Labor Market Characteristics and the Determinants of Political Support for Social Insurance: evidence from Germany and U.S.

Anil Duman*
University of Massachusetts, Amherst
October, 2005

Job Market Paper

Abstract:

This paper inspects the relationship between labor market risks and demand for social insurance with a particular emphasis on unemployment insurance. It considers income, skill specificity and unemployment risk as the chief determinants of political support for such policies. Occupational unemployment rate is treated as an estimate of labor market risk. Then, the paper looks at the cross-country variations in unemployment insurance and delineates the links with these and one’s position in the labor market. The results suggest that occupational unemployment rate is explanatory for the demands for social insurance along with income. And the cross-country variations could not be attributed to skill specificity.

*anil@econs.umass.edu. I am grateful to my committee members and my colleagues in UMASS at Amherst, Economics Department for their helpful comments and support.
1. Introduction

Advanced economies have a wide range of social policies addressing the issues in labor markets. Even though varying from country to country and over time, they all carry out comprehensive unemployment insurance systems and these systems comprise a sizeable amount of public expenditures. In 2001, Germany spent nearly 9000 dollars per unemployed person in while it has been approximately 4500 dollars per unemployed person in U.S in 2001\(^1\). Thus, understanding the motivations underlying the political support for social policies and the changes across countries and time has invigorated the interests of many researchers in economics as well as other fields.

In this paper, I propose to address the insurance perspective by inspecting the relationship between labor market characteristic and demand for social insurance. The labor market characteristics are defined in terms of skill specificity and unemployment risk. Based on these lines, I will argue that skill profiles and social protection programs do not necessarily follow each other and hence the cross-country variations in social protection policies cannot be fully attributed to the differences in skill profiles. Moreover, occupational unemployment rate along with income are the key factors determining public support for social insurance.

One dominant standpoint regarding the motives giving rise to demand for social policies emphasizes the redistributive aspect of government policies. Meltzer and Richard (1981), Alesina and Rodrik (1994), Benabou (1996), and Krusell and Rios-Rull (1999) have a rational democratic model of redistribution where the relevant dimension for redistribution is from rich to poor\(^2\). An alternative explanation of demand for social policy originates in the need for social insurance and claims that welfare state provides insurance. People with riskier resources –physical or human capital assets- to protect themselves individually would look for broader social safety nets. In this case, the self-interested voters support welfare policy to shield against certain risks\(^3\).

---

1 OECD (Social Expenditure Database, 2004).
2 As long as the current income is low relative to the mean income people would opt for greater social policies. Therefore, if the income distribution is more skewed it would lead to an increase in support for redistribution.
3 For studies of social welfare as publicly provided insurance, see Barr (2001); Casamatta, Cremer, and Pestieau (2000); De Donder and Hindricks (2000); Sinn (1995); and Wright (1996).
Iversen, Soskice, (2001), Ebbinghaus, and Manow, (2001), Huber, and Stephens, (2001) argue that the problem of uninsurable risks in the labor market, which could be only mitigated by the state, will lead to a demand for social insurance. In turn, government policies shielding against certain risks will generate higher human capital investment and different forms of production regimes. From this perspective, the skill profiles -measured by the human capital investment- and the type of the welfare regime in a country will be interrelated.

The majority of writings on the relationship between production and welfare state regimes attempt to explain the differences across countries by looking at the type of skills required for product markets. For example, many European countries organize their production in a way, which would necessitate specific skills to be acquired whereas U.S and other Anglo-Saxon countries specialize in product markets in which commodities can be manufactured by general skills. Therefore, insurance aspect becomes much more vital for Europe where specific skills would call for extensive protection and employers and employees would both support protection\(^4\). By contrast, demand for social insurance wouldn’t be as prevalent in Anglo-Saxon nations. However, the implicit assumption in this framework -the higher expected job loss of skill specific workers- is not necessarily substantiated by empirical evidence. Besides, it is difficult to directly link the investment in human capital in general and specific skills in particular to social policy support since there might be many other incentives to undertake such investments.

Our major criticism to the existing literature comes from the fact that the risk incidence is taken as the key determinant for social insurance and the risk is mainly connected to the level of skill specificity. Instead of the general risk levels that different groups of workers face, the literature looks at their asset specificity and claims that this has a direct impact on their social policy preferences.

Firstly, it is very hard to disentangle the insurance motive from other motives to support social insurance, which might lead to the same social outcomes. Secondly, the risks in the labor market could not be perfectly associated with specificity. In a number of situations, specificity could be taken as leverage against unemployment risk given that

\(^4\) There are number of studies attempting to show the role of employer organizations in the historical formation of welfare states. See, Mares, (2003), and Swenson, (2002).
employers are less likely to abandon their more valuable skilled specific workers. Specificity explains little of risk exposure and it is the later that explains political preferences. Without disregarding the pertinence of the insurance aspect I will try to integrate other motives, namely redistribution, and argue that the net outcome of these two drives is contingent on one’s social position in the labor market. I will attempt to test the insurance aspect by employing an improved measure of risk, to be precise occupational unemployment rate. The differences in the social insurance preference arise due to job loss risk, which is measured using the occupational unemployment rates at a detailed level. This result is verified by our empirical testing conducted for Germany and United States, which could be taken as prime examples of specific and generic labor markets, respectively.

The remainder of this paper is organized as follows. In Section 2, a brief review of the literature on cross-country variations will be provided. Section 3 will address more carefully the theoretical model and the grounds for the model specification. Section 4 will give details of the central hypotheses, econometric methodology, and econometric issues. Section 5 will discuss the results. Section 6 concludes.

2. Literature Review

The paper will look at the literature on cross-country variations of social insurance systems. This line of view suggests that differences in social insurance systems may be related to differences in the skill profiles of the labor force (e.g. Iversen and Soskice 2000; Bowles and Pagano 2003). One focus in this paper is on also the link from skill profiles to the social insurance.

