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Unemployment and External and Internal Labor Market Flexibility: A Comparative View of Europe, Japan, and the United States

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Abstract. This paper examines the relationship between unemployment and labor market flexibility. The latter is considered in the broadest sense - as it relates to labor markets at large (external flexibility) and to practices within firms (internal flexibility). The first part of the paper addresses the argument that differences in employment performance among the advanced economies result largely from differences in labor market flexibility. Empirical evidence is considered on nominal and real wage flexibility, labor market institutions, the trade-off between unemployment and inequality (the so-called unified theory), social policy, and Beveridge curves. With the exception of ambiguous evidence on the duration of unemployment insurance benefits, there is little solid evidence that high unemployment results from labor market rigidities.

The second part of this paper addresses the argument that Japan's low rate of unemployment results from high internal labor market flexibility. This assertion is suspect, or at least overstated, for several reasons. Japanese firms' reliance on internal flexibility is not an alternative to but rather is complemented by external flexibility. This external flexibility is provided disproportionately by women workers, who serve as a buffer workforce. Rather than being counted as unemployed, Japanese women who lose their jobs tend to leave the labor force altogether. This is manifested in the remarkably high proportions of discouraged workers in Japan, the vast majority of them women. Thus the Japanese unemployment rate as well as unemployment volatility are deceptively low, much more so than for the other advanced economies. Most studies examining wage flexibility in relation to *unemployment* conclude that wage flexibility is comparatively high in Japan. But studies that examine the relationship between changes in nominal or real wages and *output* conclude that Japan does not have comparatively high wage flexibility. The point is of relevance not only for the literature on comparative wage flexibility but also for that on labor market institutions and unemployment, in which is is assumed that Japan has comparatively high wage flexibility.

Introduction

Since the early-1970s, various notions of labor flexibility came to play a central and even dominating role in discussions of unemployment and economic performance. Two causes, not obviously related, appear most important.

First, the weight given to labor market flexibility in accounting for high unemployment marked a widespread retreat from the post-War Keynesian consensus and a resurgence of theories of unemployment rooted in marginalist, neo-classical principles. The Keynesian consensus had enjoyed considerable influence and provided the framework for public policies aimed at lowering unemployment through the stimulation of effective demand. The retreat from the consensus

occurred in the face of dramatically rising unemployment in most of the advanced capitalist countries since the early-1970s, which traditional Keynesian policies seemed at a loss to counter. As important as the rise in unemployment was the variation in unemployment experience among the advanced economies, with some countries faring considerably worse than others. The variation among countries led economists to seek out country-specific causes of rising unemployment and its persistence.

Combined with the opening created by the collapse of the Keynesian consensus, it seems natural that many economists would look to differences among countries in wage rigidity and labor market rigidity in general. For the neo-classical theory and its offshoots, it is these rigidities that are held to be the causes of persistent unemployment. The theory of the natural rate of unemployment and efficiency wage theory share the fundamental premise of the unadorned neo-classical theory of unemployment - that persistent unemployment results from wages being above a market-clearing level defined by the intersection of upward sloping supply and downward sloping demand curves for labor. Job search theory is also a variant of the neo-classical theory of unemployment, in which the social wage - which includes unemployment insurance benefits - is argued to be the relevant determinant of unemployment. Thus labor market flexibility as it relates to unemployment is more than just another term for wage flexibility, encompassing as it does a broad range of factors. Not least among these is flexibility in hiring and firing workers in the face of economic fluctuations.

The second cause of labor flexibility's prominence is the interest in flexible production techniques, often associated with the just-in-time production system developed in the post-War years at Toyota Motors. Much of the interest in flexible production originated in the business community, as U.S. and European manufacturers witnessed, at their expense, the competitive successes of Toyota and other Japanese firms. Within academic circles, the interest in flexible production took off after the 1984 publication of Piore and Sabel's *The Second Industrial Divide*, which initiated a wide-ranging debate about the virtues and significance of what the authors refer to as "flexible specialization." An integral aspect of flexible production is labor flexibility, in most respects a different notion of labor flexibility than in the unemployment debates, involving flexibility in job definition and design and the mobility of workers among tasks. Such labor flexibility is associated not only with just-in-time production but with Japanese firms' reliance on

internal labor markets more generally, which precedes just-in-time production and applies to many more Japanese firms.

It is worth asking whether there is anything to be gained from considering these quite different notions of labor flexibility together, for in a sense they are mere homonyms. Yet the full range of labor flexibility definitions have been employed to explain differences in unemployment performance among the advanced capitalist economies, justifying a broad view. Consider an editorial from the May 30, 1986 *Financial Times*, reflecting a commonly held view regarding differences in comparative unemployment performance: "Japan's low unemployment is primarily a reflection of very high internal mobility, America's a reflection of high external mobility. Europe suffers high unemployment because it lacks either sort of mobility..." (Quoted in Metcalf 1987: 51-52). Here external refers to the mobility of workers in the labor market at large and internal refers to the mobility of workers within firms. Mobility is only one aspect of labor market flexibility, but low rates of unemployment in Japan and the U.S. are also argued to result from greater internal and external labor market flexibility more generally, as will be noted in some detail.

This chapter undertakes two tasks, both addressing the view that the relatively favorable employment performance of Japan and the U.S. is attributable to greater labor market flexibility.

First, this chapter surveys the empirical literature on relationship between labor market flexibility and unemployment. Results from recent research suggest rather strongly that labor market flexibility cannot be the primary cause of differences in employment performance among the advanced countries, particularly among Germany, Japan, and the U.S.

Second, this chapter argues that the internal labor flexibility on which Japanese firms heavily rely requires a good deal of external flexibility, particularly flexibility in hiring and firing. Such external flexibility is provided, in large measure, by women workers, who are largely excluded from the so-called lifetime employment system. These women serve as a buffer workforce, generally leaving the labor market upon losing their jobs. As such, they do not figure into unemployment statistics. Japanese women's importance to the basic workings of the economy is suggested by a number of empirical studies as well as by the writings of those most responsible for the development of just-in-time production at Toyota Motors, from which the system spread to a great many firms in Japan and elsewhere.

In 1994, then U.S. Secretary of Labor Robert Reich spoke of the term labor market flexibility going "directly from obscurity to meaninglessness without any intervening period of coherence" (in Brodsky 1994: 53). Before proceeding to the two tasks of this chapter, then, it seems worthwhile to consider some definitions and distinctions in common use regarding labor market flexibility. Distinctions are typically made by dichotomizing: flexibility in employment versus flexibility in work; numerical versus functional flexibility; and external versus internal flexibility. Different writers make these distinctions somewhat differently, but one can provide a rough sense of what they are about. Here is James Curry's definition of flexibility in work: "Flexibility in work refers essentially to flexibility within the firm or within the production process. This is the notion that flexible technologies enable a more rapid transfer of machines and processes between production functions or types....Coupled with more flexible forms of work organisation, such as flextime, group and team approaches, or more general job definitions, the new technologies enable a firm to produce variations of products, even completely different products, cheaply in smaller batches. This makes it possible for firms to respond easily and quickly to ever rapidly changing markets" (Curry 1993: 100). This describes key aspects of just-in-time production as practiced at Toyota, and is in essence the same as the functional flexibility. The definition of internal flexibility encompasses the definitions of flexibility in work and functional flexibility, but also refers more broadly to the mobility of workers among a firm's facilities and to the flexibility of payment systems within a firm (Brodsky 1994: 59).

"Flexibility in employment," Curry writes, "is essentially a labour market concept. As markets and the business cycle go through their usual changes, managers of firms find it desirable to shift the size of their work forces. This sort of flexibility has characterised the entire history of capitalism" (Curry 1993: 101). This definition is similar to that used by an OECD study to describe numerical flexibility. Associating numerical flexibility with Fordism, the study refers to such flexibility as "controlling the number of hours worked and the organization of working time, regulation of hiring and dismissals, and the use of part-time and temporary workers" (in Brodsky 1994: 59). External flexibility encompasses flexibility in employment and numerical flexibility but also includes a host of issues related to the functioning of the labor market at large. This includes, most obviously, labor mobility across regions, sectors, and occupations as well as wage flexibility, meaning downward wage flexibility.

