federation, and their counterpart in SAF, the Swedish Employers’ Confederation, set the trend. It was endorsed by but not formally dependent on government-level politicians and supported by national policies regarding the labour market. It even had some theoretical mooring in a series of deliberations carried out by Rehn & Meidner, two economists affiliated with the LO.¹⁹

The exposed sectors, with manufacturing at their core, set the standard, based on the latitude allowed by world market price levels. All wages were subject to the upper limits thus defined but were also restrained by a floor. Any given sector or industry was prevented from participating in a race to the bottom in which pressure on revenues was passed on to wages.

It was a pragmatic compromise. First, export and import-competing industries were safe-guarded against unsustainable wage claims. Second, managers and workers in sectors susceptible of collusion were kept from recklessly passing on excessive costs to consumers and competing industries.²⁰ Third, the maxim of equal pay for equal work was realised – or, as a growing number of opponents maliciously reinterpreted it: everyone was entitled to the same pay regardless of effort and skill.²¹ Finally, the

in the Nordic countries: Patterns of migration, working conditions and recruitment practices, pp. 12, 14, TemaNord 570, Nordic Council of Ministers; Charles Woolfson & Jeff Sommers (2006): Labour Mobility in Construction: European Implications of the Lavalun Partneri Dispute with Swedish Labour, *European Journal of Industrial Relations*, Vol. 12, No. 1, 49-68; Nicola Doyle, Gerard Hughes & Eskil Wadensjö (2006): *Freedom of Movement for Workers from Central and Eastern Europe: Experiences in Ireland and Sweden*, Swedish Institute for European Policy Studies, pp. 19-21.

18 Steven J. Davis & Magnus Henrekson (2005): Wage-Setting Institutions as Industrial Policy, p. 355, *Labour Economics*, Vol. 12, No. 3, 345-377.

19 Lennart Erixon (2010): The Rehn-Meidner Model in Sweden: Its Rise, Challenges and Survival, *Journal of Economic Issues*, Vol. 44, No. 3, 677-715.

20 Torben Iversen (1996), *op. cit.*, p. 409.

21 Per-Anders Edin & Bertil Holmlund (1995): The Swedish Wage Structure: The Rise and Fall of Solidarity Wage Policy?, p. 312, in Richard B. Freeman & Lawrence F. Katz (eds.): *Differences and Changes in Wage Structures*, Chicago, 307-343.

policy provided continuous structural adjustment. The elimination of low value-added production benefited the overall economy as long as released resources were easy to reemploy.

Accordingly, the textile and similar industries dwindled but at a wage level that continued to be fair in the eyes of workers. The dismantling was slow since not all firms lost competitiveness at the same time. During the post-Golden Age downswing, the textile & clothing firm sector even received state subsidies as part of an industrial policy attempting, in part, to restore competitiveness and, in part, to ease the transition.²² In the process, Swedish unemployment policy served as an auxiliary tool. With support for vocational retraining and relocation to places with more job openings, the system nudged workers into moving on instead of joining local, unexploited labour pools that were costly to support.²³

The slight improvement in the relative wages of textiles, etc., at the end of the period may seem odd. Probably, however, the few remaining workers are no longer an essential element in the cost structure of the firm. Placed in recently established innovative firms or at a strategically vital juncture of a global supply chain, they may embody a different, more valuable human capital than the line workers of yore. Alternatively, they may receive a wage premium that prevents them from forming a disgruntled minority group within a company organisation dominated by well-paid white-collar workers.²⁴

The continued state of wage compression among blue-collar workers

In previous literature, there is general agreement that wage dispersion increased after 1983. Based on a sample of individual wage data supplied by employers and unions, Hibbs & Locking, who focus on blue-collar workers, report “substantial decompression of relative wages after central bargaining broke down”. According to their figures, in the last recorded year, 1994, the level of dispersion had returned to the same level as in the middle of the 1970s. Actually, the reverse movement was rather moderate when applying 1960, the first year in the series, as benchmark.²⁵ There is, neverthe-

22 Sverker Alänge & Staffan Jacobsson (1994): Evaluation of Industrial Policy: The Case of the Swedish Textile and Clothing Industry, pp. 465-67, *Small Business Economics*, Vol. 6, No. 6, 465-475.