There are considerable differences among modern capitalist countries with regard to their coverage and generosity of publicly provided social insurance, social assistance and social services. This variation can be seen between Europe and U.S., but exists as well within Europe (Kitschelt et al. 1999). A number of accounts have been offered to explain these variations. Esping-Andersen and Kolberg (1992) grouped welfare state regimes together through different labor market institutions and policies. In other words,
the classification of welfare regimes was founded on the structure of the labor market and policies implemented\(^5\). While the corporatism literature has focused mainly on institutionalized interaction between government, labor, and employers, the more recent literature on ‘varieties of capitalism’ has emphasized the nature of relations among enterprises as well as between enterprises and financial institutions and between them and the government (Soskice 1991, Hall and Soskice 2001).

Estevez-Abe, Iversen, and Soskice (2001) also relate the social welfare programs to skill formation characteristics of labor market. They assert that people are less likely to invest in specific skills if the occupations requiring those skills have a high unemployment risk. Since there are complementarities between human capital and product markets, employers, who rely on specific skills to compete effectively in international markets, would also favor certain insurance policies\(^6\). Their model of micro-level links between skills and social protection has significant policy implications. This type of analysis is useful to predict the possible political alliances in support of a particular type of social protection. For example, in countries with products, which necessitate specific skills and a labor force equipped with those skills, a strong alliance between skilled workers and their employers would likely emerge in favor of social protection advantageous to them. This might mean reducing job opportunities for low skilled workers. By contrast, where business has no common interest in promotion of specific skills, it will have no interest in defending any type of social protection.

The theoretical literature on the determination of unemployment insurance suggests that the demand for unemployment insurance will differ with the characteristics of agents; employed workers will demand less than unemployed workers, for they do not expect to become unemployed. Moreover, workers facing high unemployment risk will demand more unemployment insurance than workers facing low unemployment risk, because they can self-insure quite well against transitory unemployment risk (Krusell and Smith 1998), which could be less costly for the workers than publicly provided

\(^5\) Esping-Andersen’s classification has been cited extensively in the literature and thus wouldn’t be examined in detail here.

\(^6\) The specific skill requirements will be under-supplied without implicit agreements for long-term employment and real wage stability but imperfect contracts will mean that employers’ promises are not credible. This will lead to government policy securing jobs and wages.
unemployment insurance. Though, this would depend on the insurance premium because when the premium is quite high even a risk averse worker would opt for zero unemployment benefit. Hassler et al. (2002) explain that the differences in labor market performances and institutions across the Atlantic by the following interlinked mechanism. On the one hand, unemployment insurance is generous in Europe because European workers have specific type of human capital making them more concerned about unemployment risk than American workers. Hence European workers muster stronger political support for unemployment insurance than American workers. On the other hand, existence of generous unemployment insurance gives incentives to European workers to acquire more specialized human capital, associated with higher unemployment risk. American workers, faced with low unemployment insurance, will instead tend to accumulate more flexible human capital featuring less risk.

The reason why different political choices emerge is that, in different countries, the identity of the agents who are politically preponderant varies. This diversity, in turn, originates endogenously from the institutions on which agents vote. Therefore, different outcomes can be sustained as stable steady-state equilibria.

The driving force in Hassler et al. study is this complementarity between individual behavior on the labor market and the policies collectively chosen. The individual’s behavior is shaped by the educational choice. When turning to education as a specialization, education is taken as a risky human capital investment. Prospective students might choose to invest in specialized human capital assets yielding a high wage in one particular occupation, but low wages in others. Alternatively, they could pursue a more generalized education providing skills applicable to many occupations, and therefore paying an intermediate wage in many occupations. Hassler et al., Iversen and Soskice and others believe the specialized education is more prevalent in Europe, manifested, for instance, in the German apprenticeship system. A general undergraduate degree –by far the most popular college education in either continent- represents what is meant by a more generalized education. The nature of the education or human capital investment would determine the support or lack thereof for unemployment insurance.
In this literature, factor specificity is attributed a central role shaping the preferences of workers and firms over major policy dimensions, which includes the size of the social policy programs. Additionally, it determines the way and the pace each economy adjusts to exogenous shifts in the world markets and technology by reallocating productive inputs between industries. The specificity of labor arises from the human capital investment and hence skills acquired. It is presumed that in “coordinated market economies”, labor is more specific and less mobile between firms, sectors, or industries, whereas, in “liberal market economies”, it is versatile and can move among jobs, sectors, or industries easily. Porter (1990) gives machinery and services sectors as comparable examples of export differentiation between these two regimes. While Germany has 45 ‘internationally competitive industry’ in machinery and only 7 in the service sector in 1985, United States has 18 and 44 respectively. Therefore, insurance aspect becomes essential for Europe where specific skills would call for extensive protection and this protection would be supported both by employers and employees. The reason why such a demand will emerge in more skill specific systems is the higher expected cost of job loss due to non-transferability or immobility of skills (Iversen and Soskice, 2001).

However, on average, rates of inter-industry labor movement\textsuperscript{7} tend to be higher in “coordinated” economies than they are in “liberal” economies, and these rates differ across nations within each classification as much as they vary across nations in different categories. (Hiscox and Rickard 2002). There are several studies displaying the higher mobility among workers in Europe. One reason is that the spending on active labor market programs, which subsidize the retraining and relocation of workers, has a clear positive effect on inter-industry labor mobility. Besides, retraining and readjustment lead to better job matches both within the same industry and across sectors. Therefore, a closer look at the immobility argument is required.

Secondly, the implicit assumption in this framework - higher expected cost of job loss for skill specific workers- is not substantiated by empirical evidence either. In a study by Lefranc (2003), it is pointed out that the wage losses are greater for US workers compared to the workers in France in the case of displacement. A decline of 13 to 20 per

\textsuperscript{7} Hiscox and Rickard (2002) use data on changes in sectoral employment patterns to gauge the speed and extent of inter-industry labor movement over time.
cent is experienced in the former case as opposed to 10 per cent loss in terms of previous wage in the latter. Moreover, Leonhard and Audenrode (1995) documented that displaced workers experienced no wage loss in Belgium, and Burda and Mertens (1998) found very low post-displacement wage losses in Germany. This is because job security might be or might not be a problem for several groups of high-skilled-specific workers. And even if these kinds of workers are displaced they could find similar jobs more easily in Europe. Hence, it is not entirely clear why risk is positively related to skill specificity, independent of skill levels, especially for industrial or occupational skills. Thus, it would be useful to incorporate job security, which could be treated as an alternative measure of risk. In this respect, the unemployment rate could be a good proxy of job loss risk rather than specificity.