It is worth mentioning that the characterization of Europe as having high unemployment is crude and potentially misleading. Unemployment rates varied a great deal across the Europe, particularly long-term unemployment of more than one year in duration (Nickell 1997: 56). More than that, average annual unemployment rates were actually higher in the U.S. than in West Germany (or in the regions of former West Germany) in both the 1983 to 1988 period (7.1 percent in the U.S. compared with 6.8 percent in Germany and 2.7 percent in Japan) and the 1989 to 1994 period (6.2 percent in the U.S. compared with 5.4 percent in Germany and 2.3 percent in Japan). Yet *long-term* unemployment rates were a good deal higher in Germany in both the 1983 to 1988 period (0.7 percent in the U.S. compared with 3.1 percent in Germany and 0.5 percent in Japan) and the 1989 to 1994 period (0.6 percent in the U.S. compared with 2.2 percent in Germany and 0.4 percent in Japan) (Nickell 1997: 56). It is long-term unemployment that is particularly relevant regarding the relationship between labor market flexibility and unemployment, for it is only unemployment for longer periods of time that reflects hitches in the process of labor market adjustment and not simply changing market conditions themselves.

A robust measure of labor market performance is private sector employment growth relative to the growth of the working age population (aged 15 to 64).[1] Here too Germany performed more poorly than the U.S. or Japan. From 1973 to 1990, the average annual percent growth of this measure was 0.77 for the U.S., 0.14 for Japan, and -0.35 for Germany. Much of this difference is accounted for by the rapid decline of agricultural employment in Germany, but Germany was also outperformed in the service and industrial sectors. For services, the average annual growth of private sector employment growth relative to the growth of the working age population was 1.52 for the U.S., 1.18 for Japan, and 0.99 for Germany; for industry, the measures were -0.58 for the U.S., -0.37 for Japan, and -1.36 for Germany (OECD *Historical Statistics*).[2] The growth of the working age population was nearly twice as high in the U.S. than in Germany over these years, and thus the differences in total job creation between the two countries are that much greater (the average annual percent growth of the working age population

[1] Derived from the difference between average annual growth of employment in respective sectors and average annual growth of the working age population.

[2] For manufacturing, contained with the industry classification, the measures were -1.08 for the U.S., -0.61 for Japan, and -1.05 for Germany (OECD *Historical Statistics*). The difference between the U.S. and Germany

from 1973 to 1990 was 1.22 in the U.S., 0.88 in Japan, and 0.64 in Germany). It is worth emphasizing that these data precede the 1990s, when the U.S. experience came to be referred to as an "employment miracle" (Krueger and Pischke 1997: 2).

It is also worth considering the change in unemployment rates from the years prior to the economic turmoil of the 1970s. After all, the notion of labor market rigidity as a cause of unemployment implies rigidity in the face of change, and no changes were as tumultuous as the oil crises and the breakdown of the Bretton Woods system of fixed exchanges rates. From 1969 to 1973, average annual unemployment rates were 4.86 in the U.S., 1.22 in Japan, and 0.84 in Germany; from 1986 to 1992, average annual employment rates were 6.13 in the U.S., 2.40 in Japan, and 5.49 in Germany (Bean 1994: 574). That is, unemployment increased by about 25 percent in the U.S., nearly doubled in Japan, and increased by well over six-fold in Germany.

Differences in unemployment among the advanced economies, particularly between continental Europe and the U.S., are often overstated.[3] Yet the above data suggest that there are real and sizable differences in employment performance among Germany, the U.S., and Japan. Employment performance was if anything worse in France than Germany, as measured by standard and long-term unemployment rates and total and non-agricultural private sector employment growth relative to the growth of the working age population (Nickell 1997: 56; OECD 1994a: 4). That brings us to the first task of this chapter, assessing the empirical evidence regarding the relationship between labor market flexibility and unemployment. This section considers evidence on nominal and real wage flexibility, the role of labor market institutions, the hypothesized trade-off between unemployment and inequality, the role of social policy, and the Beveridge curve as an indicator of labor market flexibility.

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regarding employment growth in industry is accounted for by construction, which with manufacturing largely makes up the industrial classification (OECD 1994a: 4).

[3]As an important example, by counting incarcerated males as part of the unemployed labor force, rates of long-term unemployment for males would be essentially the same in the U.S. and Germany (2.8 percent for the U.S. and 2.7 percent in Germany in 1993, compared with official rates of 1.0 percent for the U.S. and 2.4 percent for Germany) (Buchelle and Christiansen 1996: Table 6).

Part I: Empirical Evidence on the Relationship between Labor Market Flexibility and Unemployment

Nominal Wage Flexibility. A general consensus has emerged from recent empirical studies regarding the response of nominal wages to demand fluctuations. In short, there is no solid evidence that countries with higher unemployment also have greater nominal wage rigidity. A study by Robert Gordon looks at data from the 1960s to the mid-1980s for the U.S., Japan, and a bloc of eleven Western European countries including Germany. Since Gordon examines manufacturing, non-manufacturing, and the aggregate economy, he evaluates nominal wage flexibility in relation to output changes in respective sectors rather than unemployment. At the aggregate level, that relevant to comparative employment performance, Gordon describes differences among the U.S., Japan, and Europe as "minimal" (Gordon 1987: 689). Gordon describes comparative results for the manufacturing and non-manufacturing sectors as follows:

> The sectoral division between manufacturing and non-manufacturing displays the expected result that there is little cyclical responsiveness of wage rates in U.S. manufacturing, but the unexpected result that there is also less cyclical responsiveness in Japanese manufacturing than in Europe, and more cyclical responsiveness in both the U.S. and European non-manufacturing sectors than in Japan. These results suggest that the emphasis in my own past research on the greater nominal wage rigidity in the U.S. than in Japan may be limited in applicability to the manufacturing sector, and that differences in nominal wage flexibility in the aggregate economy (and in the nonmanufacturing sector) may be much less than is commonly supposed (Gordon 1987: 689).

Gordon's findings are consistent with those observed by David Blanchflower and Andrew Oswald regarding the elasticity between local (within country) unemployment rates and wages for a range of countries. Blanchflower and Oswald find that elasticities are remarkably similar across the range of countries, including the U.S., Germany, and Japan (though they rely on other studies for estimates for Japan). The authors summarize their findings as follows: "This uniformity [across countries] was probably not expected by any researcher and seems remarkable. By the standards of modern economics, the picture of a wage curve where the elasticity of wages with respect to unemployment is -0.1 seems to be a consistent one" (Blanchflower and Oswald 1995: 157).

In his review article on European unemployment, Charles Bean summarizes studies that consider whether differences in unemployment among the advanced capitalist economies can be attributed to differences in nominal wage rigidity in the face of commonly-experienced demand

shocks. Bean concludes that these studies do not support the view that greater nominal wage rigidity accounts for the greater unemployment increases in the European Community countries. There are studies that provide evidence of differences in nominal wage rigidity among the advanced capitalist economies, but none of these studies provide evidence that nominal wage rigidity was greater in the European Community countries (Bean 1994: 585).

Real Wage Flexibility. In the 1980s, Michael Bruno and Jeffrey Sachs undertook cross-country studies that examined changes over time in the "real wage gap." Their method involved comparing observed real wages with theoretically market-clearing real wages, with the difference between the two defined as the real wage gap. The determination of the real wage gap was argued to enable the distinction between unemployment resulting from excessive real wages, called classical unemployment (based on marginalist principles), and unemployment resulting from a lack of aggregate demand, called Keynesian unemployment (Bean 1994: 577).

One measure used to proxy the real wage gap is the ratio of the real wage to labor's average real output, providing a measure of labor's share in the economy. Bruno and Sachs argue that the measure increased less rapidly in the U.S. than in Europe but also, it is noteworthy, than in Japan (Gordon 1987: 686). An increasing wage gap indicates that real wage growth is outstripping labor productivity growth, squeezing profitability and potentially constraining growth. Robert Gordon argues that the increase in Europe and Japan of the real wage gap is overstated, a result of measurement error. In contrast with Bruno and Sachs and most other studies, Gordon argues that the income of not just employees but also the self-employed should be used to derive the ratio of the real wage to labor's average real output. Partially this is a question of data consistency, for data on employment and worker-hours, also used to construct the wage gap, include the self-employed. But it also sensible on its own terms to classify self-employment income as part of labor's share in the economy. By including self-employment income, the trend increase in the real wage gap in Europe and Japan basically disappears for the years considered (the 1960s through the mid-1980s) (Gordon 1987: 707).[4]

[4] Gordon only provides data for Europe as a whole, though. Looking at Germany alone and making a similar correction to account for self-employment income, Heinz König argues that the increase in the real wage gap is still observed (König 1987: 738).