23 Per-Anders Edin & Robert Topel (2008): Wage Policy and Restructuring: The Swedish Labor Market since 1960, p. 164ff, in Richard B. Freeman, Robert Topel & Birgitta Swedenborg (eds.): *The Welfare State in Transition: Reforming the Swedish Model*, Chicago, 155-201.

24 Joakim Gullstrand (2005): Industry Dynamics in the Swedish Textile and Wearing Apparel Sector, p. 355f, *Review of Industrial Organization*, Vol. 26, No. 3, 349-370.

25 Douglass A. Hibbs Jr. & Håkan Locking (2000): Wage Dispersion and Productive Experience: Evidence

less, some discrepancy between these results and the aggregate statistics used in the present paper. The latter, as mentioned, fails to display spans of differences within individual industries. On the other hand, sampling bias in the quoted article is another possible reason for the difference.

The general picture emerging from Table 2 is that the dispersion of mean values in 2008 for male workers was at the same level as in 1980 and a little lower than in both 1970 and 1990. Dispersion within the minority of female workers had grown somewhat over the same period. This was partly because female workers' pay diversified with the general, intra-industry narrowing of the gender gap. It is also due to the influence of one particular industry: if mining (with only 500 female workers employed²⁶) is removed from the calculation, the coefficient of variation goes down from 0.10 to 0.08 in 2008 but remains the same in 1990 and 1980 (0.08 and 0.10, respectively).

Whereas dispersion did not increase across industry boundaries, it may have done so within them according to educational level or some other formal merit, or individual performance, or some other factor. It is not a very promising hypothesis, however. For 2008, the lower quartile hourly wage for workers in mining and manufacturing amounted to 87 percent of the mean value – hardly a great difference.²⁷

Differences between mean values according to level of education were small as it appears from Table 3. Apparently, blue-collar workers gained some limited advantage from completing more than nine or ten years of schooling; but, after that, the importance of further education was negligible. Read at face value, post-secondary schooling would only increase one's earnings up to a certain point, after which there was a negative return! That impression is probably false, however. Experience and seniority among older workers, who typically have less formal education than younger ones, should be part of the balance; furthermore, some educated workers are employed in positions in which their formal qualifications, by the nature of the work, go unrewarded. On the other hand, according to Svenskt Näringsliv, the successor organisation to SAF, a worker of 64 years of age today earns only about 7 percent more than a 25-year-old.²⁸ There is a strong case, then, that neither education nor experience triggers a significant wage premium. Wage dispersion among blue-collar workers appears to be small even today.

for Sweden, pp. 656f, 778, *Journal of Labour Economics*, Vol. 18, No. 4, 755-782. Magnus Gustavsson (2006), *op. cit.*, does not distinguish between wage-earners and salaried employees in his study regarding the period 1992-2001.

26 500 out of 77,000 women in total were in mining and manufacturing.

27 Calculation based on figures drawn from the public database of Statistics Sweden (*Statistikdatabasen*), see note on sources in Table 3.

28 http://www.svensktnaringsliv.se/fragor/fakta_om_loner_och_arbetstid/FOLA2014/2-lonespridning_592652.html, diagram 2.3, retrieved 03/11/16.

Table 3. Workers in mining & manufacturing, hourly wages (SEK, mean values) 2008 by level of schooling

	Number of workers	Hourly wages, SEK
Less than 9 years of education	27,000	138.9
9 or 10 years of education	67,400	143.8
Upper secondary education, 1 or 2 years	147,800	147.9
Upper secondary education, 3 years	105,000	144.2
Tertiary education, less than 3 years	19,700	149.5
Tertiary education, 3 years or more	7,200	143.2
All levels	376,000	145.4

Source: Public database of Statistics Sweden (Statistikdatabasen), Average hourly pay, pay dispersion etc., manual workers private sector (SLP) by industry SNI 2007, educational level (SUN96) and sex. Year 2008 - 2014, retrieved 03/11/19 from http://www.statistikdatabasen.scb.se/pxweb/en/ssd/START__AM__AM0103__AM0103B/SLP8a07/?rxid=41945727-c4d0-44ba-a98d-a582d1541205