Besides, it is not clear why the risks involved in investments in specific assets would automatically deter such investments if expected returns rise with risk. The ways through which the costs related to riskier human capital investments, are distributed may vary across countries. Nevertheless, it does not lead to the conclusion that such investments are not undertaken in “liberal” economies. It may well be that in more market based economies, like the US, the risks of owning specific assets tend to be assumed almost completely by individual workers and firms anticipating the “rents” that will follow if such assets earn above-market rates of return in the future. In economies like Sweden, by contrast, the government has traditionally “nationalized” much of the risk associated with these types of investment by subsidizing retraining and the relocation of labor and capital for employment in growth industries, and by pursuing greater equality in wages and incomes. The potential returns to owning specific assets are reduced proportionately. In Germany, risks appear to be pooled too, but among firms and workers and particular industries and regions. But the consequences of these differences for the total amount of investment that occurs in specific assets are not so clear. As Frank and Cook (1999) have argued, “winner-all-take” markets in which individuals assume all

---

8 More generous unemployment benefits in Europe might give workers enough opportunities to search for ‘acceptable’ jobs.

9 There is an extensive literature on the growing importance of worker training in US manufacturing industries during recent decades, and the related expansion in the use of fringe benefits tied to seniority as a way to encourage longer tenure among employees once they have been trained on the job.
the risks of investing in specific skills may actually lead to massive over-investment in such assets. Recent OECD estimates of training costs do not show significant differences between the expenditures of firms in US and firms in Germany and France (Lynch 1994). In general, a substantial amount of informal-firm-based training by US firms tends to go unmeasured in studies that focus only on formal training programs (Blanchflower and Lynch 1994).

Also, in most studies, there is no discussion on the different social insurance mechanisms (i.e. employment protection versus unemployment insurance) and their relationship with skill profiles. Boeri, Conde-Ruiz, and Galasso (2003) argue that there exists an empirical trade-off between employment protection policies and unemployment insurance even though both aim to insure against labor market risks. From the OECD figures, they document that there is a negative correlation (-.39), between these two measures, significant at 99 per cent level. Boersch-Supan and Tabellini (1999) pointed that the trade-off is relevant at the micro level as well since people who are protected by employment protection policies are less willing to pay for unemployment insurance schemes. This is quite relevant for our purposes, since employment protection would be in demand if the skills are firm-specific and unemployment insurance will be more of use if the skills are industry or occupation-specific. The specificity explanations usually do not distinguish among different types of specificities and insurance instruments.

Finally, while factor specificity is obviously assigned a critical analytical role in this approach, it is not altogether clear whether specificity is regarded as exogenous or endogenous with respect to regulations and institutions. In accordance with this line of reasoning, the starting point of the formation of a specific labor market is ambiguous. And whether the institutions and regulations precede specificity or skill specificity is the leading factor is not discussed comprehensively.

---

10 This might be due to the fact that workers who don’t face a significant unemployment risk given that there is comprehensive employment protection legislation applying to their jobs or industries wouldn’t favor unemployment insurance.
3. Theoretical and Analytical Framework

This section will try to analyze the relationship between labor market characteristics and social policy, in particular unemployment insurance, from a mixture of insurance and redistribution perspectives. The workers are heterogeneous in skills and employment status, and vote over the unemployment benefits. The skill profiles would be presumed as exogenous to avoid the problems of causation. In theoretical literature on the determination of unemployment insurance, it is frequently suggested that the demand for unemployment insurance will differ with the characteristics of agents. For instance, employed workers will demand less unemployment insurance than unemployed workers and workers facing high unemployment risk will demand more unemployment insurance than workers facing low unemployment risk. Additionally, it is recently argued that more specific workers will opt for higher unemployment insurance than generic workers. I will try to analyze these claims with a particular interest on the last one.

In the following model, the demand for unemployment insurance is determined by three determinants, income, skill-specificity and labor market risk. The existing literature assumes that skill and income are correlated; hence, high skilled workers receive a high wage while unskilled/low skilled workers earn a low wage\textsuperscript{11}. This is the channel through which skills have an effect on demand for unemployment insurance. High skilled workers, at the same time higher wage earners, would favor more insurance contingent on their degree of risk aversion. The literature also establishes the linkage between specificity and insurance via the wage premium specific workers get and the possibility of losing it in another job\textsuperscript{12}. Finally, the connection between unemployment insurance and job loss risk is obvious. As expected, individuals facing high job insecurity (i.e. high risk of becoming unemployed) will demand social protection policies more. Therefore, risk -defined as job insecurity- is an additional candidate for explaining social preferences.

\textsuperscript{11} There are studies directly looking at the distinct attitudes of high skilled and low skilled workers but here, our focus is not so much on skill levels per se but specificity of those skills.

\textsuperscript{12} A brief overview of these arguments was presented in the earlier sections of the paper.
3.1. Model

The model that is going to be used in the paper follows the same guidelines that have been accepted commonly in the literature. Agents maximize utility and the utility function is strictly concave. We assume that there are no capital markets and private insurance. All of the income is spent on consumption. Workers derive their income from skills that can be either general or specific. Specific skills are valuable only to a single firm or a group of firms, whereas general skills are portable across all firms.

It is constructed as a two period model. In the first period, there are five types of workers: specific skilled workers in specific jobs, specific skilled workers in generic jobs, unemployed specific skilled workers, generic skilled workers in generic jobs and unemployed generic workers. The workers who have specific skills could earn higher wages. The workers who have only generic skills earn a relatively lower wage. The unemployed of both types get transfer payments. Let, $S$ be the number of specific skilled employees in specific jobs, $S_G$ be the number of specific workers working in a generic job, $S_U$ be the number of unemployed specific workers, $G$ be the number of generic skilled workers, and $G_U$ be the unemployed generic workers. The final number of unemployed people will depend on the unemployment and reemployment rates for each group.

Then, in the second period, some workers are laid off from both specific skilled and generic skilled workers' groups, also some of the specifically skilled workers working in a generic job is reemployed in a specific job, some of the unemployed specific workers are reemployed in either sector, and finally some of the unemployed generic workers are reemployed in the respective sector.