Bean argues that there is more evidence that real rather than nominal wage flexibility played a role in accounting for Germany's and much of Europe's relatively poor employment performance. Bean summarizes a number of studies looking at the relationship between real wage flexibility and unemployment. Just as important, Bean emphasizes the differences in labor market institutions among countries that might plausibly account for differences in real wage flexibility. He writes:

> All these studies point to the conclusion that the responsiveness of real wages to unemployment is markedly lower in the United States and the European Community than in Japan, Austria, Switzerland, and the Nordic countries...[W]e have here a potential explanation for why the disinflation of the early eighties was so much more painful for the European Community and for the United States than for Japan and non-EC Europe. *The fact that the latter group of countries have markedly different labor market structures from the European Community and the United States has led a number of authors to focus on institutional differences as a key factor in understanding the heterogeneity of unemployment experience* (1994: 600-601, italics added).

It is worth emphasizing that these studies find real wage rigidity greater not just in the European Community but also in the U.S. In fact, most studies indicate that real wage rigidity is greater in the U.S. than in the European Community (Bean 1994: 600). As noted, though, the U.S. had significantly better employment performance than the two largest European Community economies, Germany and France, even prior to the 1990s. Just as important, it is worth emphasizing that the studies to which Bean refers evaluate the relationship between real wages and *unemployment*, rather than some other cyclic indicator. The problem is, Japanese unemployment rates are notoriously underestimated, in terms of both levels and fluctuations (Hamada and Kurosaka 1984: 92). This point is discussed in detail in a subsequent section (*Internal and External Labor Markets in Japan*). Cross-country studies evaluating the relationship between real wages and *output* (rather than unemployment) find that Japan does not have comparatively high real wage flexibility, for either the manufacturing sector or for the economy as a whole (Hamada and Kurosaka 1986: 290-291; Hashimoto and Raisian 1992: 85-88). These findings are consistent with Robert Gordon's regarding comparative nominal wage flexibility at the aggregate level (Gordon 1987: 689).[5] These cautions noted, the relationship

[5] It is also important to address the extent to which apparent differences in wage flexibility among countries actually reflect differences in seniority-rules for layoffs, or other factors causing low-wage workers to be more or less vulnerable to layoffs (Brunello 1988; Hashimoto and Raisian 1992: 94).

between labor market institutions and unemployment, mediated by real wage flexibility, is the subject of several influential studies.

Real Wage Flexibility and Labor Market Institutions. As part of their study of the real wage gap, Bruno and Sachs emphasize the degree of corporatism in labor-management relations, as indicated primarily by the degree of centralization of wage-setting arrangements. According to Bruno and Sachs, Austria, West Germany, the Netherlands, and the Scandinavian countries rank high by this measure, Japan and the rest of Europe rank in the mid-range, and the U.S. and Canada rank low. Bruno and Sachs argue that more corporatist systems of labor-management relations are better able to adjust real wages to the market-clearing level in the face of demand shocks. As a consequence, the authors argue, more corporatist economies had, on average, lesser unemployment rate increases since the early-1970s as well as lower rates of unemployment in the 1980s (Bruno and Sachs 1985). In a similar study by the OECD, an inverse relation was found between the degree of consensus (measured again primarily by the degree of centralization of wage-setting) and the Okun misery index - the sum of inflation and unemployment rates (Metcalf 1987: 59).

Calmfors and Driffil argue against the simple monotonic relation between the degree of corporatism and economic performance. They argue, rather, that both highly-corporatist and weakly-corporatist economies have performed well in recent decades compared with economies in the middle range. As with Bruno and Sachs, corporatism is measured largely by the degree of centralization of wage-setting institutions, particularly unions. The logic underlying their argument is that "large and all-encompassing trade unions naturally recognize their market power and take into account both the inflationary and unemployment effects of wage increases. Conversely, unions operating at the individual firm or plant level have very limited market power. In intermediate cases, unions can exert some market power but are led to ignore the macroeconomic implications of their actions" (Calmfors and Driffil 1988: 13). In systems of highly-centralized bargaining, it is argued, wages are determined through a calculated consideration of macroeconomic consequences; in systems of highly-decentralized bargaining, on the other hand, wages are argued to be determined by the unfettered workings of the labor market itself. In either case (but not the intermediate case), the end results in terms of unemployment are similar. It is on

these grounds that Japan, Switzerland, and the U.S., classified by Calmfors and Driffil as decentralized, are argued to have performed relatively well.

Calmfors and Driffil test their hypotheses by looking at correlations between: 1. rankings of countries by centralization of wage-setting, with countries with greater- and lesser-centralization both given higher rankings; and 2. rankings of measures of macroeconomic performance, including unemployment employment rates and the Okun misery index, all in terms of both levels (based on annual averages from the mid-1970s to mid-1980s) and change (the difference between annual averages from the mid-1960s to mid-1970s and annual averages from the mid-1970s to mid-1980s). Their hypothesis is supported by consistently significant correlations between high-low rankings of the centralization of wage setting and rankings of economic performance, with signs of coefficient estimates as hypothesized (Calmfors and Driffil 1988: 22).[6]

As noted by Bean, though, most studies indicate that real wage rigidity is greater in the U.S. than the European Community (Bean 1994: 600). This is at odds with Calmfors and Driffil's argument that low U.S. unemployment results from real wage flexibility, itself resulting from decentralized wage setting. A more clearcut characteristic of decentralized wage-setting is that it allows a greater dispersion of wages across the economy, particularly in the absence of high minimum wages and other wage floors (Blau and Kahn 1995). It is reasonable to think that a greater dispersion of wages combined with low wage floors would be associated with higher levels of employment. Such thinking is reflected in the widely held view that there is an inverse relationship between inequality and unemployment, that higher unemployment in much of Europe is the flip side of greater inequality in the U.S. and Japan in the face of similar relative demand shifts away from less-skilled workers. This view follows directly from theories of unemployment rooted in the neo-classical view of the labor market (in the absence of sufficiently offsetting supply shifts of less-skilled workers). Leaving aside any shortcomings of the neo-classical view, it is surely reasonable to think that certain jobs can only be profitable at the very low wage levels enabled by decentralized wage-setting and low wage floors.

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[6] In contrast with Bruno and Sach's arguments, Calmfors and Driffil find generally insignificant correlations between straight rankings by centralization of wage-setting and the above-noted measures of macroeconomic performance (Calmfors and Driffil 1988:22).

David Soskice provides a fundamental criticism of Calmfors and Driffil, arguing that their ranking scheme is at odds with their theory, at least for certain key countries. Soskice writes that "The Calmfors-Driffil theory relates to coordination, but the empirical measure they use - the degree of centralization of bargaining institutions - relates to the actual location of bargaining....The problem which arises is that less centralized systems (at least on a formal level) may in fact be highly coordinated. Critically, the two countries which do most empirical work in Calmfors-Driffil as examples of well-performing decentralized economies fall into this category: Japan and Switzerland" (Soskice 1990: 41). Soskice describes the manner in which wage setting is coordinated in Switzerland and Japan, in spite being formally set at the company level (Soskice 1990: 41-42). In Switzerland, coordination comes through employer organizations. In Japan, coordination occurs through the annual Spring Offensive (*Shunto*), with employers organizations and union federations negotiating a percentage increase in base pay for strategic large firms. This percentage increase is emulated throughout the economy, at other unionized firms, non-unionized firms, and for government employees. Soskice also argue that Calmfors and Driffil misrank Germany, for which wage setting is highly coordinated for the economy as a whole in spite of formally occuring at the regional level by industry. Among the coordinating mechanisms in Germany are industry agreements extending to all companies within an industry and the federations of employer organizations and industry unions, all of which cross regional boundaries (Soskice 1990: 44).

In some sense, the answer to whether wage setting in Japan is centralized is both yes and no, depending on why one asks the question. An economy-wide percentage increase in base pay is certainly the relevant measure if one is interested in the relationship between real wage flexibility and macroeconomic performance, and thus Soskice's criticism of Calmfors and Driffil is valid. A percentage increase in base pay has no effect, though, on lessening the dispersion of wages throughout the economy, as is typical of centralized wage setting. In fact, inter-industry wage inequality in Japan is highest among the OECD countries, as is male-female wage inequality (Tachibanaki 1987: 662-663; Blau and Kahn 1995: 106. Regarding Switzerland, Blau and Kahn indicate that male-female wage differences are also among the highest for the advanced economies). In spite of Soskice's criticism, it is nonetheless plausible that the relatively favorable employment performance of the U.S. and Japan results, at least in part, from a common cause: not

because of real wage flexibility resulting from decentralized wage setting (for the U.S. does not have the former and - at least in terms of macroeconomic adjustment - Japan does not have the latter) but because of wage inequality, making possible the creation of jobs that would otherwise be unprofitable. Yet however plausible the notion of an unemployment and inequality trade-off, there is a lack of solid empirical support for it.