Easily accessible source material providing more details on wage dispersion throughout the 1970s and part of the 1980s is sparse. However, data from year 1970 shed some light on the importance of vocational training and geographical location.²⁹ Judging from the, admittedly, rather narrow sample of figures in the source quoted in footnote 29, remote provincial location in relation to major cities implied 5-15 percent lower wages, whereas unskilled workers within a given industry would earn, at the maximum, 10 percent less than skilled personnel. These differences show, as one would expect, that, even during the egalitarian period, there was some dispersion of wages, based on factors such as skill, seniority and location. There was even some market-induced wage drift, which contemporaries acknowledged as a natural part of the system.³⁰

Overall, then, the size of the differences in 2008 confirms the preservation of a stable wage structure inside the blue-collar segment of mining and manufacturing.

The reappearing pay gap

The economic regime's liberal turn after the end of the Golden Age, together with new patterns of strife between rival groups of workers, upset the Swedish system.³¹ The new norm of decentralized settlements cleared the ground for a more flexible labour

29 Löner 1970. Del 2. Lantarbetare, industriarbetare m.fl., Table 23, Statistiska Centralbyrån, Stockholm. See note on sources in Table 2.

30 Douglas A. Hibbs Jr. & Håkan Locking (1996): Wage compression, wage drift and wage inflation in Sweden, *Labour Economics*, Vol. 3, No. 2, 109-141.

31 Per-Anders Edin & Bertil Holmlund (1995), *loc. cit.*

market with wider pay dispersion. Even if the effect on the internal wage structure of industrial workers was small, a fundamental restructuring took place.

A comparison of the wage level of blue-collar workers with that of salaried employees in mining & manufacturing provides a completely different picture of the general pay structure, cf. Table 4. Salaried employees' share of employment rose continuously over the entire period – most vigorously, in the 1960s and after 1990 (Table 1). In the 1960s and 1970s, the group was clearly subject to the tendency of a more compressed pay structure. Male white-collar workers as a whole saw their salaries descend towards the level of blue-collar wages, leaving an advantage of less than 15 percent (from index 134 in 1960 to index 113 in 1990, wages set at index 100 in both years). The particularly steep winding down of the traditional gap between workers and salaried employees in the 1970s is one symptom of the tight labour market and increasing lack of restraint in wage negotiations that characterised the end of the Golden Age.³²

From a superior initial position, technical staff lost altitude vis-à-vis the two other groups, workshop managers & supervisors and office & sales staff. Any possible reversal of this particular tendency from circa 1990 will remain unaccounted for in this paper, but it is clear that the general equalizing movement turned in the opposite direction: by 2008, the overall relative remuneration of male white-collar workers was at 148, considerably above the relative level in 1960.

In 2008 salaried women, as one element of the same pattern, had overtaken both female and male wage earners by a considerable margin. In 1990, they were not anywhere near achieving that. In comparison with the blue-collar segment, they were, by the year 2008, still a good deal behind their male counterparts even though the gap had diminished. Historically, there was a female predominance in white-collar job categories with relatively low skill and responsibility requirements. In addition, the distribution of pay among salaried employees is more widely dispersed than among blue-collar workers with a long right-skewed tail dominated by males.³³

Summing up, the equalizing process that took place in manufacturing in the 1960s, 1970s and part of the 1980s was of a general nature, extending across industries, terms of employment and the gender gap. Subsequently, both the gender- and the industry-based differential among blue-collar staff remained within the limited range prevailing at the end of the great levelling-off. Contrary to this persistence, hourly wages began to diverge downwards and monthly salaries upwards from the general mean.

32 Barry Eichengreen (2007): *The European Economy Since 1945: Coordinated Capitalism and Beyond*, Princeton, NJ, p. 223ff; Erik Bengtsson (2014), *op. cit.*, p. 310.

33 Cf. Mckee J. McClendon (1976): *The Occupational Status Attainment Processes of Males and Females*, p. 63, *American Sociological Review*, Vol. 41, No. 1, 52-64.

Table 4. Relative salaries and wages in Swedish mining & manufacturing 1960-2008, mean values by gender and field of activity, index numbers (mean of male workers' wages in mining & manufacturing = 100).

