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Productivity, wages and unions in japan

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*Productivity, wages and unions in Japan **

by Takao Kato **

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Abstract

This paper begins by providing the historical context for the study of the link between productivity and wages and the role of unions in Japan since 1980. Using quantitative data from a variety of surveys conducted by the Japanese Government and qualitative data from field research, it then documents significant changes in the nature of Japanese unions and Shunto wage bargaining and their role in generating the link between productivity and wages during Japan's "Lost Decade" and subsequent quiet recovery. Wages did not lag behind productivity growth during the "Japanese Miracle" that preceded the "Lost Decade" thanks in part to the contribution of an effective neutral third-party institution trusted by all parties to the development of a share economy with strong cooperation between labour and management and a strong link between wages and productivity. During the "Lost Decade", wages started to fall behind productivity growth, however. Negotiations over base wage increases (base-up) were less pervasive, and negotiations over bonuses took centre stage. The idea of establishing the market for annual wage settlements became less relevant, suggesting the diminishing value of the Shunto synchronization of wage negotiations. In the end, the Japanese bonus system proved to be less downward rigid than the base wage, and this downward flexibility of bonuses appears to be a major factor in lagging wages (along with an insufficient increase in the base wage when productivity rises). The possibility that the changing nature of Japanese enterprise unions was an underlying cause of lagging wages is explored, and policy implications are identified.

1. Japan since 1980: The Japanese Miracle, Lost Decade, Quiet Recovery, and global recession[1]

The 1980s was Japan's decade. The economy grew faster than most other advanced market economies. Many Japanese corporations rose to the premier league of the global marketplace and became household names in many parts of the world. To review briefly how the Japanese economy as a whole has evolved since 1980, annual time series data on real GDP per capita based on purchasing power parity (PPP) from the International Monetary Fund (IMF) have been used to produce figure 1 (note that the log scale is used on the vertical axis for its convenient "rate of growth" interpretation). Japan is placed in the global context by adding the same time series for the other G7 countries. A simple linear trend line from Japan's per capita GDP in the 1980s suggested that Japan would surpass the United States and become "No. 1" in the 1990s. It is understandable how the rhetoric of "Japan as No. 1" became pervasive at that time.

Reflecting the impressive rise of Japanese firms as world class competitors, the "Japanese employment system" became a source of wonder for many corporations around the world and a popular subject of research for scholars of industrial relations, human resource management, and labour economics.

When discussing the "Japanese employment system", it is important to keep in mind that the Japanese labour market is segmented, and that the term applies mainly to the primary segment and not to the secondary segment.[2] The "Japanese employment system" consists of clusters of practices that are often distinct from the traditional Anglo-American model of a flexible labour market and hierarchical labour-management relations that are inclined to be adversarial. A variety of specific employment practices have been considered key elements of the "Japanese employment system" (see, for instance, Aoki, 1990; Koike, 2005; Morita, 2005). First, employee involvement and problem-solving activities at the grass-roots level are used to provide workers with opportunities to exert discretionary effort, acquire useful local knowledge, and share it with their co-workers and higher-level engineers and managers. They include shop-floor committees and various small group activities, such as quality control circles, zero defect, Kaizen, and cross-functional problem-solving teams. Second, there are extensive information-sharing mechanisms (often called joint labour-management committees) involving cooperative enterprise unions to minimize information asymmetry and facilitate the alignment of interest between labour and management. Third, careful screening and extensive training is aimed at increasing worker ability to participate effectively in employee involvement/problem-solving activities and information-sharing meetings.[3]

None of these programmes will be effective unless workers remain in the same firm for a considerable length of time, however. It is unlikely that workers who are highly uncertain about their continued

[1] These terms refer to the state of the Japanese economy in the following periods: the Japanese Miracle, 1980-1992; the Lost Decade, 1992-2002; the Quiet Recovery, 2003-2008; and financial meltdown and the global recession, 2008-2012.

[2] As discussed in detail in section V, there are two commonly-used methods of identifying the primary and secondary segments of the Japanese labour market. The first is based on the specific terms of each worker's employment contract, and defines primary-segment workers as those on indefinite contracts and secondary-segment workers as those on fixed-term contracts. The second is based on the custom in the place of each worker's actual employment: if a worker is termed "seishain (standard employee)" in the place of his/her employment, he/she is considered a primary-segment worker. Otherwise he/she is deemed a secondary-segment worker. To distinguish clearly between the two different definitions of Japan's dual labour market, we call workers on indefinite contracts "regular employees" and those who are termed "seishain" in the workplace "standard employees". Kambayashi and Kato (2013) found that it was not uncommon for a worker to be on an indefinite contract but referred to as a non-standard employee, and that such workers are considered "primary-segment workers" according to the first definition but "secondary-segment workers" according to the second. An example of such regular yet non-standard employment is workers who are termed "part-timers" in the workplace but have indefinite contracts. Such "part-timers" are expected to work for the firm for an extended period but receive lower wages with limited benefits, enjoy less job security, and often do not qualify for a variety of human resource management programmes (e.g. training and development programmes) that are open only to standard employees. A regression analysis by Kambayashi and Kato (2013) shows that the distinction between standard and non-standard employment results in sharper differences in labour market outcomes than the distinction between "regular" and "non-regular" employment.

[3] Scholars differ on the relative importance of each practice. See for example, Koike (2005); Aoki (2000); Itoh (1994); Morita (2001) and (2005); Moriguchi and Ono (2004); Rebick (2005).

employment with the firm will take advantage of these performance-enhancing activities. Many Japanese firms therefore use "lifetime employment" (or implicit long-term employment guarantees for standard employees) and the reward system that fosters lifetime employment (such as the "seniority wage system" whereby the wage is detached from a specific job and tenure plays a significant role in determining the wage).[4]

In short, the employment system described above provides workers with opportunities to participate in activities designed to enhance company performance, and fosters long-term employment, which is a necessary condition for workers to take advantage of such opportunities. Long-term employment is a necessary but insufficient condition, however. The last element of the "Japanese employment system" therefore is multiple remuneration mechanisms that tie the worker's financial well-being to enterprise performance and incentivize workers to participate wholeheartedly in various performance-enhancing activities. There are two kinds of such compensation mechanisms: explicit and implicit. Explicit mechanisms include profit-sharing plans, in which at least part of the compensation of non-executive employees is dependent on company performance (typically profit),[5] and employee stock ownership plans whereby the company forms a trust consisting of its non-executive employees and promotes ownership of its shares by the trust.[6] With the rising popularity of "high-performance workplace practices (notably self-directed teams)", more companies are introducing a third type of explicit mechanism in the form of team incentive plans or gain-sharing, whereby at least part of employee compensation is dependent on the performance of the team or work group to which they belong.[7]

The implicit mechanism is Shunto, or the spring wage offensive, which determines annual pay increases through synchronized annual collective bargaining. In theory, Shunto can help make workers' pay more sensitive to enterprise performance. First, Japanese unions are organized at the enterprise level and in principle their wage bargaining takes place at the same level. Such decentralized bargaining means that unions have limited bargaining power. By synchronizing collective bargaining at the enterprise level, Shunto helps Japan's enterprise unions gain more bargaining power in their collective bargaining at the enterprise level (Hara and Kawaguchi, 2008). The enterprise union is thus more likely to be able to convert productivity gains into wage gains, resulting in a stronger link between wages and productivity. In addition, Shunto has a spillover effect on the non-union sector and can produce economy-wide sensitivity of wages to enterprise performance or nominal wage flexibility, as suggested by Taylor (1992).

Second, Japan has an extensive bonus payment system. Fully 97 per cent of firms that employ 30 or more employees pay bonuses twice a year to standard employees. For most workers, bonuses amount to at least one quarter of pay and on average a worker receives bonuses amounting to 3-and-a-half months' pay. The bonus payment system existed before the Second World War, but in those days the chief beneficiaries were white-collar workers in high positions. The present system was introduced in the late 1950s and early 1960s. Bonuses, payable to standard employees, both blue- and white-collar and in all job categories, were introduced as part of the post-war system democratizing the workplace. The system was actively supported by trade unions (Kato and Morishima, 2003). As shown in the following sections, vigorous collective bargaining over bonuses is a key aspect of Shunto. To the extent that bonuses make total employee compensation more sensitive to company performance, Shunto helps to make pay more sensitive to it through the bonus payment system.[8]

[4] The term "lifetime" is something of a misnomer since, except for executives, Japanese workers are typically subject to mandatory retirement at about 60. A more accurate definition of the practice of lifetime employment is therefore an implicit long-term employment contract that ends at mandatory retirement age for standard employees. In addition, the practice of "lifetime employment" does not necessarily mean that there are never lay-offs in Japanese firms. There are instances of Japanese firms, even large ones, laying off some of their standard employees following the first oil crisis (Koike, 2005; Suruga, 1998; Nakata and Takehiro, 2003; Chuma, 2002).

[5] For a detailed discussion of the definition of profit-sharing plans, see Kruse (1993) and Jones, Kato and Pliskin (1997).

[6] See, for instance, Jones and Kato (1995), Blasi, Conte and Kruse (1996), and Kruse and Blasi (1997).

[7] See, for example, Hamilton, Nickerson and Owan (2003), Jones and Kato (2007), Jones, Kalmi, and Kauhanen (2009), and Kato, Lee, and Ryu (2010) for teams and team incentive plans.

[8] There is considerable disagreement about the nature of Japan's bonus payment system. Some scholars stress its profit-sharing aspect, while others argue that the bonus is simply a disguised regular wage and that it was introduced largely for tax purposes. See Freeman and Weitzman (1987), Ohashi (1989), Hashimoto (1990), Brunello (1991), and Hart and Kawasaki (1999).

Popular rhetoric about the relative strength of the "Japanese employment system" has fluctuated wildly. During Japan's high growth era, it was praised as one of the "secrets of the Japanese miracle." When the "Japanese miracle" ended at the end 1980s and Japan fell into a prolonged stagnation (Lost Decade), the Japanese employment system was deemed a structural impediment to the swift and robust recovery of the Japanese economy (Ono and Rebick, 2003).

Influential associations of Japanese business leaders, such as Keizai Doyukai (Japan Association of Corporate Executives) and Nippon Keidanren (Japan Business Federation) called for the replacement of the Japanese system with the American system. This was a remarkable reversal in fortunes. A key element of the Japanese employment system, the effectiveness of the pay system, both the explicit and implicit mechanisms to link employee pay to company performance, has been also questioned (Weathers, 2008). In particular, persistent deflation has made it increasingly difficult for Japanese unions to demand and achieve nominal wage increases (see articles featured in *Business Labour Trend*, April 2004).

As shown in figure 1, however, the Lost Decade did end in 2003, and Japan experienced the longest period of uninterrupted positive (albeit modest) economic growth in the post-war era, until another bubble burst on the other side of the Pacific in late 2008, resulting in global recession. While Japan's prolonged period of recovery from 2003 to 2008 was not one of high growth and was without fanfare, the country clearly did not experience two lost decades. Though the economy was rekindled, interest in the "Japanese employment system" in general and Japan's coordinated wage bargaining, that allegedly links wage to enterprise performance, was not. As a result, there is a dearth of evidence on recent changes (or lack thereof) in such implicit mechanisms to link pay and performance, and little analysis of the possible role of unions (formal collective bargaining and joint labour-management committees) in shaping the link between pay and performance in recent years.[9]

While interest in Japanese wage bargaining and pay-performance linkage has remained anaemic among academics, politicians and policy-makers are now paying close attention to it. In late 2012, Japanese voters gave a landslide victory to the Liberal Democratic Party and its long-term coalition partner, the New Komei Party, as a result of which the Diet elected a new Prime Minister. Prime Minister Abe almost immediately began to ask Japanese corporations to raise wages as an integral part of his "reflation" policy. On 20 September 2014, he attended the first session of the Government-Labour-Management Meeting for Realizing a Positive Cycle of the Economy, and repeated his plea for Japanese firms to intensify pay-performance sensitivities and immediately translate good corporate performance into pay increases. This paper is one of the first academic responses to the rekindled interest in Japan's wage-bargaining system and pay-performance linkage among policy-makers.

[9] Though not directly addressing the role of Shunto in wage-productivity linkage, Weathers (2008) points out that, during Japan's prolonged stagnation, the ability of Shunto to extend wage increases from the unionized to the non-unionized sector through the spillover effect weakened significantly.

2. Productivity and Wages

Enterprise performance can mean a number of things. One of the most commonly used definitions in the literature on compensation systems is labour productivity, an elusive concept whose measurement is hazardous. There is clearly no perfect measure of labour productivity. For Japan, long time series data on the physical productivity index for the entire nation can be obtained only from the Japan Productivity Centre (JPC), a non-profit organization that has been publishing a physical productivity index since 1958. In essence, it calculates the index by dividing the physical production index prepared by the Ministry of Economy, Trade and Industry by some measure of labour input. For the labour input measure, it uses data on employment and working hours from the Ministry of Health, Labour and Welfare Monthly Labour Survey and calculates labour input measured in man-hours. This paper will use the Japan Productivity Centre productivity index as a measure of labour productivity in part because both labour and management representatives involved in wage negotiations appear to trust it. In the concluding section and Box 1, a detailed account will be given of how the Productivity Centre earned the trust of all the interested parties, in particular the trade unions, which were initially sceptical about its ability to use an evidence-based, scientific approach to achieve labour-management cooperation, productivity growth, and a fair share of the fruit of productivity growth.