The Unemployment and Inequality Trade-Off. The possibility of a trade-off between unemployment and inequality is suggested by many authors, among them Andrew Glyn, who writes: "During the 1980s most countries displayed either increased joblessness, with more long-term unemployment and more concentration on women or youths (many EC countries), or greater earnings inequality (the Anglo-Saxon economies, Japan). Even the high employment/egalitarian earnings distribution typical of the Nordic countries was fraying" (Glyn 1995: 13). The basic logic underlying the trade-off is that all countries experienced similar relative demand shifts away from less-skilled workers that were not sufficiently offset by supply shifts of less-skilled workers. The prevalent view is that these demand shifts resulted from skill-biased technical change, though the expansion of trade with low wage countries is also argued to have been a cause (Wood 1994; Burtless 1995: 801). From marginalist principles follows the prediction that wage differences must rise in order for labor markets to clear. An economy will experience increasing inequality or increasing unemployment, the former if wages are downwardly flexible, the latter if wages are downwardly inflexible. This view of the trade-off between unemployment and inequality has been tagged the "unified theory" (Blank 1997: 14).

Particularly relevant to the unified theory are wages for lower-paid workers, for whom wage floors are created by collective bargaining agreements, minimum wage regulations, and unemployment insurance benefits (high levels of unemployment insurance benefits are argued to raise the reservation wage, the wage at which a labor force participant is indifferent between working and not working). In this view, relatively favorable employment growth in the U.S. and Japan is associated with growing inequality, with both argued to result from greater wage flexibility, itself resulting from lower wage floors. On the flip side, the less favorable employment growth of many European countries, among them Germany and France, is argued to be associated

with lesser changes in inequality, with both resulting from lesser wage flexibility and higher wage floors.

As noted, the evidence on employment performance in the Japan, the U.S., Germany and France is consistent the unified theory. The finding of growing earnings inequality is robust for the U.S. but less so for the other countries, depending on the measures of inequality and datasets used. The OECD *Jobs Study* provides evidence on earnings distributions over the 1980s consistent with the unified theory. These measures are based on "the ratio of the lower limit of earnings received by the top 10 per cent (9th decile) of all male workers relative to the upper limit of earnings received by the bottom 10 per cent (1st decile)" and show growing inequality for Japan and especially the U.S. and declining inequality for France and Germany (OECD 1994a: 19). Measures of inter-industry earnings inequality over the 1980s show strongly increasing inequality in the U.S., a small decline in inequality in Japan, little change in France, and a small increase in inequality in German till 1984 and smaller decrease thereafter (based on "a group-wise decomposition of Theil's T statistic") (Galbraith, Darity, and Lu 1998: 2, figure 1). Summarizing recent studies of inequality in Germany, Beissinger and Moeller write that "A closer look at the evidence reveals that no consensus about the prevailing trends of wage dispersion in Germany exists" (Beissinger and Moeller 1998: 2). The one uncontroversial finding the authors note is that there is less inequality in the lower tail of earnings distribution in Germany and other European countries as compared with the U.S. (Beissinger and Moeller 1998: 2; Blau and Kahn 1994). Consistent with this, wage floors do appear a good deal lower in the U.S. and Japan than in Germany and France, a result of wage setting institutions, minimum wages, and unemployment insurance benefits, considered in turn.

1. Regarding the cases of Japan and the U.S., decentralized wage setting institutions made possible a wide dispersion of wages. Wage setting was much more centralized in Germany and France, with collective bargaining at the industry level and with extension mechanisms resulting in nine-tenths of workers, unionized and non-unionized, being covered by collective agreements (OECD 1994b: 173).

2. The ratio of the minimum wage to average hourly compensation of production workers in manufacturing was 0.26 in both the U.S. and Japan in 1992, compared with 0.38 in France (Card and Krueger 1995: 241). Adjusted by GDP purchasing power parities, the minimum wage

in the U.S. was 55 percent lower than in France, with 26 percent of the U.S. workforce employed at below the French minimum wage. Though there is no minimum wage for Germany as a whole, the U.S. minimum wage is less than 50 percent of the minimum wage in the retail industry in Hamburg (McKinsey Global Institute 1997: 5).

3. Regarding unemployment insurance benefits, there was not a large difference in the share of income replaced by unemployment benefits, at 60 percent for Japan, 50 percent for the U.S., 57 percent for France, and 63 percent in Germany as of the early-1990s. What did differ a great deal, though, was the duration of unemployment benefits, from six months in Japan and the U.S. to three years in France and four years in Germany (Nickel 1997: 61). The duration of unemployment benefits might lengthen the period for which a labor force participant's reservation wage is high, contributing to long-term unemployment.

This evidence, though suggestive, is not sufficient to vindicate the unified theory. Even the strongest and most robust cross-country correlations between employment performance and inequality do no provide direct evidence for the unified theory.[7] Direct evidence requires showing that the employment growth of workers on the low end of the pay scale is relatively high in countries with growing inequality compared with countries with lesser inequality. For it is the experience of this group of workers that is argued to drive the relationship between unemployment and inequality. The most definitive recent studies provide little evidence, though, that this is so. Particularly valuable are studies by David Card, Francis Kramarz, and Thomas Lemieux on the U.S., France, and Canada (1995); Alan Krueger and Jörn-Steffan Pischke on the U.S. and Germany (1997); Beissinger and Moeller on Germany (1998); and Francine Blau and Lawrence Kahn on the U.S. and Germany (1997).

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[7] In the U.S., growing inequality and the collapse in wages for less-skilled workers is often held to result from greater labor market flexibility in the face of similar demand shifts across the advanced economies away from less-skilled workers. This view is suggested by theories of unemployment based on marginalist principles, which underlie the unified theory. But wages are not the kind of phenomenon that can be meaningfully understood by such abstract means, via the marginalist system of simultaneous determination of distribution, output, and relative prices. Wage are inherently more historical in nature, reflecting both economic and broader social factors, including the relative power of capital and labor. Wage patterns in the U.S. may be a reflection of the declining influence of labor, as evidenced by declining unionization rates. If this is so, growing inequality in the U.S. does not reflect the unfettered adjustment of wages towards hypothesized market-clearing levels, the usual understanding of labor market flexibility. In this sense, one's theory of wages is of vital importance in establishing a method and evaluating the evidence regarding the relationship between unemployment and inequality.

The U.S., Canada, and France are often held to rank in order of descent by degree of labor-market flexibility, a result of differences in wage-setting institutions, minimum wage laws, and government social policy. Card, Kramarz, and Lemieux address the evidence that differences in employment growth in these countries in the 1980s can be attributed to differences in labor-market flexibility. Focusing on the employment growth of less-skilled workers, the authors consider the argument that, in recent years, less demand for these workers relative to more-skilled workers for all countries was manifested differently in each of the countries: in the U.S. by growing income inequality, stagnant real wage growth, and stronger employment growth and, conversely, by smaller changes in income inequality, more rapid real wage growth, and weaker employment growth in Canada and, especially, France.

The empirical evidence regarding the patterns of wage growth and income inequality in the U.S., Canada, and France is not the source of much controversy, the authors note, arguing that these patterns are consistent with the view that the greater restrictiveness of labor markets impedes downward wage flexibility (Card, Kramarz, and Lemieux 1995: 2-3). For different age and education groups,[8] the authors examine correlations between initial wages and changes in wages and employment to population rates. These correlations provide no evidence in support of the unemployment-inequality tradeoff. The authors summarize their results as follows:

> Consistent with the view that French labor market institutions restrict relative wage flexibility, we find that wage differentials between skill groups held constant or narrowed slightly over the 1980s. As in Canada, however, we find little evidence that this apparent rigidity in relative wages translated into greater employment losses for less-skilled workers. Indeed, the pattern of employment-population growth rates across age-education cells in France is almost identical to the pattern in the United States. Taking the evidence for the United States, Canada, and France as a whole, we conclude that it is very difficult to maintain the hypothesis that the "wage inflexibility" in Canada and France translated into greater employment losses for less-skilled workers in these countries (Card, Kramarz, and Lemieux 1995: 3).