Year:	Male employees					Female employees					All salaried employees
	Technical staff	Workshop managers & supervisors	Office & sales staff	All male salaried employees	Workers	Technical staff	Workshop managers & supervisors	Office & sales staff	All female salaried employees	Workers	
1960	151	121	127	134	100	73	80	68	69	69	117
1970	141	118	133	133	100	85	89	77	78	79	120
1980	117	118	126	120	100	87	93	87	86	90	113
1990	107	111	121	113	100	87	95	85	85	89	106
2008				148	100				120	91	

Note: Hourly wages converted into monthly pay in accordance with normal working hours per week.

Sources: Based on figures from Statistics Sweden. Wages: See Table 2. Salaries: 1960-1990: Löner och sysselsättning inom privat sektor 1990, Tabell B: Löneutveckling för heltidsanställda tjänstemän inom industri (SNI 2+3) 1947-1990, retrieved 03/11/19 from [http://share.scb.se/ov9993/data/historisk%20statistik/SOS%201911-%2FL%C3%B6ner%2FL%C3%B6ner%20privat%20sektor%2FL%C3%B6ner%20privat%20sektor%20\(SOS\)%201952-1990%2FLöner-privatsektor-1990.pdf](http://share.scb.se/ov9993/data/historisk%20statistik/SOS%201911-%2FL%C3%B6ner%2FL%C3%B6ner%20privat%20sektor%2FL%C3%B6ner%20privat%20sektor%20(SOS)%201952-1990%2FLöner-privatsektor-1990.pdf). 2008: Public database of Statistics Sweden (*Statistikdatabasen*), Genomsnittlig månadslön, lönespridning m.m., tjänstemän privat sektor (SLP) efter näringsgren SNI 2007, utbildningsnivå (SUN96) och kön. År 2008 – 2014, retrieved 03/11/19 from http://www.statistikdatabasen.scb.se/pxweb/sv/ssd/START__AM__AM0103__AM0103G/SLP8t07/?rxid=50ac8124-62c0-4669-8a63-59590f83c823.

The economic and social importance of the shift is so much the greater because the quantitative balance between the groups had shifted, too. The movement towards another labour force composition was gradual, going in the same direction throughout the entire period. At the beginning, salaried employees were a minority group, albeit with 20 percent already a significant one and rising to 40 percent at the end of the period. By then, wage-earners, after moving from about 80 percent to 60 percent of the total workforce in manufacturing, were reduced to the larger of two groups of comparable quantitative weight.

Attempting to explain the new pay gap

Blue-collar jobs have lost relative weight vis-à-vis white-collar jobs in society as a whole. The simple loss of importance in numbers may have influenced the bargaining position of shop-floor workers negatively, assuming that their representation in the public sphere and in politics became weaker. However, this is a long-term effect. The number of workers employed culminated as early as the 1960s. This did not prevent the group in question from pushing for higher wages with good results. Theory admits that a commitment from workers to keep the expensive machines of large plants running, and running efficiently, can be worth a wage premium.³⁴

Nonetheless, with the rapid advances of globalization over recent decades, blue-collar labour in this otherwise rather favourable position became subject to competition that curbed their expectations and the level of mobilization even more than the downswing at the end of the Golden Age. With globalization, new options became available to employers, notably outsourcing/offshoring or relocating to low pay areas. There was still an incentive for both sides to seek a compromise by which physical production or significant parts of it remained at home, but the balance of power in that bargaining game had shifted to the benefit of the employer, exerting a downward pressure on wages.³⁵

In principle, the same forces apply to the situation of salaried employees. Modern information and communications technologies permit outsourcing of administrative and technical tasks to countries with low salaries and an eager workforce whose members become ever better educated and acquire new skills. However, this latent

34 Dale T. Mortensen (2003), *op. cit.*, p. 28.

35 Gregg M. Olsen (1996): Re-Modeling Sweden: The Rise and Demise of the Compromise in a Global Economy, p. 1, 13, *Social Problems*, Vol. 43, No. 1, 1-20; Ronny Norén (2010): Globalisation and the Intermediate Structure: A Study of Swedish Manufacturing 2000 and 2005, pp. 224, 227f, *Journal of Policy Modeling*, Vol. 32, No. 2, pp. 223-230.