The Japan Productivity Centre productivity index has one obvious disadvantage, however: physical productivity cannot be defined for non-manufacturing industries, so using it means focusing on manufacturing. Value added per employee will therefore be used as an alternative measure of productivity to supplement the analysis of manufacturing industries, notwithstanding the well-known problems of value added as a proxy for output: value added is essentially profit added to total wage payments, so wages and value added move together almost by definition.

The Ministry of Health, Labour and Welfare conducts a number of high-quality surveys that provide longitudinal data on wages. In this section, the annual series of wages from the Monthly Labour Survey are used, thanks to the unusually detailed and reliable data on several components of wages that are well-understood by responding establishments. The total cash earnings received by Japanese employees from employers have three major components: base wage; overtime; and bonuses and other temporary pay.

The Monthly Labour Survey combines its data on total cash earnings with the consumer price index and produces a long series of the annual real wage index (total cash earnings in 2010 constant yen). The annual series since 1980 along with the Japan Productivity Centre productivity index is plotted in figure 2. This demonstrates that, over the long term since 1980, in manufacturing productivity has grown more rapidly than real wages. As a result, the productivity-wage gap has become steadily wider since 1980. During Japan's quiet recovery period the gap widened at a much faster pace. Productivity peaked just before the 2008 financial meltdown that started in the United States, at almost twice the 1980 level. Real wages peaked at the same time but were only 40 per cent higher than the 1980 level. It is clear that wages lagged substantially behind productivity growth.

To see which wage components were most responsible for the widening productivity-wage gap, figure 3 shows not only total cash earnings but also their main components (N.B. all are in 2010 constant yen and are standardized to the base year of 1980). Bonuses seem to be mainly responsible for the widening productivity-wage gap. As suggested by some Japanese labour economists, bonuses broadly mimicked wages until Japan entered prolonged stagnation (the Lost Decade) in the early 1990s, justifying their claim that bonuses are predominantly disguised wages (see, for instance, Ohashi (1989)). However, this changed during the Lost Decade: while real wages were still growing, though at a much slower rate, bonuses fell steadily, eventually almost to the 1980 level. It is hard to argue that during the Lost Decade union and management used their previous year's settled bonus level as the starting point for the current year's bonus negotiations, which is most often the case for collective bargaining on the base wage (as discussed below, the base wage is rarely cut). During Japan's quiet recovery following the Lost Decade, bonuses appear to have risen faster than the base wage, seeking to narrow the gap. Unfortunately, the bubble burst in the United States, and in the ensuing global recession bonuses fell more sharply than the base wage, again widening the gap between them.

In short, during Japan's Lost Decade, bonuses ceased to be disguised wages and started to carry much of the burden of downward adjustment of labour costs. Freeman and Weitzman (1989) suggested that the Japanese bonus payment system could be an important example of the share economy, contributing to employment stability. Jones and Kato (1995), Kato and Morishima (2003), and Kato and Kubo (2006) then provided supporting arguments, and evidence that the Japanese bonus payment system may make Japan's overall pay system more sensitive to enterprise performance, thereby producing wage flexibility. The findings of the present study are broadly consistent with this, highlighting the role of the Japanese bonus system in increasing pay flexibility in Japan.

The role of the base wage and bonuses in relation to productivity can be examined further by calculating annual percentage changes in the Japan Productivity Centre productivity index, and total cash earnings and their key components. Figure 4 points to overall sensitivity of wages to productivity, and reveals that total cash earnings do respond to year-to-year productivity changes: total cash earnings grow faster when productivity improves faster. Nonetheless, their sensitivity with respect to productivity is modest and the relationship between total cash earnings and productivity turns out to be inelastic: a one per cent growth in productivity is accompanied by a less than one per cent increase in total cash earnings.

Figures 5 and 6 reveal a sharp contrast in the way the base wage and bonuses respond to productivity growth. Throughout the entire period since 1980, the base wage has been stable and largely unresponsive to productivity fluctuations, in particular to downward movements. In stark contrast, since the bubble burst at the end of the 1980s, bonuses have been highly sensitive to changes in productivity, and, perhaps most importantly, no downward rigidity has been evident in them: a ten percent drop in productivity is accompanied by a ten percent fall in bonuses. The absence of downward rigidity manifests itself in the frequency of negative changes in bonuses (in fact, during the Lost Decade, annual changes in bonuses were more often negative than positive).

A close look at a long annual time series of productivity, total cash earnings and their key components since 1980 teaches policy-makers an important, and rarely told, lesson about the sensitivity of wages to productivity: when the economy falls into prolonged stagnation (such as Japan's Lost Decade) and negative productivity growth is frequent, strong pay-productivity linkage can mean downward flexibility in the pay system. It is Japan's famed bonus system that has been the major contributor to the downward flexibility of Japanese workers' pay and the anaemic increases in their total cash compensation since the bubble burst in the late 1980s. The Japanese experience also offers lessons on how to reduce such downside risk of pay sensitivity to productivity. First, as figure 5 shows, when productivity grew, the base wage did not rise in proportion. If the increase in the base wage had been in step with productivity growth, total cash earnings would not have lagged behind productivity as much as they did. Second, the bonus payment system can include a contingency clause stating that the bonus will not fall as much as productivity when loss of productivity falls below a certain threshold. The effective and pervasive use of such a contingency clause would have prevented Japanese workers' pay from becoming so downwardly flexible during the Lost Decade. This finding is a reminder to today's Japanese policy-makers of the importance of paying particular attention to the bonus system in any public policy efforts to raise wages and reflate the economy.

As discussed earlier, reliance on the Japan Productivity Centre productivity index has so far limited the scope of this study to manufacturing. To compensate for this, an alternative productivity measure – value added per employee – and its link to wages is now considered. Long longitudinal aggregate data on the financial statements of corporations have been gathered by the Ministry of Finance through their annual survey of Japanese corporations, the Survey for the Financial Statements Statistics of Corporations by Industry. As in the case of the Ministry of Health, Labour and Welfare Monthly Labour Survey, in principle all the firms selected randomly to participate in the survey are required to respond. The Finance Ministry data are less detailed on wage components but make it possible to contrast wages with executive compensation and see whether or not executives are also subject to lagging pay.

Figure 7 shows an annual time series of value added per employee, employee pay, and executive pay (standardized to 1980 levels) for all industries except finance and insurance (the Ministry started to collect data for finance and insurance only recently). In stark contrast to the earlier finding, it shows no

discernible lagging of wages behind value added per employee. This discrepancy could mean that lagging wages are mainly limited to manufacturing, and that policy interventions should focus on that sector but, as mentioned earlier, value added is essentially the sum of profit and total labour cost, most of which is wages. Thus, by definition, value added is likely to be correlated with wages. To see if that is indeed the case, the same value added analysis was repeated, this time limiting the sample to manufacturing. The results are shown in figure 8, which shows that, when using value added per employee as an alternative measure of productivity, no notable lagging of wages behind productivity growth is found, even for manufacturing. This demonstrates that strong wage sensitivity to productivity is likely to be found, almost by definition, when value added per employee is used as a proxy for labour productivity.

The most intriguing and useful finding from figures 7 and 8 concerns executive pay. It turns out to be executive pay rather than wages that lags behind productivity growth measured by value added. This result is not entirely surprising in light of the empirical literature on Japanese executive compensation indicating that the level of executive compensation in Japan has been unusually low, compared to other countries (see, for instance, Kato and Rockel, 1992, Kato and Long, 2006).

3. Unions

The analysis of the Japan Productivity Centre productivity index and wages in the previous section indicates that Japanese wages have lagged behind productivity growth since the late 1980s. This section describes the evolution of Japanese unions in the post-war era and explores whether changes in their scope, nature and strengths may have something to do with lagging wages.

Using long time series data on union membership and employment from the Basic Survey of Labour Unions by the Ministry of Health, Labour and Welfare, figure 9 shows a steady long-term decline in union density in Japan. It is, however, not immediately clear if this declining density has much to do with lagging wages. As shown in figure 8, the precipitous fall in union density began well before Japan's Lost Decade, while, as described in the previous section, wages began to fall behind only after the bubble burst at the end of the 1980s.

What matters may be not whether or not there is a union but what the union does (or does not do). The Ministry of Health, Labour and Welfare conducts another survey, the Survey of Labour Disputes, which provides long annual time series data on the incidence of labour disputes and numbers of union members involved. The dispute data has to be interpreted with caution since a lack of disputes might mean that the unions are doing such a good job that there is no need for a dispute. This should be borne in mind when examining the evolution of labour disputes.[10] Figure 10 plots the number of labour disputes per union and the number of union members involved in such disputes as a percentage of total membership between 1953 and 2011. Contrary to the popular rhetoric of "harmonious enterprise unions", labour disputes were not rare and union member involvement was considerable (note that the same union member may be counted more than once if he/she is involved in multiple disputes). The image of "harmonious enterprise unions" became a reality at the end of the 1980s, coinciding with the end of the Japanese Miracle and the beginning of the Lost Decade. Perhaps most importantly, Japanese wages also started to lag behind productivity growth at the same time.

Not all labour disputes are created equal. Some are more intense than others. To see if the key result on the evolution of labour disputes changes when only more intense labour disputes are taken into account, the same analysis was repeated, this time including only labour disputes involving strikes. Figure 11 shows that this does not change the result. Lastly, not all strikes are created equal either. A convenient way to account for strike heterogeneity is to look at days lost due to strikes per union member, and figure 12 shows the evolution of days lost due to strikes. Again, the same time pattern emerges: the image of "harmonious enterprise unions" became a reality only after the bubble burst.

Japanese wages started to lag behind productivity growth precisely when the popular belief in Japanese unions as harmonious and understanding enterprise unions ceased to be a fiction. It is not possible to establish a causal relationship here, but it is not entirely implausible that lagging wages may have been in part the result of the weakening relative bargaining power of Japanese unions.

[10] Unfortunately there are no readily available long time series data that enable more rigorous proxy variables for Japanese union bargaining power to be constructed. For measurement of union bargaining power, see Paci, Wagstaff, and Holl (1993) and Edwards (1978).

4. Wage bargaining and Shunto

In the summer of 2013, four union leaders were interviewed covering multiple industries (car manufacturing, steel, and electronics and electric appliances), with particular focus on recent changes in their Shunto wage negotiations. The actual Shunto wage negotiation process as explained in some detail by one of our union informants, who claims that his Shunto wage negotiation process is typical, is described below. In March 2015, additional information was obtained during a follow-up visit to this informant. The visit took place the day after the successful completion of their 2015 Spring Offensive.

Traditionally, collective bargaining over wages involves two key parameters: wage revisions and bonuses. Wage revisions used to be mainly base-up. Base-up is a permanent increase in the base wage. Some unions use "average wage" (average amount of base-wage increases of all employees) as a parameter for wage revision negotiation, while others use "individual wage" (amount of base-wage increase for a model employee defined by a number of key variables such as age, tenure, and occupation). As shown below, after the bubble burst in the late 1980s, wage revisions no longer meant base-up automatically, and base-down revisions appeared, although they remained sporadic.

Unions officially start preparing for the upcoming annual wage negotiations in December, when local union leaders representing each plant meet with headquarters union leaders. Each local union leader reports on how his members feel about the plant's labour productivity (how hard they have worked during the past year), and what would be an acceptable reward for their hard work and productivity. Since some plants do better than others, they spend much time discussing variations in plant-level productivity and coordinating plant-level wage demands. What they agree among themselves at the headquarters level will then be brought back to the local organizations for general membership ratification.

At the end of January, the union makes the final decision on its wage demand and submits it to the employer. In recent years the informant's union has stopped negotiating over the base wage and focused on bonuses. According to the informant, the most important criteria for the final bonus demand is how reflective of the overall labour productivity and hard work of workers the bonus demand is and whether the bonus demand satisfies the sense of fairness as compared to other firms in the same industry (his union pays particular attention to the firm's two major competitors). He also believes that if the bonus is small, workers will lose motivation.

Intensive collective bargaining takes place throughout February. In addition to weekly two-hour meetings between ten representatives each of labour and management (the chief executive officer and his or her deputies and other top executives on the management side, and top union leaders on the labour side), there are many informal and formal labour-management interactions at the front-line level. In essence, management asks labour to provide justifications for the union's bonus demand, and union leaders prepare such justifications, using various data and their analysis.

At the beginning of March, management submits its official response to the union wage demand. In some years, it accepts the union demand as it stands, in others it makes a counter-offer. If it makes a counter-offer, management provides the union with detailed justifications for it, which headquarters union leaders will then share with the general membership. The informant added that the management's justifications had always been sufficiently persuasive for his union to accept it.