In their study of Germany and the U.S. from 1979 to 1991, Krueger and Pischke use similar methods as Card, Kramarz, and Lemieux (1997). The authors examine initial wages and changes in wages and employment to population rates for 20 groups of workers of both sexes, classified by age and education. Regarding patterns of inequality, the evidence is consistent with the unified theory, with relative and absolute declines in wages for workers in the lowest wage

groups in the U.S. but no such declines in Germany. There is no evidence, however, that employment growth was lower in Germany than in the U.S. for workers with the lowest initial wages. On the contrary, there is a more strongly positive relationship between initial wages and employment growth in the U.S. than in Germany for both men and women, evidence that employment growth was relatively low for lower paid workers in the U.S. This is just the opposite of what the unified theory predicts. Summarizing their results and those of similar studies, the authors write that "the slow growth in employment in many European countries appears too uniform across skill groups to result from relative wage flexibility alone. Furthermore, a great deal of labor market adjustment seems to take place at a constant real wage in the U.S." (Krueger and Pischke 1997: abstract).

Beissinger and Moeller undertake a study of Germany in the 1980s similar to Krueger and Pischke's but with considerably more detailed data. The authors make use of a micro dataset enabling them to evaluate 420 groups of workers of both sexes, categorized by two education, seven age, and thirty industry classifications (with price and output composition controls for industries and labor supply controls for education and age groups). In contrast with Krueger and Piscke, the authors find evidence of growing earnings inequality for men. Consistent with Krueger and Pischke, the authors find no evidence of slower employment growth for men with lower initial wages. That is, there is essentially zero correlation between initial wages and employment growth for men across the 420 worker groups, a result at odds with the unified theory. In Krueger and Pischke's study, however, results for Germany are broadly similar for men and women. This is in decided contrast with Beissinger and Moeller's study, where results for women are roughly the opposite as for men, of which the authors conclude that "the general picture obtained for female workers is in line with the two-sides-of-the-same-coin hypothesis" (that is, the unemployment-inequality tradeoff) (Beissinger and Moeller 1998: 19). Given the quality of data used, Beissinger and Moeller's study of Germany seems more definitive than Krueger and Pischke's, and the results should be interpreted as such. Since German women are paid less than German men, a greater number of them are likely to be affected by high wage floors. Perhaps this accounts for some of the differences observed between men and women's patterns of earnings and employment.

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8 With 225 age-education groups in the U.S., 29 in Canada, and 70 in France.

Blau and Kahn compare Germany and the U.S., looking at employment and wages for young workers with the least education - those aged 18 to 29 who were high-school dropouts in the U.S. and without an apprenticeship qualification or higher education in Germany (Blau and Kahn 1997). Real wages for young workers with the least education were higher in absolute terms in Germany and than in the U.S. (adjusted for purchasing power) and also rising in Germany and declining in the U.S. At the same time, employment to population rates were a good deal higher in Germany than the U.S. for these least-educated workers, particularly for women, providing anecdotal evidence against the unified theory. It should be noted that these results do not contradict those of Beissinger and Moeller for German women, since the Blau and Kahn look at employment rates in a given year, not at changes in employment over time. Moreover, Blau and Kahn note that employment rates within Germany were higher for more educated women.[9]

There have not as yet been comparable studies done for Japan, but a cross-country study by the OECD suggests that the cases noted here of the U.S., Canada, France, and Germany are broadly representative of the experience of the advanced economies (OECD 1996: 75-76). The OECD study examined cross-country correlations between what it calls "incidence of low pay"[10] and unemployment rates or employment to population rates for several demographic groups. Consistent with the results of the studies by Card, Kramarz, and Lemieux and Krueger and Pischke, correlation coefficients are all statistically insignificant and often the opposite sign hypothesized by the unified theory.

Minimum wage levels have received a good deal of attention regarding the relationship between unemployment and inequality, partly because they provide so direct an impediment to downward wage flexibility. From theories of unemployment based on marginalist principles follow the expectation that higher minimum wages will result in lesser employment for less-skilled workers. In their recent volume, *Myth and Measurement: The New Economics of the Minimum Wage*, David Card and Alan Krueger present the results of empirical studies that address the

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[9] Within the 18 to 29 age group, with employment rates of 0.55 for women in the low education group, 0.66 for women in the middle education group, and 0.78 for women in the high education group, as of 1984. This compares with employment rates for the U.S. of 0.35 for women in the low education group, 0.68 for women in the middle education group, and 0.87 for women in the high education group, as of 1991 (Blau and Kahn 1997: figures 1a-1c).

[10] Defined as the percentage of full-time workers earning less than two-thirds of median earnings for all full-time workers, which is strongly and positively correlated with earnings inequality

employment effects of minimum wage increases (1995). Card and Krueger's studies provide no robust evidence of an inverse relation between minimum wages and employment of minimum wage workers (1995: 1). The authors' analyses are based on cross-state and time series data for the U.S. Card and Krueger also present the results of analogous studies done for Puerto Rico, Canada, and the United Kingdom. The authors' summarize these findings as follows:

> This book presents a new body of evidence showing that recent minimum-wage increases have not had the negative employment effects predicted by the textbook model....Moreover, a reanalysis of previous minimum wage studies finds little support for the prediction that minimum wages reduce employment. If accepted, our findings call into question the standard model of the labor market that has dominated economists' thinking for the past half century (Card and Krueger 1995: 1).

The "standard model of the labor market" to which the authors refer is, of course, the neo-classical model, with its upward sloping supply and downward sloping demand curves for labor.

Social Policy. Various social policies have been argued to contribute to unemployment by impeding labor market flexibility. (Minimum wage legislation and unemployment insurance benefits were briefly considered above, in light of the hypothesized trade-off between inequality and unemployment.) *The OECD Jobs Study*, for example, argued that relatively generous social policies acted to lesson labor market flexibility in continental Europe. Within the context of the destabilizing effects in the 1970s and 1980s of the oil crises, the breakdown of the Bretton Woods system of fixed exchange rates, financial market liberalization, the increased globalization of production, and the rapid pace of technical change, the *Study* writes: "[I]n the midst of this tumultuous period when so many forces were testing the flexibility of economies, policies to achieve social objectives were extended, with the unintended side-effect of making markets, including importantly labour markets, more rigid. This erosion of the ability to adapt to change was probably most pronounced in continental Europe and Oceania" (OECD 1994c: 30).

The National Bureau of Economic Research (NBER) undertook an ambitious research project in the 1990s, the primary objective of which was to examine the hypothesized trade-off between protective social policies and economic flexibility, particularly labor market flexibility. This project resulted in a collection of essays titled *Social Protection versus Economic Flexibility: Is There a Trade-off?* (Blank 1994). Comparative studies were conducted for the

advanced capitalist economies on a wide range social policies. Among these were employment protection programs (a study of West Germany, France, and Belgium); regional labor mobility (Japan and the U.S.); housing market policies (the U.S., West Germany, and Japan); health insurance policies (the U.S. and West Germany); public pensions (the U.S., Japan, and Sweden); relative size of public sectors (the U.S. and the United Kingdom); income assistance programs (the U.S. and France); and child care and maternity provisions (the U.S., the Netherlands, and Sweden).

In her introduction to the volume, Rebecca Blank writes, "When the authors of this volume came together to present their research to one another, all of us were struck by the correspondence in results and inferences across these papers" (1994: 15). The correspondence to which Blank refers is that none of the studies found any evidence that social policies had an substantial adverse impact on labor market flexibility and that social policies often had favorable social outcomes, the latter of which tend to be neglected by economists in the debates on comparative economic performance. The harmony of conclusions occurred in spite of the range of data sets and methods used as well as countries considered. As Blank writes, "these papers give little evidence that labor market flexibility is substantially affected by the presence of social protection programs, nor is there evidence that the speed of labor market adjustment can be enhanced by limiting these programs" (1994: 15).