For each specific worker, regardless of the original situation in the labor market, there are three employment possibilities. She can either be in a state in which worker uses both her specific and generic skills and yield a high wage rate, or in a state where the worker is employed in an occupation which utilizes generic skills only and earns a wage rate accordingly, and lastly in a state which represents the unemployment situation where the worker earns a flat rate payment. For a generic skilled worker, the states reduce to two since we are going to assume there is no skill upgrading, thus a generic skilled
worker wouldn't be employed in a job that requires specific skills. Figure 2 explains the employment states.

**Figure 2: Labor Market States**

![Diagram of labor market states](image)

- $\alpha$ is the probability of staying in a skilled specific job for a skilled specific worker
- $\beta$ is the probability of reemployment of a specific skilled worker in a generic skilled job
- $\gamma$ is the probability of losing a job for a specific skilled worker
- $\alpha'$ is the probability that a specific skilled worker in a generic job will be reemployed in a skilled specific job
- $\beta'$ is the probability that a specific skilled worker in a generic skilled job will stay in a generic skilled job
- $\gamma'$ is the probability of losing a job for a specific skilled worker in a generic job
- $\alpha''$ is the probability of reemployment for an unemployed specific skilled worker in a specific skilled job
- $\beta''$ is the probability of reemployment for an unemployed specific skilled worker in a generic skilled job
- $\gamma''$ is the probability of an unemployed skilled specific worker staying unemployed
- $(1-\delta)$ is the probability of losing a job for a generic skilled worker
- $\delta'$ is the probability of reemployment for an unemployed generic skilled worker
• s is the degree of specificity
• g: market value of generic skills
• R: transfers or the income for unemployed

We will allow only, the unemployed workers to collect the flat-rate subsidy and in this case, we can call it unemployment insurance. And, unemployment benefits are paid out of a flat-tax rate (t) on all wages. Total per-capita receipts are $T$, and all receipts are spent on transfers, or in other words a balanced budget is assumed. The efficiency of taxation is gauged by the parameter $\Theta$, ($\Theta \in [0,1]$), meaning that every taxed unit of income generates $\Theta$ of tax revenue. This is preferred to using a labor supply function dependent on tax rate because the functional form in the latter case significantly affects the results.

The tax income per-capita would be:

$$T = t \times \bar{w}$$

where $\bar{w}$ is the average wage. Thus, transfer per unemployed people becomes:

$$R = \Theta \times T = \Theta \times t \times \bar{w}$$

and the tax rate is:

$$t = \frac{R}{\Theta \times \bar{w}}$$

When we look at the after-tax and transfer income for individuals with specific skills and generic skills separately, they would be:

$$\bar{s}g = (1-t) \times sg$$
$$\bar{s}g = (1-\frac{R}{\Theta \times \bar{w}}) \times sg$$
$$\bar{g} = (1-t) \times g$$
$$\bar{g} = (1-\frac{R}{\Theta \times \bar{w}}) \times g$$

For any individual worker with both specific and generic skills, the probabilities, $\alpha$, $\beta$, and $\gamma$ can be interpreted as probabilities in a lottery with three possible outcomes. A skill specific worker will therefore seek to maximize the expected utility of income
across all three states. If we ignore the discounting of future income, this is captured by the following utility function;

\[ V = \alpha u(sg) + \beta u(sg) + \gamma u(R) \]  \hspace{1cm} (1)

where \( u(.) \) is the worker’s utility from net income, which for simplicity we assume is spent on consumption. Using standard assumptions, we impose the following constraints on \( u \):

\[ u_c > 0 \]
\[ u_{cc} < 0 \]
\[ \lim_{c \to 0} u_c(c) = \infty \]

We need specific conditions on risk aversion; hence, we use the standard assumption of a constant Arrow-Pratt relative risk aversion (RRA) utility function. If an individual’s utility as a function of her income is \( u = u(Y) \) the Arrow-Pratt measure of risk aversion becomes;

\[ u(c) = \frac{u'(c)}{u''(1-a)} \]

at point \( c \).

If the utility function is less concave at higher levels of income, then decreasing risk aversion is said to obtain, meaning that the rich are less risk averse than the poor.

\[ u(c)\Omega = \frac{-u'}{u''} \times C \]

for every \( a > 0 \) and \( a \neq 1 \)

\[ = \log c \text{ for } a = 1 \]
With these assumptions in mind, we can now determine workers’ utility maximizing preferences for social protections. We will consider only the case in which taxation is not fully efficient with insurance and specificity effects\(^\text{13}\).

**Result 1:**

The relationship between the expected income and preferred transfer levels will be positive, or more formally;
\[
\frac{dR}{dy} > 0
\]
This is due to the fact that risk aversion is high enough to dominate over the redistributive motive and as expected income raises so does the preference for social insurance.

**Result 2:**

The relationship between the skill specificity and preferred transfer levels will be negative keeping the expected income constant by adjusting employment and reemployment rates, or more formally;
\[
\frac{dR}{ds} < 0
\]
We argued in the earlier chapters that unemployment rates for certain skilled specific workers might be quite low since they have a high value added and the employers would choose not to fire them. When skill specificity measure, (s), declines, skill specific workers become relatively similar to generic workers and hence more easily deployable.

**Result 3:**

The relationship between the probability of being in a skilled specific job and preferred level of transfers is negative when we let employment and reemployment rates to adjust, or more formally;
\[
\frac{dR}{da} < 0
\]
This reverse link arises because the more likely a person ends up in a skilled specific job, the more likely she would favor not to pay for social insurance.

\(^{13}\) The proofs of the following results could be obtained from the author.
4. Data and Empirical Methodology

Following the above discussion and model presented, I would attempt to test the link between preferences for social insurance and skill specificity. My hypotheses are, individuals with high income demand less unemployment insurance policies depending on their relative risk aversion\textsuperscript{14}, individuals with more specific skills demand greater unemployment insurance contingent on the level of risk aversion, individuals facing high job insecurity will demand greater unemployment insurance, and skill specificity argument outlined above would be especially valid when job insecurity is taken into account simultaneously.