A common theme that emerged from the conversations with all union leaders is that in recent years their Shuntos have been mainly over bonuses rather than base-up. More specifically, while their wage revisions used to be largely base-up, in recent years, even when the Shunto has included wage revisions, they have not been about base-up but various benefits (most of which are temporary in nature). Some unions do not even bother with wage revisions.

Quantitative data from the Survey on Wage Increases conducted by the Ministry of Health, Labour and Welfare supports this qualitative evidence. Though participation in the survey is voluntary, unlike the other ministry surveys mentioned above, it enjoys an impressive 50 per cent response rate. As shown in figure 13, prior to the Lost Decade almost all firms had annual wage revisions (mostly base-up). However, since

the beginning of the Lost Decade, more and more firms have stopped having wage revisions. Moreover, smaller firms are found to be particularly vulnerable to the stoppage of wage revisions.

In addition, figure 14 shows that some wage revisions are actually nominal wage cuts, that over 6 per cent of firms implemented such nominal wage cuts at the end of the Lost Decade, and that immediately following the 2008 financial meltdown, over 10 per cent of firms carried out a nominal wage cut.

A full analysis of the reasons behind the exclusive focus on bonuses and neglect of base-up at the enterprise level during Japan's Lost Decade and the subsequent quiet recovery would require a detailed, enterprise-level analysis (quantitative and qualitative), which is beyond the scope of this paper. Nonetheless, to shed some light on the change observed in the focus of Shunto after the bubble burst, a follow-up interview was conducted with the informant in March 2015. He stressed that through long and successful experience of joint labour-management committees, union leaders and top management developed a relationship of trust, and union leaders acquired the ability to analyse information shared by top management, including confidential information. On the basis of that, unions came to understand the challenge the firm faced in an increasingly competitive marketplace, and made the difficult decision to choose employment security over a base-wage increase.

There is, however, an alternative hypothesis about the sustained lack of "base-up" during Japan's Lost Decade and subsequent quiet recovery. According to the literature on Japanese trade unions, enterprise union leaders' career paths are interwoven with managerial career paths and it is not unusual for senior union leaders to become senior managers. For instance, Jacoby, Nason, and Saguchi (2005) report that almost half of Japanese companies have at least one board member who formerly held a leadership position in the enterprise union. In view of this, enterprise unions (represented by their leaders who may have ambitions to join the managerial hierarchy of the enterprise) tend to promote goal alignment between labour and management. This implies that enterprise unions in Japan cannot produce countervailing forces against individual employers' preferences or interests. This might account for wages lagging behind productivity at the economic downturn.

This is a plausible explanation of the level of goal alignment between unions and management in Japan but it is not immediately obvious that the intertwined career paths of union leaders became more pervasive during the Lost Decade and subsequent quiet recovery, thereby making Japanese unions more "harmonious" or less effective in representing employee interests. Earlier work (Kato, 2001; 2003) and the 2015 follow-up field visit tend to suggest the opposite: like many Japanese companies, the informant's company downsized its labour force considerably during the Lost Decade through drastic hiring restrictions, worker transfer to subsidiaries and other related companies (about one third of those on temporary transfer never return and lose their official ties with the company), and early retirement. As a result, the company became lean, and management could no longer afford to include union posts in its celebrated extensive job rotation system for their promising workers on management track. The career aspirations of union leaders became more limited in scope and the prospect of returning to the firm as a manager diminished. It is true that the Japanese union movement faces considerable challenges, one of the main ones being, not union leader entrenchment as a result of managerial career aspirations, but a diminishing supply of young and capable union leaders (Kato, 2003).

In recent years, Shunto has also become less synchronized and somewhat fragmented. The Survey on Wage Increases asks each responding firm in which month(s) their wage negotiations were settled. Their responses to this question are plotted on figure 15, which shows that, in the 1980s, April was the most typical settlement month, nearly one in two firms settling their wage negotiations then. Since the bubble burst, however, a growing number of firms started to choose earlier months for their Shunto, and as a result there are now two equally popular times: traditional April Shunto and earlier months Shunto.

The Survey on Wage Increases also asks each responding company to select the most important determinant of wages in the company. Figure 16 depicts how the percentage of companies that select different factors as the most important determinants has changed over time. Not surprisingly, company performance has almost always been the most popular reply. Nevertheless, before the Lost Decade, over 20 per cent of responding companies almost always selected the labour market as the most important

determinant. The importance of the labour market has plummeted since the beginning of the Lost Decade, and now less than 5 per cent select it as the most important determinant. As it synchronizes wage negotiations, Shunto tends to help to establish a useful labour market reference for each company's wage negotiation. Figure 16 suggests that the role of Shunto in establishing the market for each year's wage settlement may have diminished.

5. Non-standard employment

The focus has so far been on wage-productivity linkage, unions and Shunto wage bargaining as possible reasons for Japan's lagging wages. Another explanation that has been suggested is the relative rise of non-standard employment as compared with standard employment. Data from the Labour Force Survey of the Ministry of Internal Affairs and Communication, and the Statistics Bureau was used to prepare figures 17-19. Figure 17 demonstrates that, overall, the proportion of standard employment has declined steadily, including at the time of the Japanese Miracle. Furthermore, figures 18 and 19 reveal that the falling share of standard employment is particularly remarkable for women, for whom it is a long-term trend, including during the Japanese Miracle, while for men it only began during Japan's Lost Decade and has been less dramatic.[11]

Recent wage regression studies also provide rigorous evidence that non-standard employees are paid significantly less than standard employees, even after controlling for a variety of individual and company characteristics (e.g. Kambayashi and Kato, 2013). Such evidence on wage gaps between standard and non-standard employment, combined with the falling proportion of standard employment over time, appears to suggest that overall wages are stagnating in Japan.

However, when long-term trends in the absolute number of standard employees and non-standard employees are examined, an intriguing fact emerges. It turns out that the total number of standard employees has been relatively stable, rising gradually from 33 million workers in 1985 to 38 million by 1994, and then falling to 33 million in 2012. The evidence is not consistent with the popular image of Japanese firms continuing to eliminate their traditional standard employment jobs and replacing them with non-standard employment jobs over time.

The proportion of standard employees fell from 85 percent in 1985 to 65 percent in 2012, while the number of standard employees remained at the level of 33 million over the same time period. These two facts are consistent with each other since the total number of employees rose from about 40 million in 1984 to over 50 million, and nearly all of the increase being in non-standard jobs. Recently Kambayashi and Kato (2013) found that such additional non-standard jobs have been offset by a reduction in self-employment, and suggest that the increase in non-standard jobs in Japan needs to be understood in the context of a significant shift from self-employment to employment. They further show that a shift from self-employment to employment (most of which is non-standard) results in an increase in earnings and a reduction in working hours. In other words, a broader examination of the labour force, including not only employment but also self-employment, shows that earnings for employed individuals may well stagnate when the proportion of non-standard employment rises, but earnings for all workers, including both employed and self-employed, may not stagnate. If this is the case, wage stagnation caused by the rise in non-standard employment may have less serious consequences than wage stagnation caused by other factors, such as weaker trade unions.

Lastly, there is one potentially important effect of the rising share of non-standard employment that has been ignored in the literature. According to the Ministry of Health, Labour and Welfare General Survey on Diversified Types of Employment (which enjoys a response rate of over 60 per cent), close to 80 per cent of all establishments with five or more employees apply the bonus payment system to standard employees, while only 51, 9, and 34 per cent of such establishments use the bonus system for contract, temporary and part-time employees respectively. It follows that the rising share of non-standard employment will lead to a falling share of workers whose pay includes a bonus. As shown in section II, the Japanese bonus is more sensitive to productivity than the base wage, so the rising share of non-standard employment will result in a reduction in overall pay-productivity sensitivity.

[11] The relevant literature is relatively small yet rich in content (Houseman and Osawa, 2003; Ozeki and Wakisaka, 2006; Honda, 2006; Esteban-Pretel, Nakajima, and Tanaka, 2011; Asano, Ito and Kawaguchi, 2011; Kambayashi and Kato, 2013).

6. Conclusions and Policy Implications

This paper began by providing the historical context for study of the link between productivity and wages, and the role of unions in Japan since 1980. Four distinct periods were studied: the Japanese Miracle (1980-1992); the Lost Decade (1992-2002); the Quiet Recovery (2003-2008); and financial meltdown and the global recession (2008-2012). Both quantitative data collected by the Japanese Government and qualitative data gathered through interviews with union leaders at multiple large manufacturing firms have been used.

A common theme emerged from analysis of the data: the link between productivity and wages and the role of unions appear to have started to change noticeably at the end of the Japanese Miracle. While wages did not lag behind productivity growth during the Japanese Miracle, they started to fall behind productivity growth during the Lost Decade. When wages began lagging behind productivity growth, other important changes in the employment system also took place, notably the popular image of "harmonious and understanding enterprise unions" appeared to have become a reality at last. Negotiations over base wage increases (base-up) became less pervasive. Wage revisions that had been synonymous with base-up began to include a nominal wage cut. The idea of establishing the market for annual wage settlements became less relevant, suggesting the diminishing value of the Shunto synchronization of wage negotiations.

Japan's current Government appears to be very interested in rectifying lagging wages as part of its "reflation" policy. This paper's finding that wages started to lag behind productivity when Japanese unions became "harmonious" and labour disputes less frequent could be interpreted as suggesting that the reversal of the trend towards "harmonious" unions may help rectify lagging wages. For instance, lagging wages could be mended by revitalizing the union movement, which could extend its representational reach to non-standard forms of employment, and recalibration of coordinated Shunto wage-fixing at supra-enterprise level. Although this interpretation is plausible, it ought not to be considered definitive. First, the finding is correlational, not causal. Any causal interpretation will require a far more rigorous analysis able to rule out the possibility of unobserved confounders that cause both the lagging wages and the diminishing union bargaining power. Reverse causality also needs to be ruled out. Second, as discussed in section III, the analysis of changes in union bargaining power will require a more reliable proxy for union bargaining power. The finding that the bargaining power of Japanese unions has diminished should not be seen as conclusive.

That being said, the paper has a number of more specific policy implications. Perhaps the most relevant finding is that the Japanese bonus system is less downward rigid than the base wage, and that such downward flexibility of bonuses appears to be a major factor in lagging wages (along with an insufficient increase in the base wage when productivity rises). One union leader informant said that his employer likes to turn their bonus system into an explicit profit-sharing plan in which the amount of bonus payment will be determined automatically by plugging each year's company performance measure into an explicit formula. His union has rejected the employer's request. One of the main reasons for its rejection is that the employer proposes four months of base pay as the floor when company performance is negative. The union considers the four-month floor too low and is demanding a five-month floor. The union is essentially trying to make the profit-sharing bonus system proposed by the employer less downward flexible. Considering this paper's main finding that wages started to lag behind productivity growth in Japan in large part due to the downward flexibility of bonuses, it is actually trying to prevent further lagging of wages by making the proposed profit-sharing bonus system less downward flexible.

A simple message for policy-makers wanting to design an effective policy instrument to rectify lagging wages is that they should pay particular attention to the bonus system. Japanese firms still appear not entirely confident about the recovery process, and unwilling to consider base-up on a continuous basis. They are, however, more likely to agree to offer their employees generous bonuses precisely because of their temporary nature. In the long run, if wages are to be prevented from lagging behind productivity growth again, policy-makers will need to be cognizant of the downward flexibility of bonuses as a key factor in such lagging wages. It may be useful to consider advocating a reasonably high floor for the bonus system in the event of unusually weak company performance, and perhaps providing a tax incentive

for firms willing to set such a floor.

Finally the Japanese experience highlights the importance of an effective neutral third-party institution, such as the Japan Productivity Centre, trusted by all parties in the development of a share economy with strong labour-management cooperation and sensitivity of wages to productivity. It is less clear how relevant the Centre's formula on employment, wages and productivity will be to the future of the Japanese economy, which is expected to grow at a slower pace as a result of the rapidly aging population. A valuable lesson can, however, be drawn from the actual process through which the Productivity Centre earned the trust of all interested parties, in particular trade unions, which were initially sceptical about its ability to use an evidence-based, scientific approach to achieve labour-management cooperation, productivity growth, and a fair share of the fruit of such productivity growth. Box 1 is based on a detailed historical account of the role of the Productivity Centre in Japan's post-war economic growth by Shimanishi, Mori and Umezaki (2012). The Centre first formed a working team to design a labour-management consultation system. It chose the team members carefully and established its neutrality. Second, it focused on educating young union leaders about the evidence-based, scientific approach to productivity-enhancing labour-management cooperation with distributional fairness. As the Productivity Centre was initiated and supported by Japan's premier employer associations along with the American and Japanese Governments, it is not surprising that not all union leaders immediately embraced it. The Centre reached out to young union leaders and gradually overcame their initial scepticism about its ability to function as an objective, neutral and effective third party. The Centre designed and implemented a variety of programmes to facilitate communication between labour and management and help them develop mutual respect and trust (such as joint tours by labour and management representatives of model firms within and outside of the country).