Other empirical studies examine the effects on employment performance of employment protection legislation and payroll taxes (Jackman, Layard, and Nickell 1996: 15-26); non-employment benefits, such as for sickness and invalidity (Blöndal and Pearson 1995: 163-167); and social policy expenditures as a share of gross domestic product (Scherer 1994: 44-47; Scharpf 1997). These studies make use of country-level data for the OECD countries, comparing measures of these social policy provisions with measures of employment and unemployment rates. Consistent with the results of the NBER project, these studies do not find that more generous social policies were associated with higher levels of unemployment, particularly long-term unemployment. As noted, it is primarily the variation in long-term unemployment that drives the variation in unemployment rates among the advanced economies and that is of particular relevance regarding labor market flexibility (Nickell 1997: 57).

The strongest evidence that protective social policies have adverse effects on unemployment comes from studies of unemployment insurance benefits, yet even here the evidence is mixed. Bean summarizes these studies in his survey article on European unemployment and notes that increases in the duration of and share of income replaced by unemployment benefits do not appear to have directly caused increases in unemployment (1994: 594). This is an important point, for one of striking characteristics of Germany as well as France is how much unemployment rates increased between the 1969 to 1973 and 1986 to 1992 periods as compared with Japan and especially the U.S. (Bean 1994: 574). Bean argues, though, that in the face of commonly-experienced demand shocks, unemployment benefits of longer duration lead to longer spells of unemployment and thus partly account for the differences in unemployment rates among the advanced capitalist economies. Bean notes that though the share of income replaced by unemployment insurance benefits is relatively high in the non-European Community countries of Europe (such as the Scandinavian countries), the duration of these benefits is relatively short, typically less than a year, and these countries had low unemployment compared with the European Community countries (Bean 1994: 592). In summarizing several studies on this issue, Bean writes as follows: "[T]hese studies...find a very significant relationship between the length of time for which unemployed workers are eligible for benefits (generally much longer in the European Community than elsewhere) and the degree of persistence in the unemployment process across countries" (1994: 610).

Nickell notes that microeconometric evidence indicates that "at least part of the observed cross-country correlation" between the duration of unemployment insurance benefits and the duration of unemployment results from the former acting upon the latter (Nickell 1997: 67). Yet it is also plausible, as Nickell suggests, that the direction of causality runs both ways, as governments extend benefits to protect the long-term unemployed (Nickell 1997: 67). More generous unemployment insurance benefits need not have an adverse effect on unemployment provided that they are accompanied by active labor market policies, requiring the unemployed to participate in programs assisting their return to employment. Jackman, Layard, and Nickell refer to this as the Swedish model, which they argue played a key role in Sweden's low unemployment in the 1980s (Jackman, Layard, and Nickell 1996: 6-10). At the same time, such active labor market policies require that jobs are available, and it is here the authors argue that Sweden

faltered in the 1990s - not because of its labor market policies but because of macroeconomic mismanagement.

There is one last point worth making regarding the relationship between social policy and unemployment. From the 1950s through the mid-1970s, unemployment rates were lower in every year in Germany and France than in the U.S., often much lower (OECD 1994a: 36). Yet expenditures on social policy were a good deal higher in Germany and France than in the U.S. over these years. In 1960, public expenditures on social protection policies as a percentage of gross domestic product were 18.10 percent in Germany, 13.42 percent in France, and 7.26 percent in the U.S.; in 1970, the measures were 19.53 in Germany, 16.68 in France, and 10.38 in the U.S. (OECD 1994d: 57-58). Thus the relatively generous social policies of Germany and France were long-standing features of these economies, firmly established in the early post-War years. Measured in this manner, it is clear that generous social policies are entirely consistent with very low rates of unemployment, or at least that this was once so.

The Beveridge Curve As a Summary Indicator of Labor Market Rigidity. The 1997 British Academy Keynes Lecture given by Robert Solow was titled "What is Labor-Market Flexibility? What is it Good For?" Solow argues that labor market flexibility and rigidity is never defined with much rigor but rather by listing various possible sources of rigidity: trade union influence, unemployment insurance benefits, restrictions on hiring and firing and number of hours worked, high rates of overtime compensation, and health and safety regulations. Solow writes that "This sort of definition by example is far from satisfactory. Not that the examples are irrelevant: each of the restrictions I have mentioned certainly contributes its mite to labor market-rigidity in the very broad sense that it limits the possible responses to any exogenous change in circumstances. Nevertheless there are...important reasons to look for something more systematic." Solow argues for the need for a "summary indicator of labor-market rigidity," which would strengthen the analytical foundations of the study of labor market flexibility and unemployment. Just as important, a summary indicator could enable policy makers to evaluate trade-offs among various possible sources of rigidity in the context of overall labor market flexibility.

Solow proposes the Beveridge curve as a candidate for a summary indicator of labor market inflexibility. The curve is the negatively sloped relation between the vacancy rate (the number of unfilled jobs as a proportion of the labor force) on a vertical axis and the unemployment rate on a horizontal axis. An increase in labor market rigidity would be reflected in a rightward shift of the curve, with unemployment rates higher for any given vacancy rate. There are, Solow notes, data availability problems in deriving the Beveridge curve, particularly in the way that vacancies are estimated. That said, the Beveridge curve brings coherence and concreteness to the way one thinks about labor market flexibility and its relationship to unemployment. More to the point, Beveridge curves constructed for recent decades provide no evidence that the differences in unemployment among the advanced economies can be explained by differences in labor market flexibility.

Solow presents Beveridge curves for the U.S., the United Kingdom, Germany and France, with data spanning from mid-1960s to the 1990s. For the U.S. and the United Kingdom, the curve shifted strongly to the right in the early-1970s and then shifted back left in the late-1980s, consistent with the view that there was an increase and then subsequent decrease in labor market flexibility. In Germany and France, by contrast, there were no such decisive shifts. Rather, the curves indicate a vertical wall from the mid-1960s to early-1970s, at about one-percent unemployment for Germany and two percent unemployment for France, suggesting a minimal level of frictional unemployment. Thereafter, the Beveridge curves for Germany and France indicate a fairly stable inverse relation between vacancy and unemployment rates.[11] Solow argues that this is just the opposite of what one would expect if labor market flexibility was the primary cause of high and persistent unemployment. Solow writes:

> [T]he main message transmitted by the Beveridge curves...goes squarely against the cliche that high and persistent European unemployment is entirely or mainly a matter of "labor-market rigidities." It is precisely in France and Germany, where unemployment has been higher and more persistent, that there is no sign of a big adverse shift in the Beveridge curve. It is precisely in the U.S. and the U.K., where unemployment has been at least more variable and, in the case of the U.S., lower, that one can detect a substantial adverse shift, followed by a favorable one. To the extent that the location of the Beveridge curve is a reasonable summary for the degree of labor-market rigidity, the large continental economies do not seem to have suffered from noticeably more rigid labor markets during

[11] The Beveridge curve for Japan, incidently, closely resembles those for Germany and France (Sakurai and Tachibanaki 1992: 325).

> the during the high-unemployment 1980s than they did in the low-unemployment 1970s. *In fact what stands out from the pictures for France and Germany is the depressed level of the vacancy variable* [emphasis added].

What distinguishes Germany and France from the Japan and the U.S. is not a shortage of labor market flexibility but rather a shortage of jobs. It may be simplistic to argue that high European unemployment can be overcome with a return to the old macroeconomic policies of the Keynesian consensus. The world is perhaps too changed for that. Yet there is no strong empirical support for the prevailing view that high unemployment results from labor market rigidities. The main causes of high unemployment appear to lie elsewhere.

Part II: Unemployment and Labor Flexibility in Japan

Internal and External Labor Markets and the Role of Japanese Women as a Buffer Workforce. The second part of this chapter argues that internal labor market flexibility in Japan is not an alternative to but is rather closely complemented by external labor market flexibility. In particular, it is argued that impediments to hiring and firing resulting from the lifetime employment guarantees, which apply almost exclusively to men, are accommodated by the flows of women into and out of employment and the labor force.

In making adjustments to fluctuating demand conditions, Japanese firms are often regarded as exceptional in their heavy reliance on internal labor markets. This view is expressed by Toshiaki Tachibanaki, who writes, "Japanese firms prefer internal work forces rather than external work forces when they adjust labour input. For example, reallocation or transfer of workers to other establishments within a firm or to other sections within an establishment are frequently used, and also labour hoarding is quite common. *In other words, the internal labour market dominates the external labour market*" (Tachibanaki 1987: 652. Emphasis added). In their comparison of Japanese and U.S. labor markets, Robert Bednarzik and Clinton Shiells make a similar point. For Japan, they write, "Employment adjustments are mainly done internally through intra- and inter-company transfers or retraining programs, often with government financial assistance" (Bednarzik and Shiells 1989: 41). This greater reliance on internal labor markets is argued to be an important determinant of Japan's low unemployment rates. This was noted in the introduction of this chapter, with a *Financial Times* editorial attributing low U.S. unemployment to "high external mobility" and low Japanese unemployment to "high internal mobility." Similar arguments are made by others (Tachibanaki 1987: 652; Hashimoto 1993: 158).