Germany with its apprenticeship system is viewed as an economy where jobs are highly specific. It also has more extensive unemployment insurance whereas United States with a more general education system is regarded as a generically skilled economy and has limited unemployment insurance. There are contradicting studies finding higher possible cost of job loss and lower actual costs in Germany than US. This might be due to the fact that comprehensive protection system in Germany provides workers the means to wait until they find a more suitable job. Considering that these countries are prime examples of specific and generic labor markets respectively, the estimation results should be fairly illustrative.

The regression equation to test our claims is derived in the last section. It should be noted that the signs of the coefficients on income and specificity depends on relative risk aversion, the unemployment and reemployment rates. The regression equation looks like:

\[ R = ay + bs + cu + \varepsilon \]

(2)

where \( R \) is the preference for unemployment insurance, \( y \) is income, \( s \) is specificity, \( u \) is the job loss risk (occupational unemployment rate), and \( \varepsilon \) is the error term.

\textsuperscript{14} The link between income and support for social spending has been tested frequently in the literature. Studies emphasizing redistribution found a negative relationship while studies emphasizing social insurance found a positive one as long as risk aversion is sufficiently high.
To estimate the model above, I will employ data for income, skill specificity, occupational unemployment rate, and numerous control variables. Skill specificity is gauged by using two measures, which are constructed by making few adjustments to the index employed by Iversen and Soskice and a question from ISSP (1997) survey.

The skill specificity indicator in Iversen and Sockice is derived by comparing the share of unit groups in any higher level class to the share of the workforce in that class:

\[
\begin{align*}
  s_{pec_1} &= \frac{s_{num1}}{s_{den1}} = \frac{(\text{number 4-digit units within 1-digit major group})}{(\text{number of people in a 1-digit ISCO group}) / (\text{number of classified people})} \\
  s_{pec_2} &= \frac{s_{num2}}{s_{den2}} = \frac{(\text{number 4-digit units within 2-digit major group})}{(\text{number of people in a 2-digit ISCO group}) / (\text{number of classified people})}
\end{align*}
\]

The skill specificity measure then becomes:

\[
\frac{1}{2} (s_{pec_1} + s_{pec_2})
\]

There are several shortcomings of defining skill specificity as above. First, the skill specificity measure depends on the number of sub-categories in each group and older industries might have well-developed, detailed occupational structures compared to newer industries with fewer sub-groups. However, this problem is due to classification of occupations and would arise in any estimate that takes occupational specificity rather than worker’s specificity. Second, dividing the index by skill level (s1) or educational attainment makes it a relative measure, or in other words, education and skill specificity would have a negative relationship. Even though it might claimed that more education gives more versatility, this is not accurate for every occupation especially if higher education is used for specialization. Thus, we didn’t divide the index by ISCO-88 broad skill levels. Finally, the national size of the labor market is used in the denominator instead of the whole sample since the latter implicitly assumes labor mobility across countries.

The other specificity measure is derived from a question asked in ISSP survey: “if you were looking actively, how easy or difficult do you think it would be for you to find
an acceptable job?” This is the same measure utilized by Iversen and Soskice, (s2) and we believe that this is a good proxy of specificity according to people’s own perceptions. The question, in our opinion, captures people’s beliefs about their specific skills since mostly specialized people would answer the question as very difficult to find a new job making use of their skills.

The reason why we modify the specificity estimations rather than reconstructing it by looking at the wage differences is because it is almost impossible to gather data on wage changes in different employment situations for the same people over time. If the skill specificity measure based on occupations reflects worker’s specificity, both operationalizations above should more or less measure the same concept\textsuperscript{15}, nevertheless there is no significant correlation between the two estimates.

In Table 1, the specificity characteristics of the respondents are analyzed. This might give us an idea on whether there was a structural shift in the labor force regarding their skills throughout time in both countries. For Germany, the per cent of employed people in most specific jobs is slightly lower compared to their counterparts in U.S., 1.19 per cent and 1.28 per cent respectively. The distinction is even more prominent when we look at the per cent of employed people in least specific jobs. Noticeably, in U.S., this is 6.83 per cent while in Germany it is 8.73 per cent. These numbers seem to support the views that Germany and U.S. have dissimilar skill compositions in their labor markets, however, it counters the claims that Germany ahs more skilled specific workers.

To measure risk, I will introduce a measure of riskiness based on the occupational unemployment rates of workers, which might better capture the demand for social insurance policies. It is derived from the information from each country’s national statistical institutes, which provides unemployment and employment data according to the national classifications of occupations. We, then, transformed these national categories to ISCO-88 occupational classification and estimated the 3-digit level unemployment rates. The earnings are taken from the ISSP survey. Finally, there would be an interaction variable between job insecurity and skill specificity.

\textsuperscript{15}The correlation between skill specificity measures, s1 and s3, is 0.872 for Germany and 0.06 for U.S.
Table 2 presents the occupational unemployment rates with respect to most specific and least specific jobs in each country. Both groups of jobs have a higher unemployment rate in Germany, and this is especially the case with least specific jobs. On average, most specific jobs have a lower unemployment rate in U.S., 1.6 per cent while it is 2.3 per cent in Germany. The least specific jobs have an unemployment rate of 3.9 per cent in Germany and a much lower rate of 1.1 per cent in U.S. The table points out a greater job loss risk for German workers in general regardless of their skill specificity.

In the estimation the dependent variable is based on a direct question on the preferences about unemployment insurance. The question asks whether the respondents want to see higher, lower or the same level of government spending on unemployment benefits. They are informed about the possible costs in terms of tax increases for choosing greater spending. It should be noticed that in this research there wouldn’t be an explicit discussion on the differences between performance and perceived performance of public programs.

As can be seen from Table 3, in Germany and in U.S., almost the same per cent of respondents favored much more and more spending, 28.88 per cent and 28.3 per cent respectively. However, the two countries differ in less and much less spending option. In U.S., 21.69 per cent of people preferred less and much less spending whereas in Germany, it has been 18.8 per cent. This might be taken as supportive to the asset specificity explanations because U.S. with its generic skilled labor force is not expected to choose more protection. Because the survey question asks people how much change they want to see regarding unemployment insurance, it is vital to clarify that the levels of unemployment benefits are quite different in these two countries. Thus, we will also estimate counterfactuals to grasp what will happen if the reference points were same.