Box 1. The Japan Productivity Centre

The Japan Productivity Centre (JPC) was established in 1955, on the initiative and with the support of the United States and Japanese Governments and Japan's premier employer associations (Kiezai Doyukai and Keidanren). Its mission was to achieve three goals:

(i) labour-management cooperation;
(ii) technological innovation without job loss; and
(iii) distributional justice among employers, employees, and consumers.

To fulfil its mission, it initiated a variety of programmes, ranging from promoting joint labour-management committees (see Kato, 2003) to educating managers and labour leaders, and calculating and disseminating statistics (most notably a productivity index).

The JPC stressed the importance of scientific evidence in its promotion of labour-management cooperation. To this end, it developed a productivity index and promoted it as a metric that could be used as a neutral and scientific basis for labour-management consultation.

Not all Japanese unions immediately embraced the JPC. Overall, Japanese union leaders understood the importance of productivity growth but were still sceptical about the JPC's ability to achieve its third mission of distributional justice (fair sharing of the fruit of productivity improvement with labour) as a truly neutral third party. The JPC carried out a variety of activities and won the trust of union leaders over time:

1. Three years after its establishment, the JPC formed a standing committee on labour-management consultation as a neutral and open forum for labour-management cooperation. The committee members were carefully chosen to establish the neutrality of the committee. Most early members were academics specializing in labour research, Ministry of Labour officials, and journalists. Only one employer representative and one union leader were later added to the committee.
2. The JPC opened a school for union leaders (Labour University of Productivity), and ran other short-term educational programmes for young union leaders. Through such educational activities, it gradually won the trust of union leaders, while educating them on the evidence-based, scientific, and rational approach to labour-management relations. In such educational activities for union leaders, the JPC made sure to use their productivity index and other key labour statistics, and demonstrate that such statistics can form a basis for labour management cooperation.
3. The JPC organized a series of joint labour-management study tours of model firms with productivity-enhancing labour management cooperation. The objective was for both labour and management representatives to witness successful labour-management cooperation together and to help them develop successful labour-management cooperation in their own companies.

Source: Shimanishi, Mori and Umezaki (2012)

References

Aoki, M. 1990. "Toward an economic model of the Japanese firm", in *Journal of Economic Literature*, Vol. 28, No. 1, pp. 1-27.

——. 2000. *Information, corporate governance, and institutional diversity: Competitiveness in Japan, the USA, and the transitional economies* (Oxford and New York, Oxford University Press).

Asano, H; Ito, T.; Kawaguchi, D. 2011. "Why has the fraction of contingent workers increased? A case study of Japan", RIETI Discussion Paper Series, 11-E-021.

Blasi, J; Conte, M.; Kruse, D. 1996. "Employee stock ownership and corporate performance among public companies", in *Industrial and Labour Relations Review*, Vol. 50, No. 1, pp. 60-79.

Chuma, H. 2002. "Employment adjustments in Japanese firms during the current crisis", in *Industrial Relations*, Vol. 41, No. 4, pp. 653-82.

Edwards, C. 1978. "Measuring union cower: A Comparison of two methods applied to the study of local union power in the coal industry", in *British Journal of Industrial Relations*, Vol. 16, No. 1, pp. 1-15.

Esteban-Pretel, J.; Nakajima, R.; Tanaka, R. 2011. "Are contingent jobs dead ends or stepping stones to regular jobs? Evidence from a structural estimation", in *Labour Economics*, Vol. 18, No. 4, pp. 513-26.

Freeman, R. B.; Weitzman, M. L. 1987. "Bonuses and employment in Japan", in *Journal of the Japanese and International Economies*, Vol. 1, No. 2, pp. 168-94.

Hamilton, B. H.; Nickerson, J. A.; Owan, H. 2003. "Team incentives and worker heterogeneity: An empirical analysis of the impact of teams on productivity and participation", in *Journal of Political Economy*, Vol. 111, No. 3, pp. 465-98.

Hara, H.; Kawaguchi, D. 2008. "The union wage effect in Japan", in *Industrial Relations*, Vol. 47, No. 4, pp. 569-90.

Honda, K. 2006. "Employment policies and labour union activities for part-time workers and dispatched workers in Japan", in S. E. Gleason (ed.): *The shadow workforce: Perspectives on contingent work in the United States, Japan, and Europe* (Kalamazoo, Michigan, W. E. Upjohn Institute for Employment Research), pp. 241-67.

Houseman, S.; Osawa, M. 2003. "The growth of nonstandard employment in Japan and the United States", in S. Houseman and M. Osawa (eds.): *Nonstandard work in developed economies: Causes and consequences (*Kalamazoo, Michigan, W. E. Upjohn Institute for Employment Research), pp 175-214.

Innocenti, A.; Laboury, S. 2004. "Outsourcing and information management: A comparative analysis of France, Italy and Japan in both small and large firms", in *European Journal of Comparative Economics*, Vol. 1, No. 1, pp. 107-25.

Itoh, H. 1994. "Japanese human resource management from the viewpoint of incentive theory", in M. Aoki and R. Dore (eds.): *The Japanese firm: The sources of competitive strength* (Oxford and New York: Oxford University Press), pp. 233-64.

Jacoby, S. M.; Nason, E. M.; Saguchi, K. 2005. "The role of the senior HR executive in Japan and the

United States: Employment relations, corporate governance, and values", in *Industrial Relations*, Vol. 44, No. 2, pp. 207-41.

Jones, D. C.; Kalmi, P.; Kauhanen, A. 2010. "Teams, performance-related pay, profit-sharing and productive efficiency: Evidence from a food-processing plant," in *Industrial and Labour Relations Review,* Vol. 63, No. 4, pp. 606-26.

Jones, D. C.; Kato, T. 1995. "Japan: Financial participation in the context of human resources and heightened competitiveness", in D. Vaughan-Whitehead (ed.): *Workers' financial participation: East-West experiences* (Geneva, ILO), pp. 125-40.

——. 2011. "The impact of teams on output, quality and downtime: An empirical analysis using individual panel data", in *Industrial and Labour Relations Review*, Vol. 64, No. 2, pp. 215-40.

Jones, D. C.; Kato, T.; Pliskin, J. 1997. "Profit sharing and gainsharing: A review of theory, incidence and effects", in D. Lewis, D. Mitchell and M. Zaidi (eds.): *The human resource management handbook part I* (Greenwich, CT, JAI Press), pp. 153-74.

Kambayashi, R.; Kato, T. 2013. "Good jobs, bad jobs, and the great recession: Lessons from Japan", CJEB Working Paper No. 326 (New York, Columbia University).

Kato, T. 2001. "The end of lifetime employment in Japan? Evidence from national surveys and field research", in *Journal of the Japanese and International Economies*, Vol. 15, No. 4, pp. 489-514.

——. 2003. "The recent transformation of participatory employment practices", in S. Ogura, T. Tachibanaki and D. Wise (eds.): *Nber conference report labour markets and firm benefit policies in Japan and the United States* (Chicago, University of Chicago Press), pp. 39-80.

Kato, T.; Rockel, M. 1992. "Experiences, credentials, and compensation in the Japanese and U.S. managerial labour markets: Evidence from new micro data", in *Journal of the Japanese and International Economies*, Vol. 6, No. 1, pp. 30-51.

Kato, T.; Kubo, K. 2006. "CEO compensation and firm performance in Japan: Evidence from new panel data on individual CEO pay", in *Journal of the Japanese and International Economies*, Vol. 20, No. 1, pp. 1-19.

Kato, Takao and Long, Cheryl. "Executive compensation, firm performance, and corporate governance in China: evidence from firms listed in the Shanghai and Shenzhen stock exchanges." Economic Development and Cultural Change, 2006, 54(4), pp. 945-83.

Kato, T.; Morishima, M. 2003. "The nature, scope and effects of profit sharing in Japan: Evidence from new survey data", in *International Journal of Human Resource Management*, Vol. 14, No. 6, pp. 942-55.

Koike, K. 2005. *Shigoto No Keizaigaku (Economics of work)* (Tokyo, Toyo Keizai).

Kruse, D. L. 1993. *Profit sharing: Does it make a difference? (*Kalamazoo, Michigan, W.E. Upjohn Institute for Employment Research).

Kruse, D.; Blasi, J. 1997. "Employee ownership, employee attitudes, and firm performance", in D. Lewis, D. Mitchell and M. Zaidi (eds): *The human resource management handbook part I* (Greenwich, CT, JAI Press), pp. 113-52.

Moriguchi, C.; Ono, H. 2004. "Japanese lifetime employment: A century's perspective", EIJS Working Paper Series No. 205 (Stockholm, Stockholm School of Economics).

Morita, H. 2001. "Choice of technology and labour market consequences: An explanation of U.S.-

Japanese differences", in *Economic Journal*, Vol. 111, No. 468, pp. 29-50.

——**.** 2005. "Multi-skilling, delegation and continuous process improvement: A comparative analysis of US-Japanese work organizations", in *Economica*, *72* (285), pp. 69-93.

Nakata, Y.; Takehiro, R. 2003. "Total labour costs and the employment adjustment behavior of large Japanese firms", in S. Ogura, T. Tachibanaki and D. A. Wise (eds.): *Labour markets and firm benefit policies in Japan and the United States (*Chicago and London, NBER Conference Report Series and University of Chicago Press), pp. 135-55.

Ohashi, I. 1989. "On the determinants of bonuses and basic wages in large Japanese firms", in *Journal of the Japanese and International Economies*, Vol. 3, No. 4, pp. 451-79.

Ozeki, C.; Wakisaka, A. 2006. "Japan's growing shadow workforce", in S. E. Gleason (ed.): *The shadow workforce: Perspectives on contingent work in the United States, Japan, and Europe (*Kalamazoo, Michigan, W. E. Upjohn Institute for Employment Research), pp. 203-39.

Paci, P.; Wagstaff, A.; Holl, P. 1993. "Measuring union power in British manufacturing: A latent variable approach", in *Oxford Bulletin of Economics and Statistics*, Vol. 55, No. 1, pp. 65-85.

Rebick, M. 2005. *The Japanese employment system: Adapting to a new economic environment* (Oxford and New York, Oxford University Press).

Shimanishi, T.; Mori, N.; Umezaki, O. 2012. "The Japan Productivity Centre's activities during Japan's high growth period: Its effects on labour-management relationship of trust (in Japanese)", in *The Japanese Journal of Labour Studies*, Vol 625, pp. 70-86.

Suruga, T. 1998. "Employment adjustment in Japanese firms: Negative profits and dismissals", in O. Isao and T. Tachibanaki (eds.): *Internal labour markets, Incentives and employment (*New York, St. Martin's Press), pp. 196-221.