threat – or promise, depending on the point of view – is of a more recent date and subject to limitation.³⁶

Top brass management, leading technicians, creative designers, and other elite members of the firm organisation depend on staff at medium or lower qualification levels. Likewise, a number of functions within marketing, sales, communication, legal affairs, etc., seem unlikely candidates for outsourcing – not only because relevant qualifications uniquely pertain to the business culture of the firm's base but also because the organisation in question may be difficult to differentiate into separate units. Not all occupations are equally "tradeable".³⁷

Admittedly, the need for integration and for cooperating units to be physically near each other may also dampen the tendency to outsource or relocate mechanical workshops, for instance, where testing or tailored production takes place. In general, however, salaried employees seem better shielded from adverse effects of globalization. The increased demand for labour with higher education, strongly represented by salaried employees, has further facilitated the relative growth of the mean salary at the expense of wages.³⁸ At the same time, blue-collar workers are in a worse position in terms of market forces and no longer possess the privilege of defining normatively, by the strength of their numbers, the character of any coordinated solution.

This explanation conforms to stylized facts regarding the interplay between economic and technological regimes. However, the unbroken compression of wages within the group of blue-collar workers in manufacturing is puzzling. It may be the case that a high degree of integration of partial blue-collar labour markets generates collective agreements on the same level for different industries. In addition, industry by industry, unionized blue-collar workers may still constitute a genuine social class, united by the solidarity inherent in collective, equal pay-oriented agreements with their employers.

Solidarity forever, that is. Only how long will forever last? The traditional working class with its core in manufacturing is a dwindling group. In a knowledge-based society, the lack of pay differentiation due to different levels of formal qualification within it suggests a lack of dynamism and the existence of a strong incentive to leave the group. Thus, the lag in pay since 1990 may have more deeply-rooted causes than liberal market forces gaining ground.

36 Cf. Daniel W. Drezner (2004): *The Outsourcing Bogyman*, p. 26, *Foreign Affairs*, Vol. 83, No. 3, 22-34.

37 Rosario Crinò (2010): *Service Offshoring and White-Collar Employment*, pp. 601, 623, 629, *Review of Economic Studies*, Vol. 77, No. 2, 595-632.

38 Pär Hansson (2000): *Relative Demand for Skills in Swedish Manufacturing: Technology or Trade?*, pp. 541, 547f, *Review of International Economics*, Vol. 8, No. 3, 533-555.

The social division between wage earners and salaried employees is ancient.³⁹ For a time, the gap narrowed, and it became imaginable that, in the end, it would disintegrate. Now, it seems to be widening again and regaining its institutional importance. The number of salaried employees has now reached a critical level in terms of its size and degree of attraction for newcomers to the labour market. A position in the blue-collar collective is no longer the default but a second-rate option – at least, seen over the span of a lifetime. With the continuous elimination of jobs and a growing wage gap, the betterment of one's condition no longer depends on the collective efforts of a unionized work force but on the individual worker's capacity to adapt and change – typically, by moving into the group of salaried employees.

Concluding remarks

Blue-collar workers are in a process of socio-economic marginalisation even if they continue to hold a normal position in terms of income and status in society. Groups other than those employed in Swedish manufacturing are equally or more exposed. Even individuals from trades and professions that normally gravitate toward salaried positions face the threat of ending up in the so-called precariat.⁴⁰

The purpose of using as an example a well-defined, large, yet diminishing, but still reasonably well off group with considerable political impact and importance inherited from the past is to demonstrate not so much the result but the process of change over the longer term. It is also an attempt to redirect attention towards significant socioeconomic dividing lines that run within the gainfully employed share of the population.

39 Jürgen Kocka (1985): *Marxist Social Analysis and the Problem of White-Collar Employees*, pp. 141-145, *State, Culture and Society*, Vol. 1, No. 2, 137-151.

40 Guy Standing (2012): *The Precariat: From Denizens to Citizens?*, p. 592f, *Polity*, Vol. 44, No. 4, 588-608; Wolfgang Streeck (2014): *Buying Time: The Delayed Crisis of Democratic Capitalism* [orig. *Gekaufte Zeit*, Berlin 2013], London, p. 31.