There are several control variables used in the estimation including, age, gender, union membership, labor market status (i.e. unemployed, non-employed, part-time employed, and self-employed), party affiliation, and education.

As we mentioned above, the alternative studies consider skill specificity as a proxy for labor market risk in their empirical research. And the risk here is borne as a result of the monetary losses incurring in the case of displacement. Therefore, all other
things equal a specifically skilled worker will favor greater social protection compared to a worker with generic skills. However, when we are talking about the actual systems of social insurance we should take into account the concrete probabilities of being unemployed for these distinct worker groups. In that sense it becomes important to see if there is any correlation between skill specificity and unemployment. The correlation coefficient of skill specificity (s1) and unemployment rate is 0.05 in the German case and 0.02 in the United States. I also checked the variance inflation factors for these variables and could not find multicollinearity. Hence utilizing specificity as a substitute for unemployment risk is not convincing.

I estimate the preferences for unemployment insurance in Germany and US separately to test if there’s a significant difference in two countries’ coefficients. The results are presented in the next section.

5. Results

The regression equation, (2), is estimated as an ordered probit model since the dependent variable has ordinal values\(^{16}\). The central idea of this model is that, underlying the ordered response is a latent, continuously distributed random variable representing propensity to see more spending on unemployment insurance. Additionally, I have used a multiple imputation technique, called Amelia\(^{17}\), to handle missing observations instead of list-wise deletion. The subsequent presentation firstly discusses the possible relationships between the dependent and independent variables, and expected signs. Secondly, it talks about the key results.

The relationship between the preferred level of transfer payments and expected income would be negative if there are no insurance effects since the higher the income is the less dependent a worker is on public assistance. Also, high-income earners would be the net payers of transfers. Along the same lines low-income workers would support larger transfers because they will be the net recipients. However, once we take the insurance aspect into account income level cannot solely predict the policy preference. A

\(^{16}\) For why a linear regression could not be suitable for ordered outcomes, see, Daykin and Moffatt, (2002).
high-income worker might opt for social protection if the risk of getting unemployed is high. In that case, the loss associated with unemployment is greater than the one that a low-wage worker would face.

In the literature, it is assumed that skill specificity will bring higher risk because the income loss in the case of reemployment is greater compared to the case of generic skills. Also if there is an alteration in the sectoral composition over time the demand for unemployment insurance might rise. Nevertheless, as stated earlier job insecurity and hence risk is mostly determined by the probability of job loss and expected cost of it. It is not necessary to presume that expected cost of job loss for a skill specific worker would be higher than a worker with general skills. Besides, the rate of unemployment is expected to be lower among high skilled workers. Finally, unemployment insurance and many other social programs give enough time to people to search for suitable jobs and sometimes they retrain workers and hence there would not be much income loss due to lack of skills. Therefore, the expected sign on skill specificity is uncertain.

It is evident that a worker with greater unemployment risk would choose higher unemployment insurance whereas a worker who does not fear to become unemployed might favor lower unemployment insurance. The unemployment benefits are most of the time the sole source of income when a worker is unemployed. Thus, the preferences for unemployment benefits would increase with the probability of getting unemployed. The expected sign of the coefficient on job loss risk is positive.

Workers become usually more supportive of the welfare state as they get closer to retirement. Female workers may demand more protection than men, in comparable jobs, because of the generally more vulnerable position of women in the labor market. Additionally, the need for childcare would lead to greater support for public assistance. Given that the one of the main functions of a union is to insure members against risks, it is realistic to expect that union members are particularly concerned with social protection (Korpi, 1989). The unemployed will support higher income protection based on the fact that they rely on transfers as a source of income. Esping-Andersen (1999) maintains that

---

17 For details of this program and software see King’s website (http://gking.harvard.edu/stats.shtml).
18 Gangl (2002) argues that German welfare state certainly contributes to German workers achieving better post-unemployment job outcomes at the price of some prolongation of unemployment spells.
19 Also, there might be sectoral and occupational differences between men and women.
non-employed might demand social policies if they believe these policies would help them to reenter the labor market. However, the group is too heterogeneous to anticipate a common policy preference. The preferences of part-time employed workers can also go both directions since they are the most vulnerable but at the same time they need more flexible labor markets. The self-employed are expected to favor lower levels of social protection given that they depend on flexible labor markets and usually on comparably low-paid workers. Education is expected to have a negative relationship with social protection policies. However, the concrete result is contingent on the type of the education one receives. Finally, ideological orientations are important for attitudes towards social policy and we will expect left party supporters to ask for broader welfare programs.

When we turn to the particular estimation results for Germany, it could be seen that income is once again significant in all specifications and has a negative sign meaning that higher income workers might be using their own means to insure against labor market risks. The coefficient on skill specificity is positive pointing out that those with more specific skills ask for greater unemployment insurance. However, his variable is no longer statistically significant when either tested alone or along with the occupational unemployment rate. This is also the case with the second measure of skill specificity, (s2). The occupational unemployment rate is significant and positively related to preferences over unemployment insurance alone and combined with skill specificity. This appears to be supportive of our argument. Variables on occupational status turn out to be significant with expected signs. Also, party support has a negative sign indicating people affiliated themselves with right wing parties prefer less spending on insurance. The results are shown in Table 4 and Table 5.

Aside from the coefficients of each variable, we can look at the effect of a change of one standard deviation in these variables. In addition to the dummy variables on employment status (unemployed, non-employed, self-employed, and part-time employed), income have the greatest effect for both specifications. One standard deviation increase in occupational unemployment rate leads to .07 and .08 per cent increase, for each specification, in the probability of choosing a higher level of
unemployment spending, keeping everything else constant. It is .01 per cent when we employ s1 and only .002 per cent when we use s2.

In Table 6 and Table 7, it is shown that the coefficient on income has a negative sign and it is statistically significant for U.S. as well. Also, the skill specificity variable does not have a significant coefficient either alone or jointly with risk variables, again for both s1 and s2. Occupational unemployment is positively related and it is significant both alone and when skill specificity and the interaction variable are not included. Definitely, these findings do not fit into Iverson-Soskice-type skill specificity explanations of social protection. The estimations for United States reveal differences with the German case; however, it is possible to see that in both countries, job loss risk is significant and has a direct relationship with preferences.