Figures

Figure 1: Real per capita GDP (PPP), 1980-2012: G7

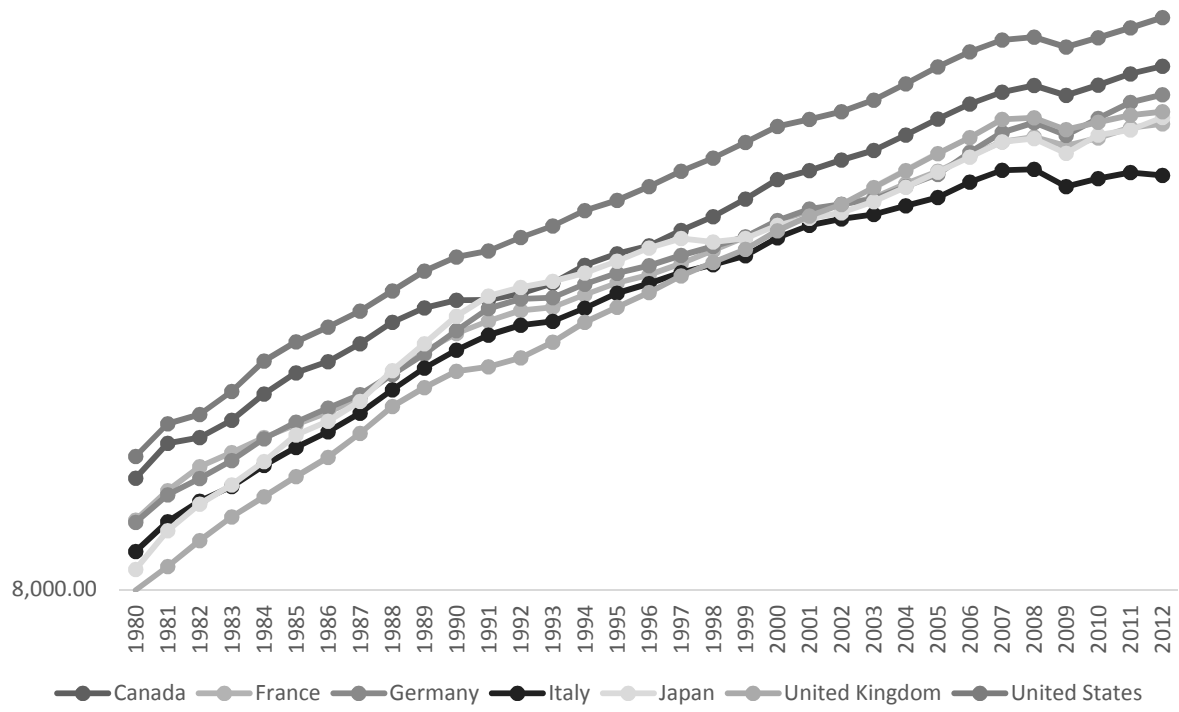


Figure 2: Productivity and real wage index in Japan, 1980-2012: manufacturing

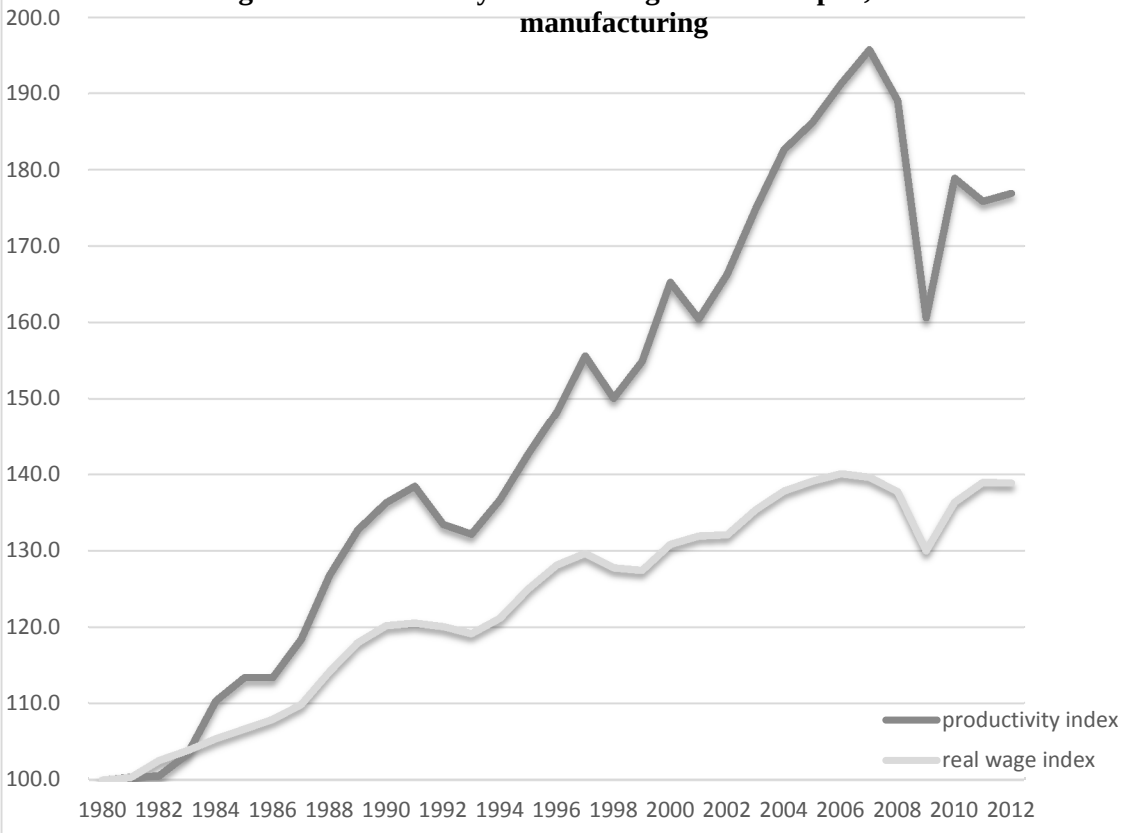


Figure 3: Productivity and wage components in Japan, 1980-2012: manufacturing

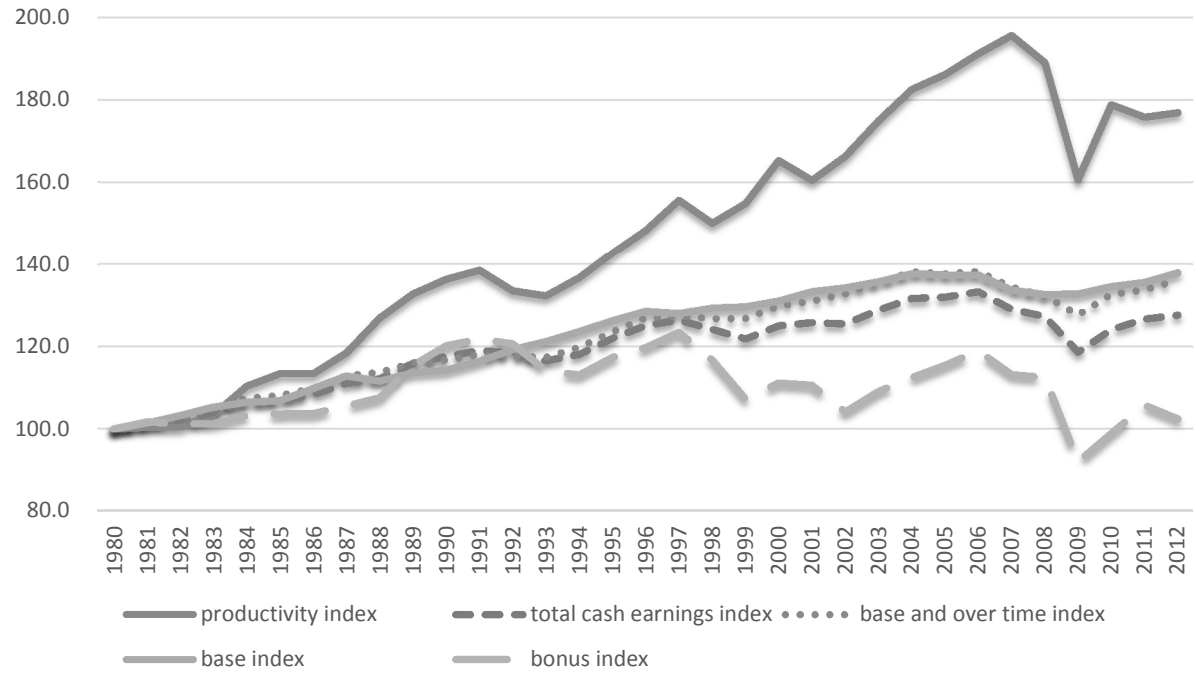


Figure 4: Percentage change in productivity and total cash earnings in Japan, 1981-2012: manufacturing

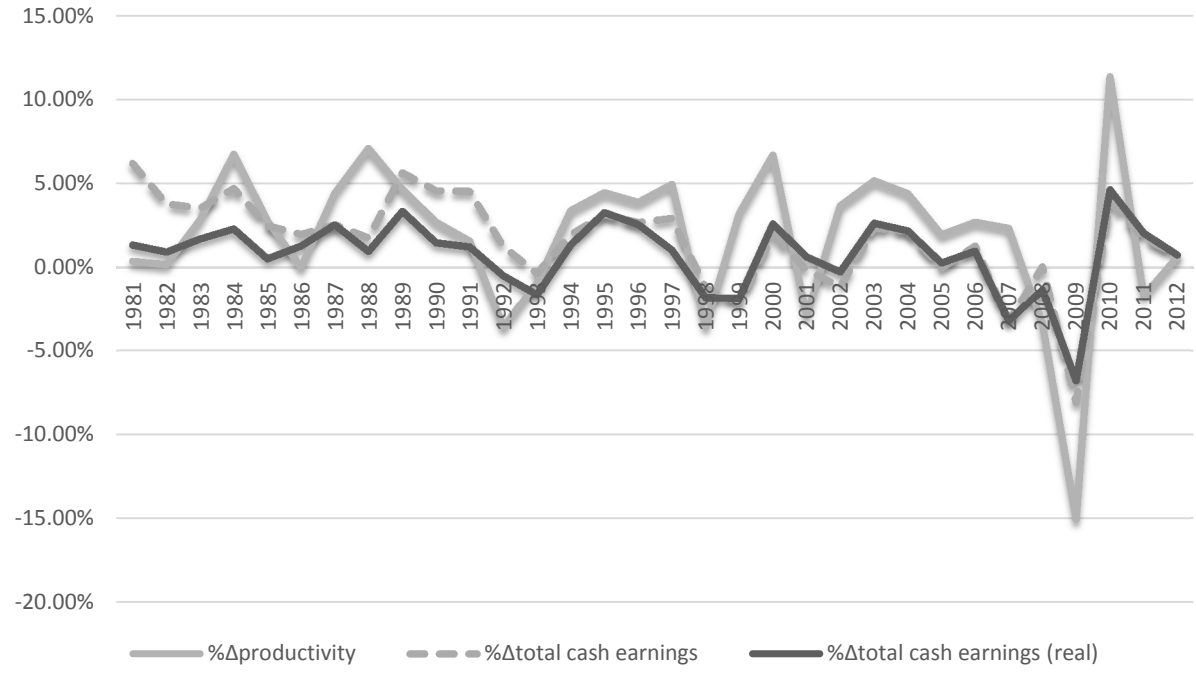


Figure 5: Percentage change in productivity and base wage in Japan, 1981-2012: manufacturing

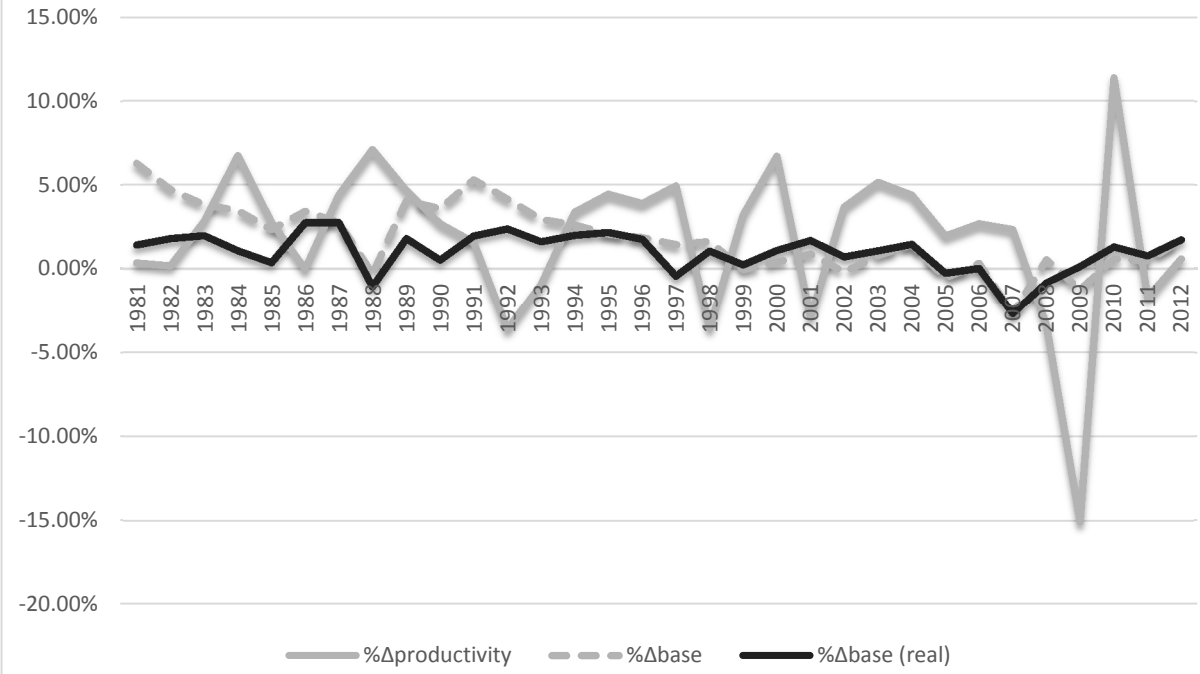


Figure 6: Percentage change in productivity and bonus in Japan, 1981-2012: manufacturing