Japan's reliance on internal adjustment is reflected in comparatively high employment stability in the face of demand fluctuations. The stability of employment is supported by various measures. For data from 1970 to 1983, ratios of the standard deviations of growth rates of employment to production are 0.63 in the U.S., 0.56 for Germany, and only 0.32 in Japan (Tachibanaki 1987: 654). Very similar results are observed for the manufacturing sector for years 1950 to 1983. Regressing the growth rate of employment on the growth rate of output for the manufacturing sector, coefficient estimates are 0.58 for the U.S., 0.57 for Germany, and 0.33 for

Japan (Hashimoto and Raisan 1992: 86. Cf. Houseman and Abraham 1993: 47 for similar results for U.S. and Japanese manufacturing from 1970 to 1989). Moreover, employment stability increased in Japan since the mid-1970s, with firms relying more on adjustment through working hours (Brunello 1985: 177; Hashimoto 1993: 156-157). The stability of employment in Japan is also evidenced by the duration of job tenure, which was a good deal longer on average in Japan than in Germany and the U.S., for men and women alike (Tachibanaki 1987: 669).[12] Consistent with the increase in employment stability, the average length of job tenure increased from an average of nine years in the early-1970s to nearly thirteen years by the late-1980s (Clark and Ogawa 1992: 337).

Several reasons have been advanced for Japan's high stability of employment. Most obvious are Japan's lifetime employment guarantees, based on informal understandings and protecting an estimated third of the labor force. Various rationales are offered for the existence of both Japan's lifetime employment guarantees and greater employment stability. Among these are Japanese firms' greater reliance on firm-specific human capital (Mincer and Higuchi 1988: 98), unemployment laws that encourage adjustment through hours of work rather than employment (Hashimoto 1993: 149), and the high cost of adjustment through new hires compared with adjustment through overtime payments (Tachibanaki 1987: 655). Lifetime employment protection is often associated with employment in larger Japanese firms. Consistent with this view, Clark and Ogawa note that job tenure tends to be longer at larger Japanese firms. They write: "Tenure is much greater in large and medium-size firms. For example, tenure in firms with 1,000 or more employees was 16 years during 1986-1988, up from 12 years in 1971. In firms with 10-99 employees, tenure was 10 years during 1986-1988, up from slightly over six years in 1971" (Clark and Ogawa 1992: 337). Though job tenure does tend to be shorter in smaller Japanese firms, it is nonetheless quite long by international standards (Hashimoto and Raisan 1985: 726-727).[13]

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[12] In Japan in 1982, average tenure for men and women was 13.5 and 8.8 years, respectively; in Germany in 1972, average tenure for men and women was 8.9 and 5.7 years, respectively; in the U.S. in 1983, average tenure for men and women was 8.4 and 5.7 years, respectively (Tachibanaki 1987: 669).

[13] The evidence on that lifetime employment is associated with larger firms is not unambiguous, though. A recent study by Abraham and Houseman indicates "only a weak relationship" between firm size and employment adjustment for the manufacturing sector in Japan, where employment adjustment is measured as an elasticity with respect to output changes (Abraham and Houseman 1989: 5). Yet job tenure is perhaps a better measure in this regard, as Abraham and Houseman's measures include employees outside the core system of employment, such as temporary and part-time employees.

Significantly, women workers have been overwhelmingly excluded from lifetime employment protections (Tachibanaki 1987: 669). Takafusa Nakamura asks, "Is it perhaps true that without a cushion against business slowdowns in the form of some kind of labor force that can be readily sacrificed, Japan's employment system is untenable?" (1995: 162). Several studies provide evidence in the affirmative to Nakamura's question, suggesting that the impediments to labor flexibility imposed by the predominately male lifetime employment system are accommodated by the role of Japanese women as a buffer workforce. Houseman and Osawa, for example, write that "Many Japanese companies were hurt by their inability to shed excess workers during the severe recession in the mid-1970's, and in subsequent years moved to increase their use of part-time workers, who could be easily dismissed" (Houseman and Osawa 1995: 13, 16). As of 1992, fully 95 percent of Japanese part-timers were women.[14] Japanese women's employment and labor force participation is much more procyclical than Japanese men's, with women typically withdrawing from the labor force in downturns rather than being counted as unemployed (Hamada and Kurosaka 1986: 285-286). In this sense, it seems reasonable to argue that the internal flexibility for which Japan is noted requires the external flexibility provided by women serving as a buffer workforce. At the very least, internal and external labor market flexibility play complementary roles in maintaining Japan's exceptionally low rates of unemployment. The latter argument is made by Hamada and Kurosaka, who also emphasize the gender distinction between internal and external labor market flexibility in Japan (Hamada and Kurosaka 1986: 285-286).

Data on discouraged workers in Japan are worth examining in some detail, for they provide a clear sense of the effect on unemployment rates of women serving as a buffer workforce. Regarding the early-1970s economic crisis, Hamada and Kurosaka describe the remarkable gender differences in the growth of discouraged workers in Japan as follows:

> During 1973-75 unemployed men increased from 430 thousand to 650 thousand, raising the unemployment rate merely from 1.3% to 1.9%. However, discouraged workers also increased by 350 thousand during this period. This implies that the unemployment rate for men would have climbed to 3.0%, had it not been for those discouraged workers. For women, this tendency was even stronger. During the same period, unemployed women increased from 240 to 340 thousand, the unemployment rate from 1.2% to 1.7%.

[14] Based on the Japan Bureau of Statistics Employment Status Survey, for which part-timers are classified by the employment status given by firms rather than the actual number of hours worked (Houseman and Osawa 1995: 12).

> However, the unemployment rate would have climbed to 5.7%, had it not been for 830 thousand who were discouraged at that time (Hamada and Kurosaka 1984: 82).

In short, if discouraged workers are counted as unemployed, then unemployment rates for Japanese women would be well over threefold higher in 1975. In this and a later paper, Hamada and Kurosaka summarize several other studies indicating that unemployment rates for the late-1970s are similarly underestimated for Japanese women, from which they conclude that "the main burden of employment adjustment is on the female population" (Hamada and Kurosaka 1986: 285).

The continued importance of Japanese women serving as a buffer workforce is indicated by data on discouraged workers for the 1980s and 1990s. Were discouraged workers counted as unemployed in Japan, the average annual rate of unemployment in Japan over the 1983 to 1991 period would be well over double the official rate. That is, the average unemployment rate over these years would be 5.6 percent rather than 2.5 percent, providing a significantly different view of the success of the Japanese economy in adjusting to the post-early-1970s period of slower world economic growth (OECD 1993a: 35; 1993b: 32-33). Fully 80 percent of discouraged workers over the 1983 to 1991 period were women. It is worth emphasizing that no other OECD country had anywhere near such high proportions of discouraged to unemployed workers as did Japan. Additional evidence for the role of women as a buffer workforce is provided by considering changes in the numbers of discouraged workers over recent Japan's most recent up- and downswings. From 1987 to 1991, upswing years, the number of discouraged workers declined steadily, year by year, from 1.98 million to 1.23 million. From 1991 to 1993, downswing years, the number of discouraged workers increased to 1.38 million (OECD 1995: 88). Changes in the number of discouraged workers run in the opposite direction as changes in Japanese women's labor force participation over these up- and downswings, suggesting that Japanese women continue to bear the brunt of adjustment in the Japanese economy.[15]

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[15] For Japanese women, the average annual growth rate of labor force participation was 2.21 percent from 1987 to 1991 and 0.57 percent from 1991 to 1993; for Japanese men, the average annual growth rate of labor force participation was 1.33 percent from 1987 to 1991 and 1.05 percent from 1991 to 1993. That is, Japanese men's labor force participation was much more stable over these up- and downswings than was Japanese women's (*OECD Quarterly Labour Force Statistics*, 1990, 1992, 1994).