Finally, several control variables come out as significant over all specifications in U.S. Among those, education and left-right party support are interesting. The coefficient on education has a strongly significant and negative sign meaning that the higher the education respondent has the less supportive she will be for welfare programs. This is in line with the suggestion that higher degrees of education can be taken as a form of insurance. Party affiliation is statistically significant as well and has an opposite relationship with spending on unemployment benefits. The index for this variable goes from left to right party support and one reason why it is explanatory in United States could be because there are no far left and far right parties included.20

If we look at the effect of a change of one standard deviation in these variables, it can be seen that income, party affiliation, and education have the biggest effects. A major dissimilarity is the relatively low effects of employment status variables (unemployed, non-employed, self-employed, and part-time employed) compared to Germany. In U.S., one standard deviation increase in occupational unemployment rate leads to .06 and .05 per cent increase, for each specification, in the probability of choosing a higher level of unemployment spending, keeping everything else constant. It is .03 per cent when we employ s1 and .02 per cent when we use s2.

20 Democratic Party is counted as Left, Center Left and Republican Party is counted as Right Conservative in United States. The Center, Liberal position is for Independent nominees.
6. Conclusion

In this paper, I have attempted to present an explanation of demand for social insurance by looking at skill specificity characteristics and labor market risks. As opposed to the literature on asset specificity, I did not find a robust relationship between specificity and unemployment insurance preferences. This arises from the fact that there is no one-to-one correspondence between skill specificity and riskiness at the occupational level. Because of this, workers with highly specific job skills do not automatically demand greater social protection.

The previous papers evaluated specificity as a measure of risk; however, there is low correlation between these two determinants. Instead, we are proposing that the occupational unemployment rate at a detailed level might better capture the labor market risk associated with any given job type. The overall demand for social insurance will therefore be contingent on the level of risk exposure and income for each type of worker as well as the joint effect of these three parameters, specificity, income, and risk.

To this end, I have investigated the hypothesis that skill specificity is positively related to unemployment insurance and accordingly it would be demanded more in countries with higher specificity. Additionally, I have tested my hypothesis that job insecurity is central to the demands for greater social protection. The cross-country variations depend on job security, capacity to self-insure, which is measured by earnings, and skill specificity combined with unemployment risk. In this respect, I have inspected two representative countries, United States and Germany, more closely.

The skill specificity variable turns out to be insignificant in all estimations for both countries when estimated alone and with job loss risk variable included. This validates my criticisms that preferences for social protection could not be explained on the basis of skill specificity. For Germany and U.S., occupational unemployment rate is statistically significant and positively related to support for greater unemployment spending. Hence, job loss risk is a useful variable explaining people’s attitudes towards social insurance.

We can conclude that once the appropriate theoretical variables are employed the explanatory power of skill specificity vanishes and job loss risk is useful to understand
the attitudes towards social protection. Hence, marking a distinction in the social policy arena between countries with specifically skilled labor force and countries with workers holding generic skills could not be empirically verified.

Future research can provide a measure of skill specificity based on wage differences which is the core of specificity arguments. Additionally, the number of countries could be expanded to reach more generalized results. Finally, it would be important to look at over time developments to explain the effects of international integration on social insurance demands via risk factors.
References


Frank, R., and P. Cook, (1996), *The winner-take-all society: why the few at the top get so much more than the rest of us*, Penguin Press.


28
Table 1: Percentage of People in Jobs with Specific and Generic Skills

<table>
<thead>
<tr>
<th></th>
<th>1996</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Most specific</td>
</tr>
<tr>
<td>Germany</td>
<td>1.19</td>
</tr>
<tr>
<td>US</td>
<td>1.28</td>
</tr>
</tbody>
</table>


Table 2: Average Occupational Unemployment Rates at the Most and Least Specific Jobs

<table>
<thead>
<tr>
<th></th>
<th>1996</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Most specific</td>
</tr>
<tr>
<td>Germany</td>
<td>2.3</td>
</tr>
<tr>
<td>US</td>
<td>1.6</td>
</tr>
</tbody>
</table>


Table 3: Percentage of People Supporting More Spending on Unemployment Benefits

<table>
<thead>
<tr>
<th></th>
<th>1996</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Much more and more spending</td>
</tr>
<tr>
<td>Germany</td>
<td>28.8</td>
</tr>
<tr>
<td>US</td>
<td>28.33</td>
</tr>
</tbody>
</table>

### Table 4. Support for Unemployment Insurance in Germany, (1996)

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>St. Deviation</th>
<th>Marginal Effects at Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income</td>
<td>-.035**</td>
<td>(.006)</td>
<td>-.14**</td>
</tr>
<tr>
<td>Skill Specificity (s1)</td>
<td>.06</td>
<td>(.1)</td>
<td>.04</td>
</tr>
<tr>
<td>Age</td>
<td>.0006</td>
<td>(.002)</td>
<td>.004</td>
</tr>
<tr>
<td>Gender</td>
<td>.04</td>
<td>(.05)</td>
<td>.02</td>
</tr>
<tr>
<td>Union membership</td>
<td>.14**</td>
<td>(.07)</td>
<td>.04*</td>
</tr>
<tr>
<td>Part-time employment</td>
<td>-.11</td>
<td>(.1)</td>
<td>-.02</td>
</tr>
<tr>
<td>Self-employed</td>
<td>-.3**</td>
<td>(.07)</td>
<td>.15**</td>
</tr>
<tr>
<td>Unemployed</td>
<td>1.03**</td>
<td>(.13)</td>
<td>.2**</td>
</tr>
<tr>
<td>Non-employed</td>
<td>.36**</td>
<td>(.08)</td>
<td>.18**</td>
</tr>
<tr>
<td>Party affiliation</td>
<td>-.03**</td>
<td>(.01)</td>
<td>-.06*</td>
</tr>
<tr>
<td>Education</td>
<td>-.01</td>
<td>(.02)</td>
<td>-.02</td>
</tr>
<tr>
<td>Occupational Unemployment</td>
<td>.34**</td>
<td>(.1)</td>
<td>.07**</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test on joint significance</td>
<td>$\chi^2 = 151.07$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2 Log Likelihood</td>
<td>2839.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudo R-squared</td>
<td>.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Observations</td>
<td>2361</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Estimates are ordered probit estimates. Standard errors are in parentheses. The dependent variable contains five categories ranging from “much less” to “much more” in response to a question on whether the individual wants to see more spending on unemployment benefits. p* = .05 and p** = .01, one-tailed tests of significance.
Table 5. Support for Unemployment Insurance in Germany, (1996)