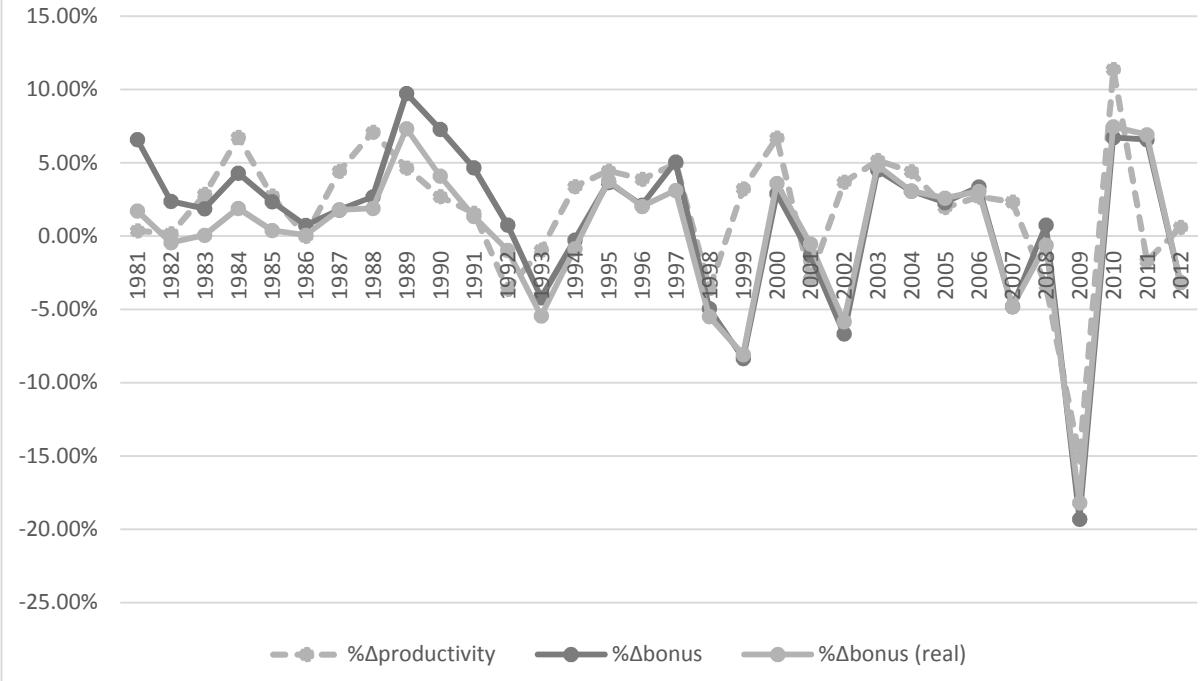


Figure 7: Value added per employee, employee pay, and executive pay in Japan, 1970-2012: all industries (except for finance and insurance)

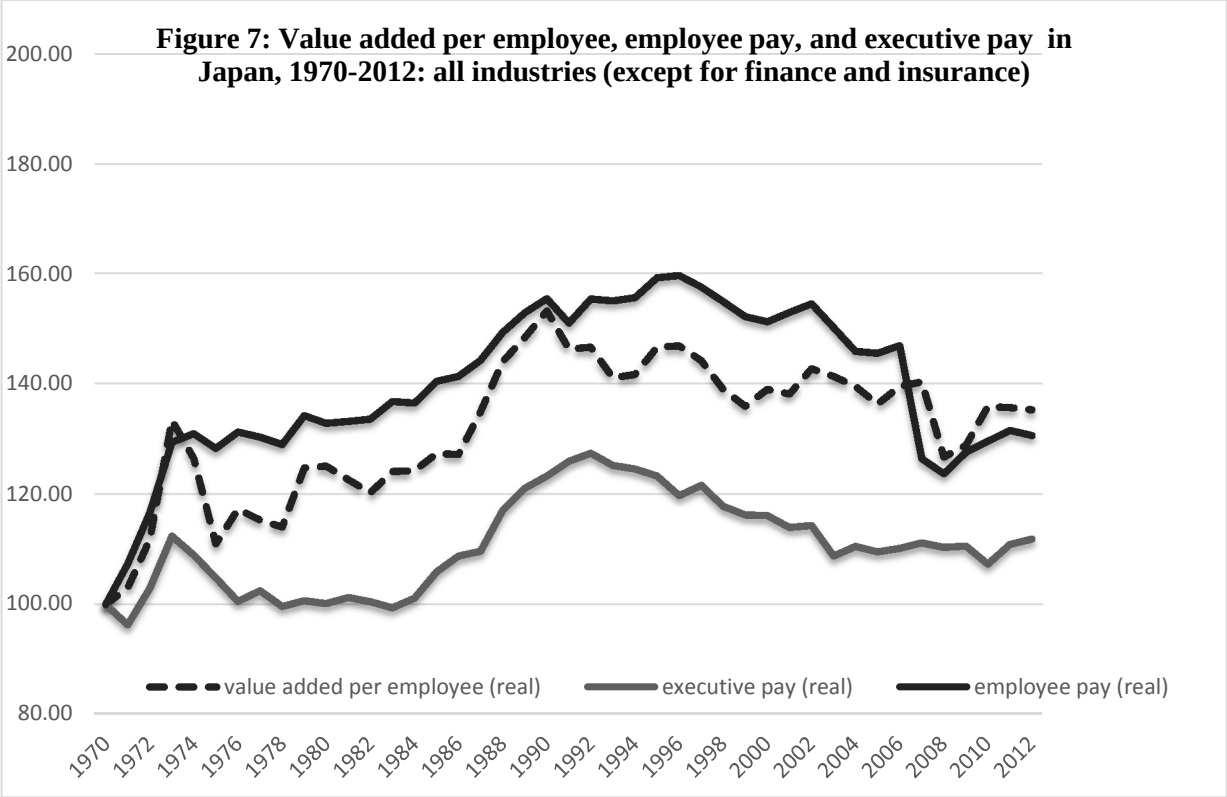


Figure 8: Value added per employee, employee pay and executive pay in Japan, 1970-2012: manufacturing