Just-in-Time Production. Lifetime employment guarantees and seniority-based earnings originated in the face of a shortage of skilled labor in the interwar years but did not become prevalent until the postwar years (Hamada and Kurosaka 1986: 287). Consistent with this, the employment stability for which Japan is now noted is not observed in data prior to the 1950s (Mincer and Higuchi 1988: 99; Hashimoto and Raisian 1992: 79). Thus there is a real sense in which Japan's reliance on internal labor market flexibility precedes and is more fundamental than the flexibility associated more specifically with just-in-time production, developed at Toyota Motors in the 1960s and after (Shingo 1989: 106-107, 167). Yet just-in-time production evolved within the context of the lifetime employment system, adapting to the constraint of employment stability for the core - predominately male - workforce. Not only that, just-in-time production and internal labor markets in Japan more generally are both characterized by flexibility in the definition and design of jobs and the rotation of workers among these jobs. This is suggested by Mincer and Higuchi, who argue that Japan's seniority-based earnings system and long job tenure are made viable by such flexibility and the resulting enhancements to firm-specific human capital. They write as follows:

> By gradual adjustments in continuous training, with emphasis on flexibility and job rotation, potential obsolescence [of human capital] is overcome without changing much of the workforce in the firm. If the new cycle of training builds on the partially obsolete previous cycle, and both contain elements of firm specificity, skills adjustments are accomplished at lesser cost using the existing workforce than new hires (Mincer and Higuchi 1988: 116).

Just-in-time production originated at Toyota Motors and diffused throughout a wide range of industries in Japan after the early-1970s. During the 1980s, just-in-time techniques were also implemented by U.S. producers, among them Ford, General Motors, and Westinghouse. Two important developers of the system were Taiichi Ohno, a former vice president at Toyota, and Shigeo Shingo, a consultant for Toyota. Much of this account is derived from their writings (Ohno 1988; Shingo 1989).

A key objective of just-in-time production is waste reduction, achieved through a wide-ranging set of principles and practices. The system is particularly focused on waste resulting from overproduction, whether of finished products or parts and subassemblies. The ideal is to produce without an accumulation of inventory, requiring that products be produced just in time for

delivery and in just the right number. In this sense, overproduction is defined to include not only products that exceed sales or orders, the conventional sense of overproduction, but also products that match the desired quantity but are produced too early. Similarly, the ideal of eliminating parts inventories requires that parts be available just in time and in just the right number for any given operation in the production process (Shingo 1989: 165). What distinguishes just-in-time mass production from traditional mass production is not the number of automobiles produced, but rather that a greater number of models or model types (for example, coupes, sedans, and station wagons) are produced in a very short period, as short as a single day. As Shingo put it, "The Toyota production system is the antithesis of large-lot production, *not* mass production..." (Shingo 1989: 84). It is only with small lot production that automobiles could be produced to order in a timely fashion and that the need for inventories could thereby be eliminated, or at least greatly reduced. Just-in-time production not only minimizes the costs associated with inventory storage. Perhaps even more important, it offers a decided non-price marketing advantage, since it dramatically lessons the delivery time of made-to-order products (Shingo 1989: 86-87).

In the view of Toyota management, the relative costs of labor versus machinery makes it preferable to have a machine complete an operation and sit idle until a worker reactivates it than for a worker to wait for a machine to complete its operation. Thus in times of average capacity utilization, workers typically operate a number of machines, with these machines commonly performing different operations. Higher levels of production are met by raising the operating rates of machinery, increasing the number of workers, and having any given worker operate fewer machines. In this sense, the ability to readily vary output to accommodate just-in-time deliveries requires a great deal of flexibility in job definition and design. The desire for stockless production flows in the face of demand fluctuations is complicated when machines with higher operating capacities work alongside machines with lower operating capacities. A relay system was devised to facilitate the smooth flow of operations, involving workers at any work station helping workers at any adjacent work station whenever one group falls behind. The relay system thus requires that a worker typically be trained to operate at least three types of machinery and also requires that machinery be installed to accommodate the movement of workers among operations. This further illustrates the importance for just-in-time production of flexibility in job definition and design (Ohno 1988: 14, 25; Shingo 1989: 155-159).

At Toyota and other Japanese firms, temporary non-union employees commonly work alongside regular union employees (Cole 1971: 145-146, 229; Shingo 1989: 85). In a section titled "Excess capacity and temporary workers," Shingo describes the central role played by temporary workers at Toyota as follows:

> During average demand periods, many workers manage ten machines loaded at 50 percent of capacity. When demand increases, temporary workers are hired. This makes it possible to operate at 100 percent capacity, having each worker handle only five machines. To do this effectively, of course, machines had to be improved so that even temporary workers could work independently after no more than three days of training (Shingo 1989: 85. Cf. 74-75 for a similar view of the central role of temporary workers in accommodating demand fluctuations).

Thus just-in-time production at Toyota makes extensive use of both internal as well as external flexibility, with the latter provided in large measure by temporary workers. As of 1991, 72.3 percent of temporary employees in Japan were women, highest among the sixteen OECD countries for which such data are available, providing additional evidence that Japanese women serve as a buffer workforce (OECD 1993a: 24). As with the Japanese system of labor-management relations more generally, it does not seem particularly meaningful to argue that internal flexibility is more important than the external flexibility in Japan, as some have argued. For the two types of flexibility function as complements, each facilitating the other, both serving to keep Japanese unemployment rates low.

Conclusion

This chapter examines the relationship between unemployment and labor market flexibility. The latter is considered in the broadest sense - as it relates to labor markets at large (external flexibility) and to practices within firms (internal flexibility). The first part of the chapter addresses the argument that differences in employment performance among the advanced economies result largely from differences in labor market flexibility. Empirical evidence was considered on nominal and real wage flexibility, labor market institutions, the trade-off between unemployment and inequality (the so-called unified theory), social policy, and Beveridge curves. With the exception of ambiguous evidence on the duration of unemployment insurance benefits, there is little solid evidence that high unemployment results from labor market rigidities. Regarding the hypothesized

trade-off between inequality and unemployment, it was argued that the idea has plausibility on the face of it. It makes sense that certain jobs can only be profitable at low wages and thus that high wage floors would tend to lessen the number of such jobs. The notion of a trade-off is relatively new, and few studies test it directly. Perhaps newer studies, using different methods or looking at different countries, will provide supporting evidence. But at present, the evidence is largely contrary. The one exception is Beissinger and Moeller's study of German women (1998).

The second part of this chapter addresses the argument that Japan's low rates of unemployment result from high internal labor market flexibility. This assertion is suspect, or at least overstated, for several reasons. Japanese firms' reliance on internal flexibility is not an alternative to but rather is complemented by external flexibility. This external flexibility is provided disproportionately by women workers, who serve as a buffer workforce. Rather than being counted as unemployed, Japanese women who lose their jobs tend to leave the labor force altogether. This is manifested in the remarkably high proportions of discouraged workers in Japan, the vast majority of them women. Thus Japanese unemployment rates are deceptively low, much more so than for the other advanced economies.

Taken together, the first and second parts of this chapter provide a critical view of commonly-offered reasons that unemployment rates and employment growth vary among the advanced economies, particularly among Germany, Japan, and the U.S. At the same time, the role of Japanese women as a buffer workforce, reflecting their highly procyclical labor force participation, provides a critical insight into the first part of the chapter regarding the empirical evidence on comparative wage flexibility. Most studies examining wage flexibility in relation to *unemployment* conclude that wage flexibility is comparatively high in Japan. Yet both the level and volatility of Japanese unemployment rates are greatly underestimated by official unemployment statistics, largely a result of Japanese women leaving the labor force upon losing their jobs. Studies that examine the relationship between changes in nominal or real wages and *output* conclude that Japan does not have comparatively high wage flexibility (Hamada and Kurosaka 1986; Gordon 1987; Hashimoto and Raisan 1992). The point is of relevance not only for the literature on comparative wage flexibility but also to that on labor market institutions and unemployment. There is controversy over how to characterize Japan's wage-setting institutions, whether they are centralized or decentralized and whether centralization is an appropriate measure

of corporatism. Yet both sides of the debate assume - wrongly it seems - that Japan has comparatively high wage flexibility (Calmfors and Driffil 1988: 14-15; Soskice 1990: 41-42).

Regarding internal and external labor markets, the unemployment rate, and wage flexibility, the Japanese economy is quite different than commonly depicted. These insights are revealed by considering the way in which women serve as a buffer workforce in Japan, unique among the advanced economies. Moreover, these insights demonstrate the value of studying differences between men and women workers, which provides a significantly different view of the basic workings of Japanese labor markets and the economy more generally.

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