<table>
<thead>
<tr>
<th>Ordered-Probit Estimates</th>
<th>Marginal Effects at Sample Means</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
</tr>
<tr>
<td>Income</td>
<td>-.035**</td>
</tr>
<tr>
<td>Skill Specificity (s1)</td>
<td>.05</td>
</tr>
<tr>
<td>Age</td>
<td>.0005</td>
</tr>
<tr>
<td>Gender</td>
<td>.04</td>
</tr>
<tr>
<td>Union membership</td>
<td>.14**</td>
</tr>
<tr>
<td>Part-time employment</td>
<td>-.11</td>
</tr>
<tr>
<td>Self-employed</td>
<td>-.03**</td>
</tr>
<tr>
<td>Unemployed</td>
<td>1.03**</td>
</tr>
<tr>
<td>Non-employed</td>
<td>.36**</td>
</tr>
<tr>
<td>Party affiliation</td>
<td>-.32**</td>
</tr>
<tr>
<td>Education</td>
<td>-.12</td>
</tr>
<tr>
<td>Occupational Unemployment</td>
<td>.38*</td>
</tr>
</tbody>
</table>

Test on joint significance

\[ \chi^2 = 151.6 \]

-2 Log Likelihood

2839.07

Pseudo R-squared

.26

Number of Observations

2361

Estimates are ordered probit estimates. Standard errors are in parentheses. The dependent variable contains five categories ranging from “much less” to “much more” in response to a question on whether the individual wants to see more spending on unemployment benefits. p* = .05 and p** = .01, one-tailed tests of significance.
<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>St. Deviation</th>
<th>dy/dx</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income</strong></td>
<td>-.04**</td>
<td>(.01)</td>
<td>-.14**</td>
</tr>
<tr>
<td><strong>Skill Specificity (s1)</strong></td>
<td>.15</td>
<td>(.123)</td>
<td>.03</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>.0006</td>
<td>(.001)</td>
<td>.01</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td>.06</td>
<td>(.06)</td>
<td>.03</td>
</tr>
<tr>
<td><strong>Union membership</strong></td>
<td>.17**</td>
<td>(.09)</td>
<td>.06</td>
</tr>
<tr>
<td><strong>Part-time employment</strong></td>
<td>-.18*</td>
<td>(.09)</td>
<td>-.05</td>
</tr>
<tr>
<td><strong>Self-employed</strong></td>
<td>-.012</td>
<td>(.08)</td>
<td>.005</td>
</tr>
<tr>
<td><strong>Unemployed</strong></td>
<td>.52**</td>
<td>(.21)</td>
<td>.07*</td>
</tr>
<tr>
<td><strong>Non-employed</strong></td>
<td>.1</td>
<td>(.083)</td>
<td>.05</td>
</tr>
<tr>
<td><strong>Party affiliation</strong></td>
<td>-.25**</td>
<td>(.036)</td>
<td>-.2**</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>-.16**</td>
<td>(.034)</td>
<td>-.15**</td>
</tr>
<tr>
<td><strong>Occupational Unemployment</strong></td>
<td>.66**</td>
<td>(.035)</td>
<td>.06*</td>
</tr>
</tbody>
</table>

Test on joint significance \( \chi^2 = 131.4 \)

-2 Log Likelihood 1654.17

Pseudo R-squared .38

Number of Observations 1332

Estimates are ordered probit estimates. Standard errors are in parentheses. The dependent variable contains five categories ranging from “much less” to “much more” in response to a question on whether the individual wants to see more spending on unemployment benefits. 

p* = .05 and p** = .01, one-tailed tests of significance.
Table 7. Support for Unemployment Insurance in U.S., (1996)

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>St. Deviation</th>
<th>dy/dx</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>-.04**</td>
<td>(.01)</td>
<td>-.14**</td>
</tr>
<tr>
<td>Skill Specificity (s1)</td>
<td>.07</td>
<td>(.09)</td>
<td>.02</td>
</tr>
<tr>
<td>Age</td>
<td>.0006</td>
<td>(.001)</td>
<td>.01</td>
</tr>
<tr>
<td>Gender</td>
<td>.06</td>
<td>(.06)</td>
<td>.03</td>
</tr>
<tr>
<td>Union membership</td>
<td>.16**</td>
<td>(.09)</td>
<td>.06</td>
</tr>
<tr>
<td>Part-time employment</td>
<td>-.18*</td>
<td>(.1)</td>
<td>-.06</td>
</tr>
<tr>
<td>Self-employed</td>
<td>-.01</td>
<td>(.08)</td>
<td>.005</td>
</tr>
<tr>
<td>Unemployed</td>
<td>.52**</td>
<td>(.21)</td>
<td>.07*</td>
</tr>
<tr>
<td>Non-employed</td>
<td>.1</td>
<td>(.083)</td>
<td>.04</td>
</tr>
<tr>
<td>Party affiliation</td>
<td>-.24**</td>
<td>(.035)</td>
<td>-.2**</td>
</tr>
<tr>
<td>Education</td>
<td>-.16**</td>
<td>(.035)</td>
<td>-.15**</td>
</tr>
<tr>
<td>Occupational Unemployment</td>
<td>.6**</td>
<td>(.035)</td>
<td>.05</td>
</tr>
</tbody>
</table>

Test on joint significance $\chi^2 = 130.5$

-2 Log Likelihood 1654.6
Pseudo R-squared .37
Number of Observations 1332

Estimates are ordered probit estimates. Standard errors are in parentheses. The dependent variable contains five categories ranging from “much less” to “much more” in response to a question on whether the individual wants to see more spending on unemployment benefits. $p^* = .05$ and $p^{**} = .01$, one-tailed tests of significance.