Figure 9: Union density, 1953-2011

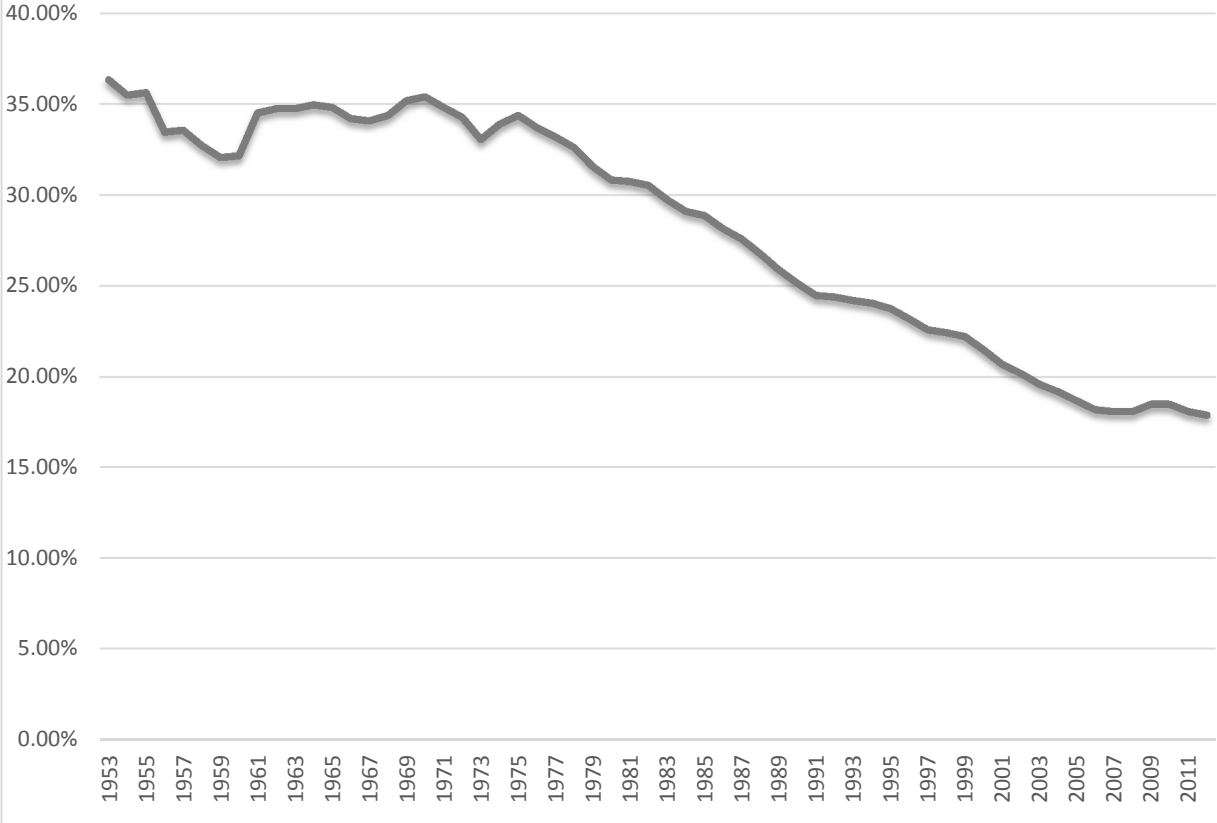


Figure 10: Labour disputes, and union members involved, 1953-2011

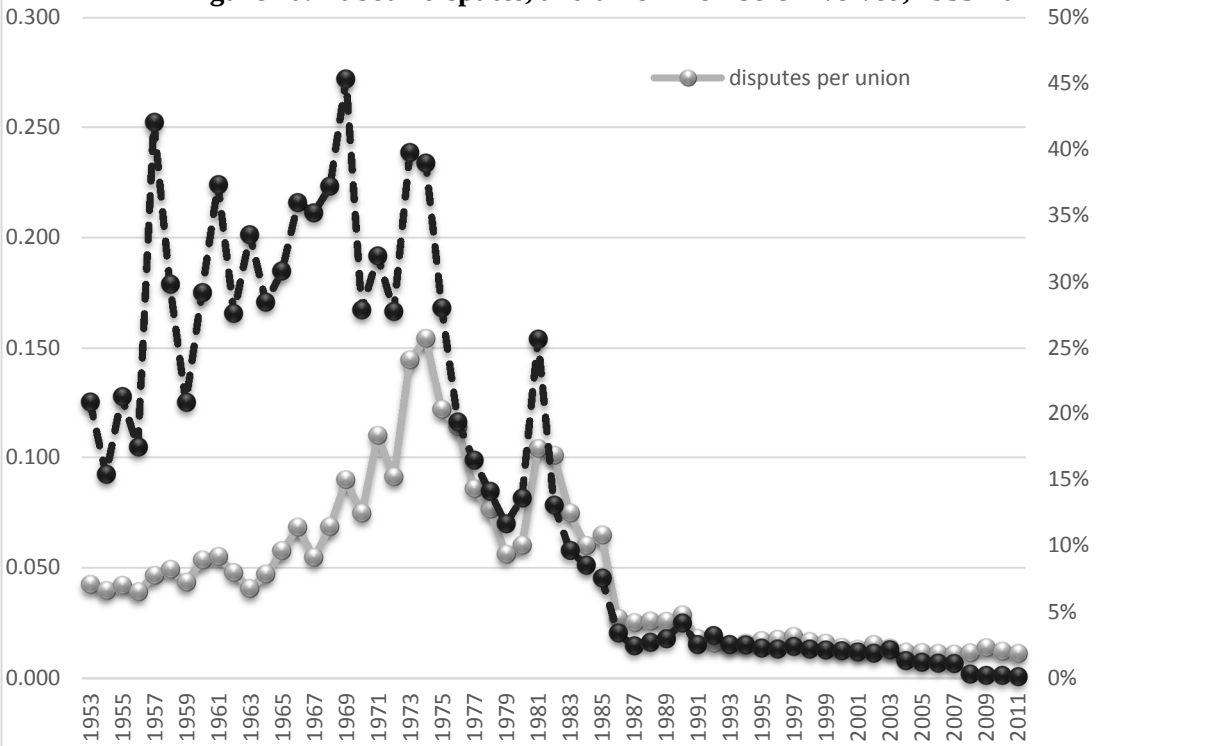


Figure 11: Strikes, and union members involved, 1953-2011

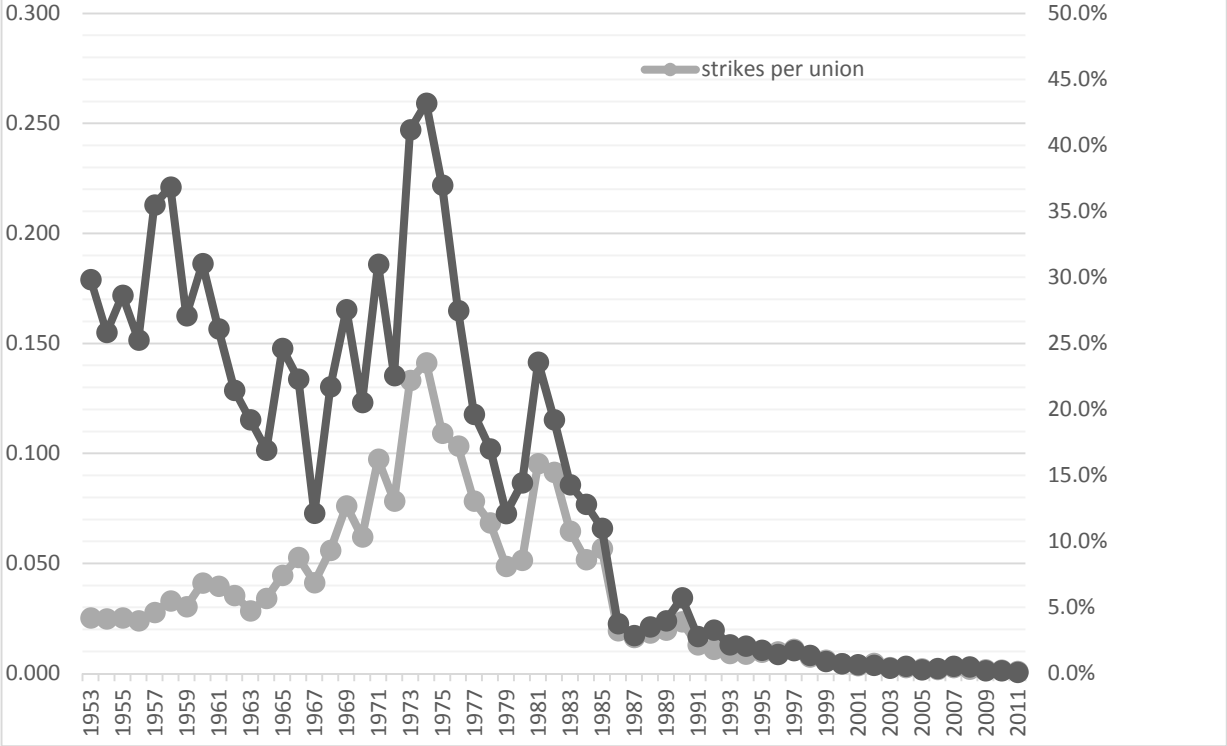


Figure 12: Days lost due to strikes per member

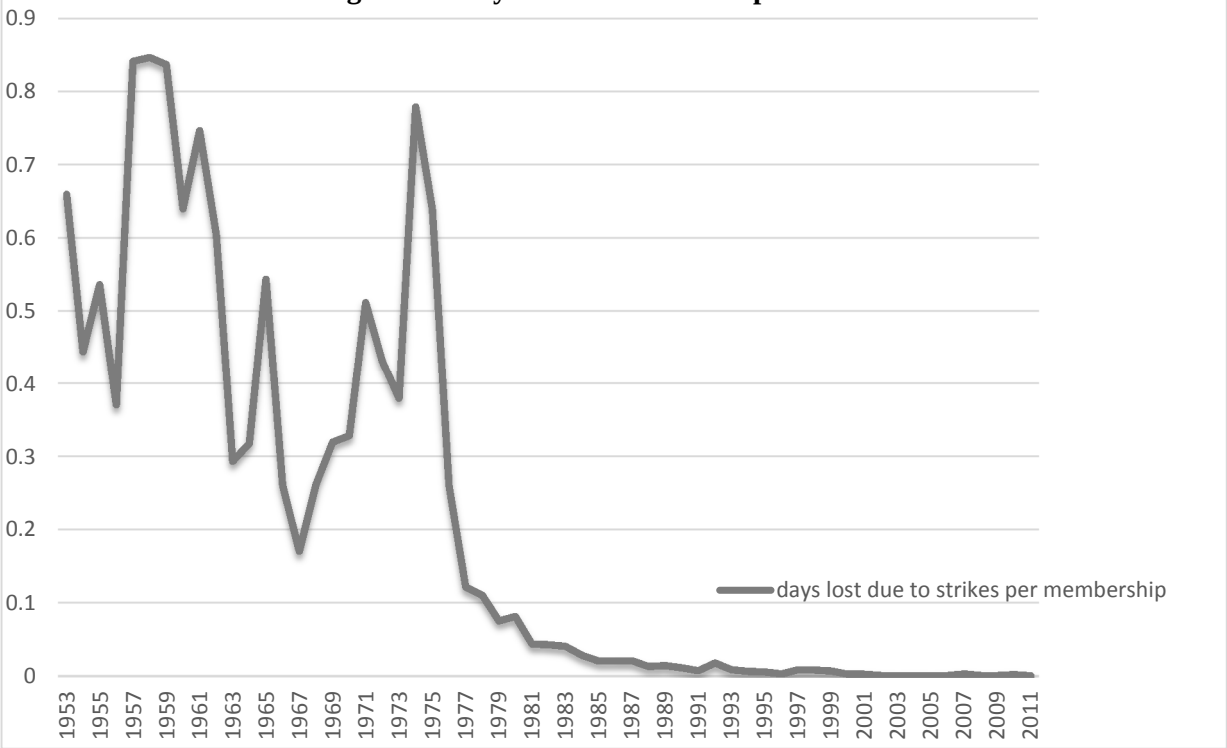


Figure 13: Percentage of firms with wage revisions by firm size

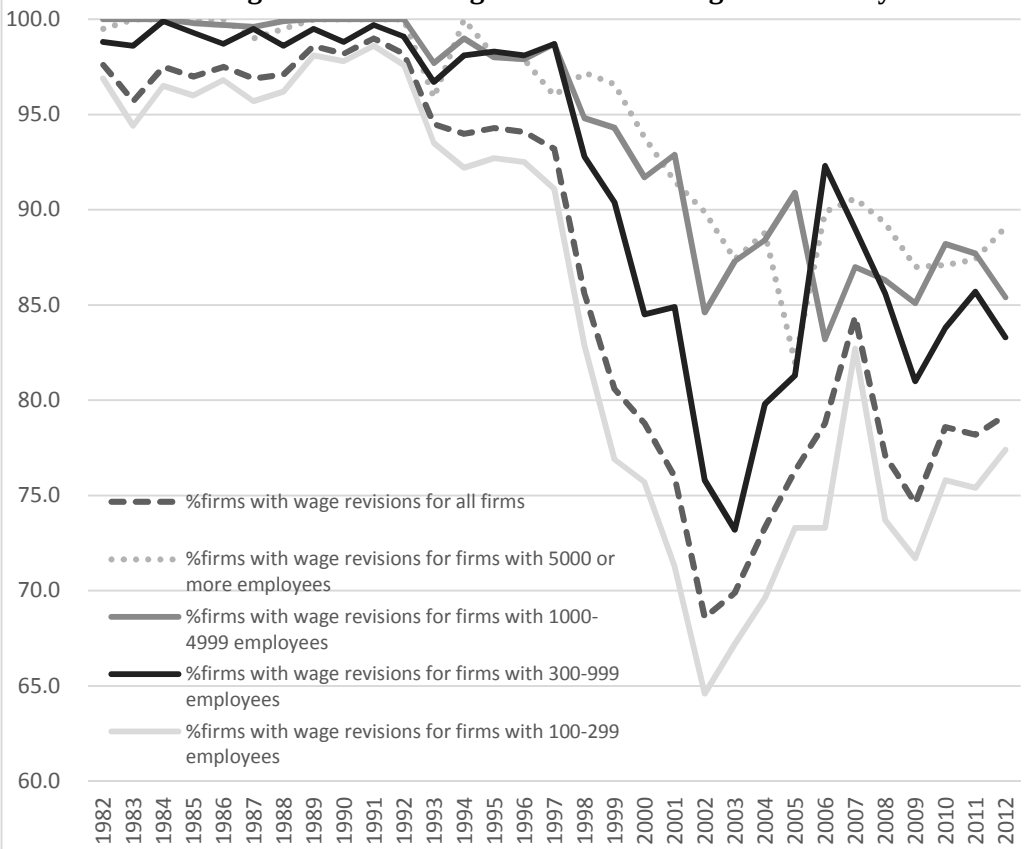


Figure 14: Percentage of firms with wage cut by firm size

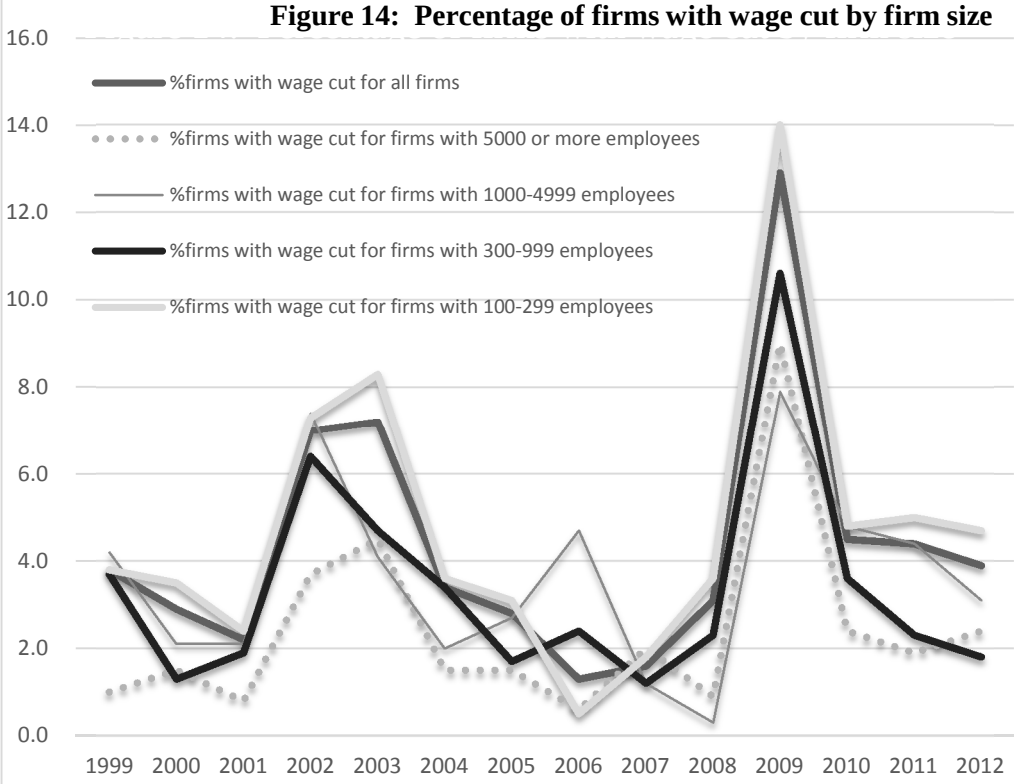


Figure 15: Percentage of firms with wage settlements in different months: all firms

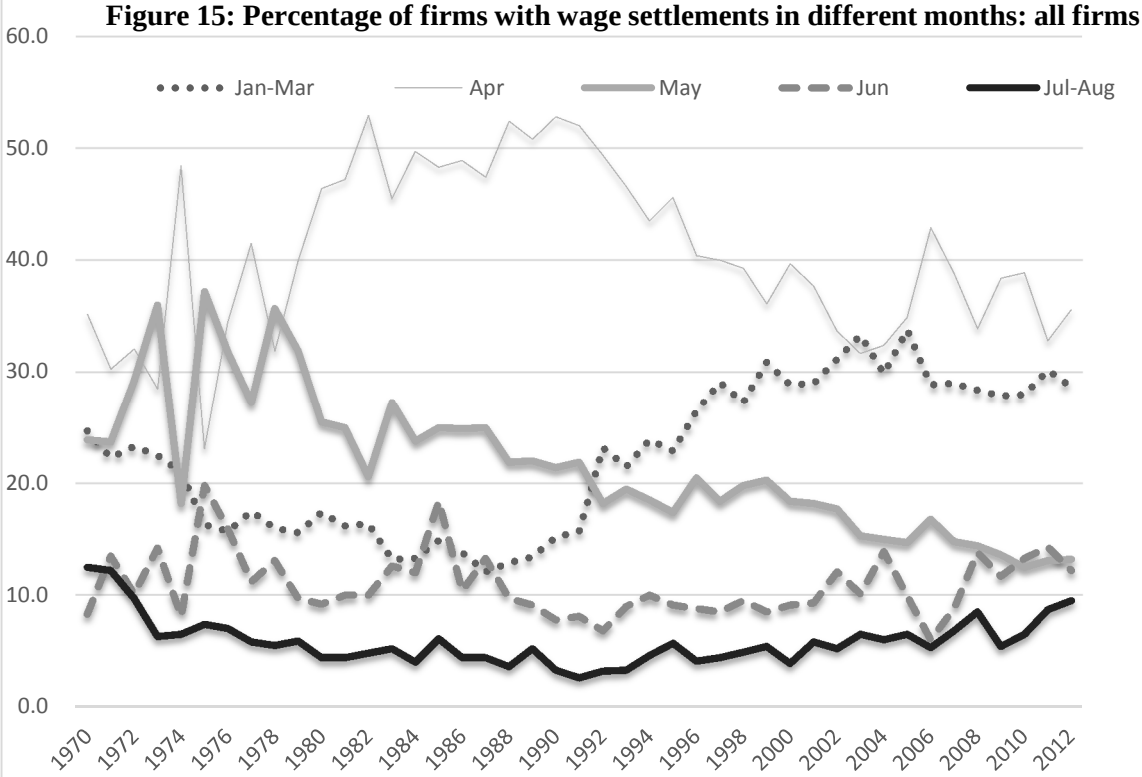


Figure 16: Percentage of firms listing different factors as the most important eterminant of wages: all firms

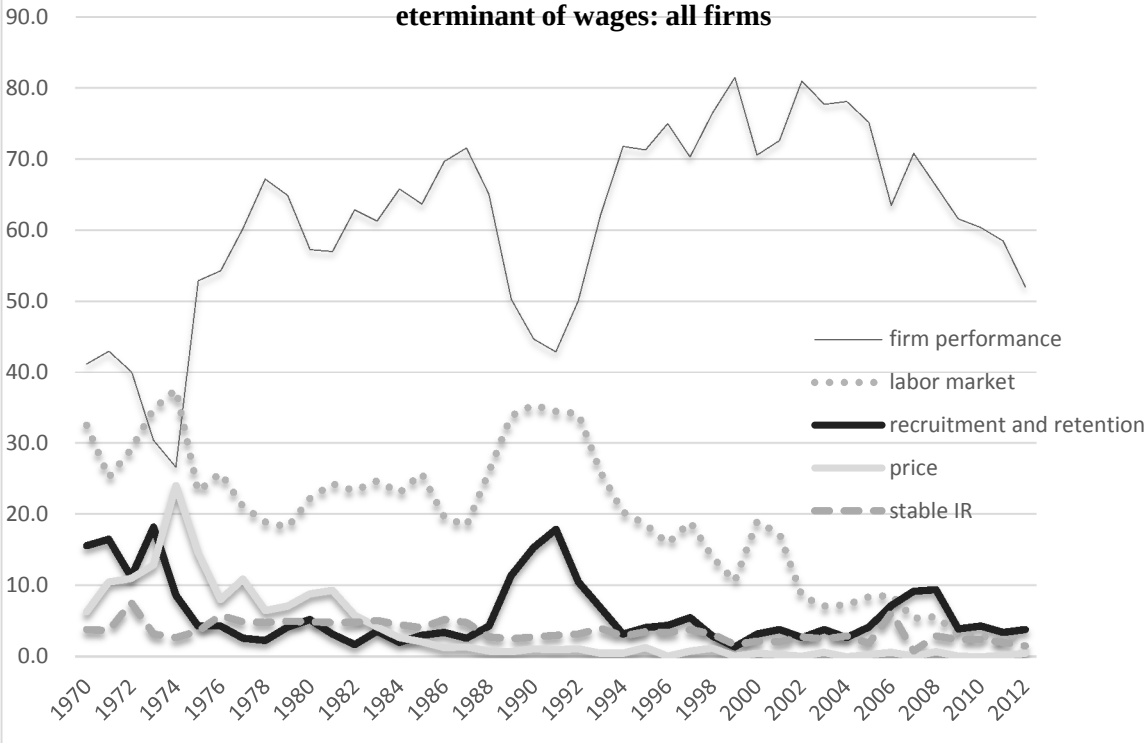


Figure 17: Percentage of standard and non-standard employees, 1984-2012: all

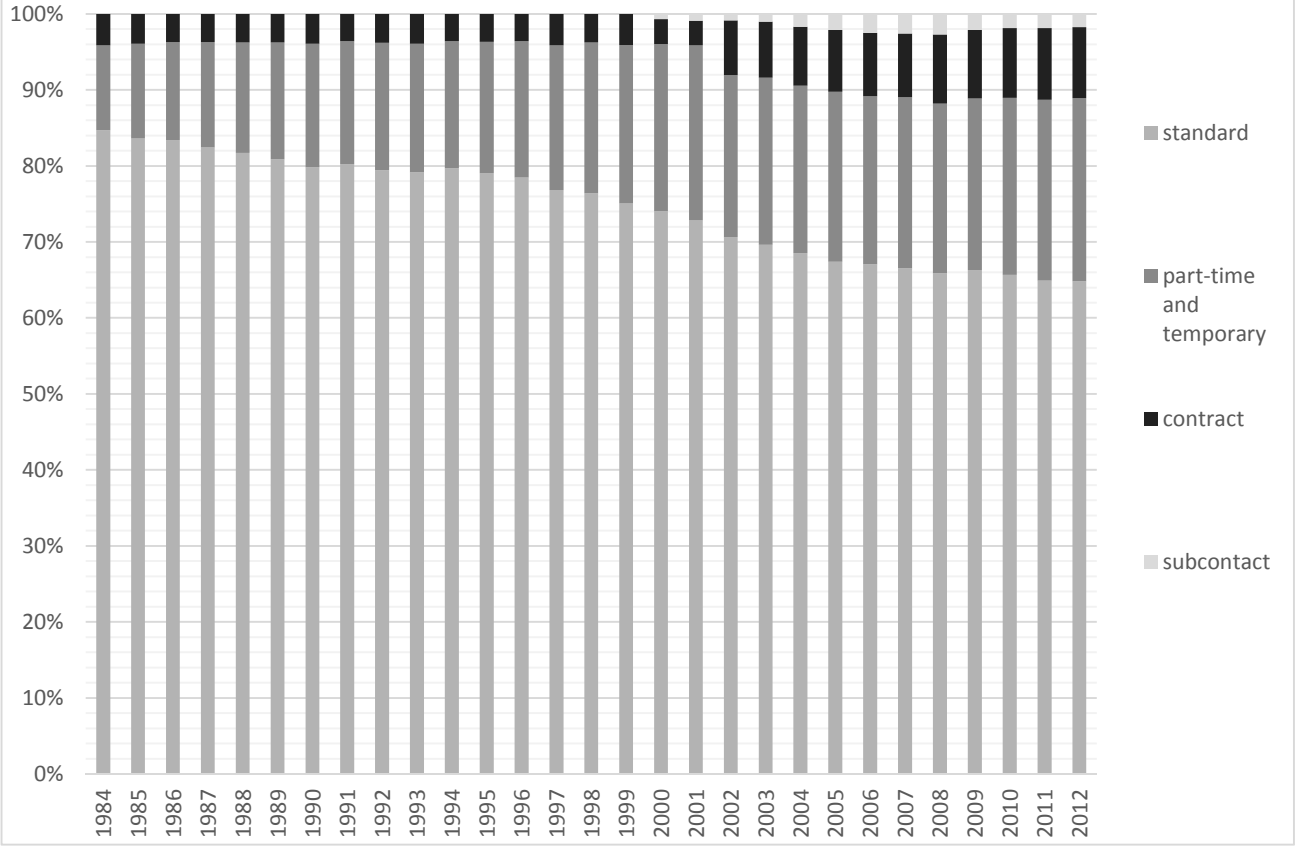


Figure 18: Percentage of standard and non-standard employees, 1984-2012: male

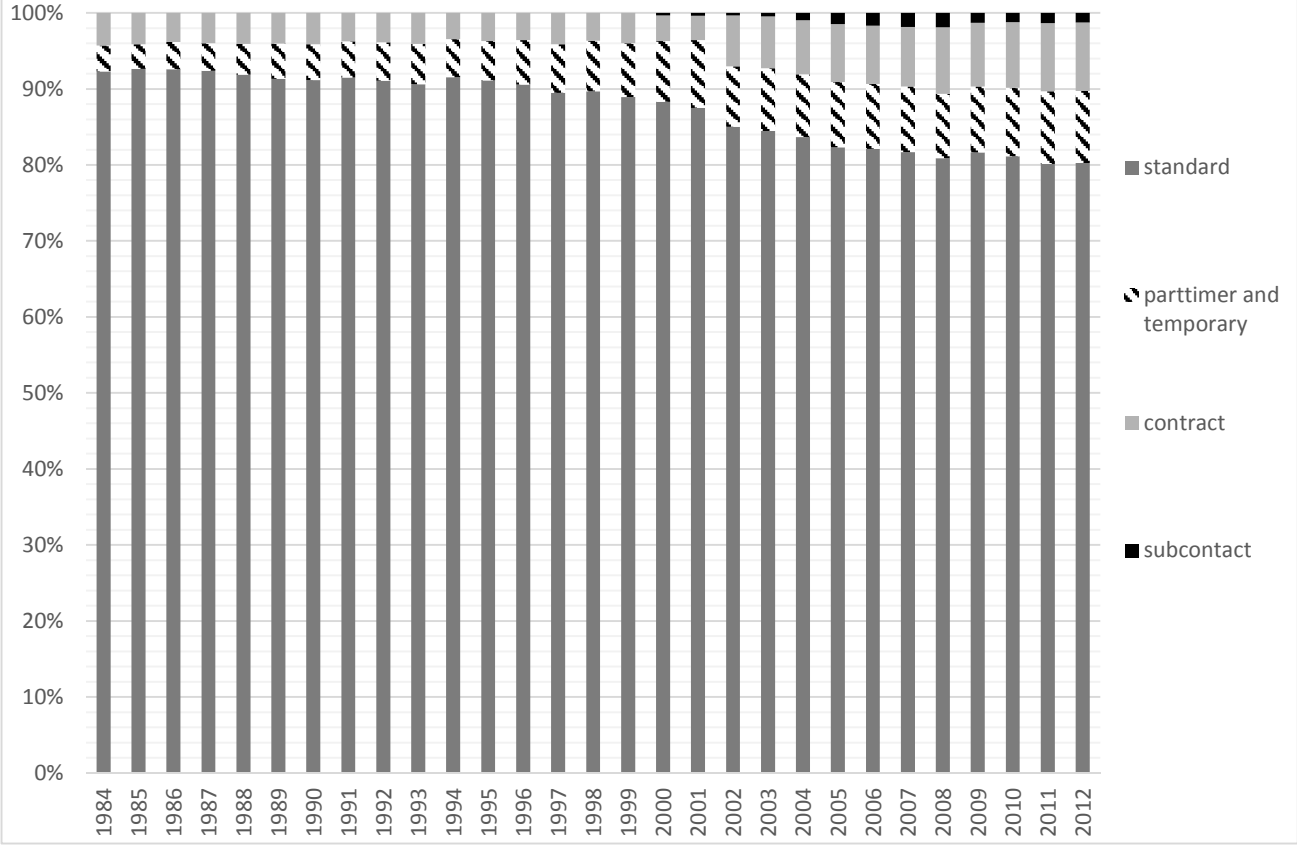
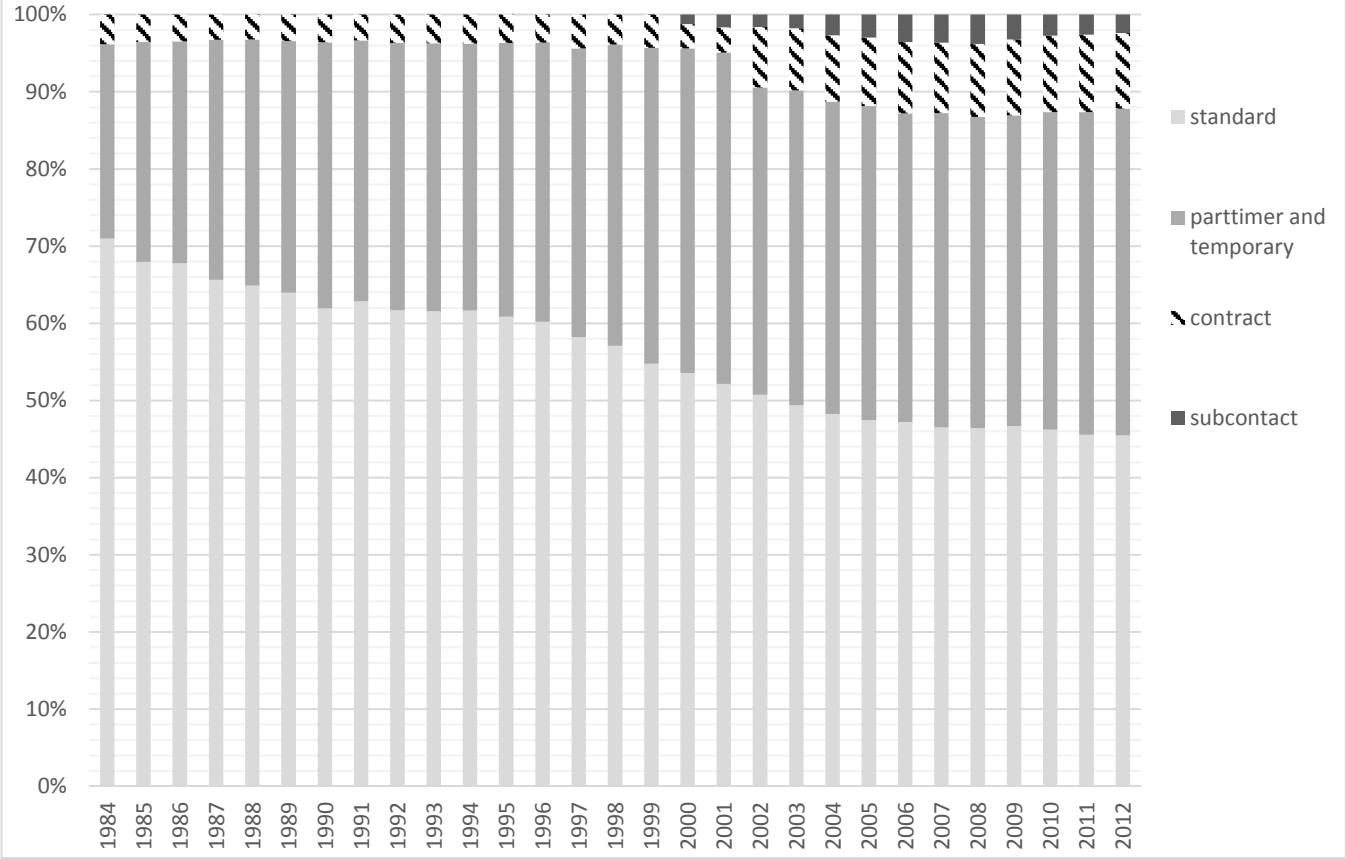


Figure 19: Percentage of standard and non-standard employees, 1984-2012: female



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