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## The Demographics of Age in Labor Market Management

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## INTRODUCTION

According to textbook gospel, labor markets clear according to how prices influence supply and demand. A principal element in the clearing process is the exit of older workers: it opens the gates for younger cohorts, allows firms to shed older and, presumably less productive, manpower, and it generates flexibility and dynamism in the economy. Yet, standard textbook economics have considerable difficulty in fitting exit through retirement to the strict logic of prices. Retirement is an institution created by politics, not by autonomous markets.

In the early stages of capitalism, it was unusual for workers to retire; perhaps they died or, perhaps, they continued with diminished capacity; many old workers were simply asked to leave and fend for themselves through the aid of family or poor relief. During the first phases of welfare state construction emerged programs for the protection of impaired aged workers, but benefits hardly offered more than a minimum for survival. It is obvious that under neither of these conditions could genuine mass-retirement occur. The principle of retirement, as several writers suggest, emerged only when pensions become a *de facto* adequate citizens wage. And this is something which began to happen only with the consolidation of the postwar welfare state.[1]

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[1]. See especially W. Graebner, *A History of Retirement*. New Haven, Conn: Yale University Press (1980); Anne-Marie Guillemard, *La Vieillesse et l'etat*. Paris: Presses Universitaires (1980); J. Myles, *Old Age in the Welfare State*. Boston: Little, Brown & Company (1984); and J. Quadagno, *The Transformation of Old Age Security*.

An adequate retirement wage will alter the parameters of the labor market clearing mechanism: the labor supply decisions of older workers are now shaped by an incentive system exogeneous to the market. In this sense, the demographics of age enter into the regulation of labor markets.

It may be that pension reforms have historically always been designed with the intent of either raising productivity or creating new jobs for the young. One can easily find examples of industrialists having advocated pensions with an eye to the former, and of unions and labor parties having demanded pension reform with full employment objectives in mind. But, until recently, coverage, benefits and eligibility rules were all such that a typical older worker's welfare trade-off would favor continued employment.

It is in the past two or three decades that this has changed. Liberalized eligibility and high benefit standards now permit workers a genuine choice. Moreover, with early retirement reforms the traditional flow of labor market exit has changed fundamentally. If, in the 1960s, people normally retired at age 65-70, today the rule is anywhere between 55 and 65, depending on the nation. It may be that these reforms were designed for purely welfare reasons, in order to allow older and often disabled workers a deserved otium after decades of toil. But, for whichever reasons, pensions have nonetheless also come to serve as perhaps <u>the</u> major vehicle with which governments try to manage growing unemployment, de-industrialization, and far-reaching economic

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Chicago: University of Chicago Press (1988).

transformation.

The new prominence of pensions as a tool for labor market management may be explained by a lack of policy-alternatives. With mounting unemployment, the erosion of the keynesean consensus, and the adoption of restrictive, anti-inflationary policies, aggregate employment stimulation policies were more or less ruled out. Hence, the reduction of labor supply emerged as a tempting alternative. But, also the objectives of major interest groups conspired to catapult pensions into prominence in the field of labor market management policies. Employers, imprisoned by job-rights, found in early retirement a means to enhance productivity and undertake desperately needed rationalization; trade unions, similarly constrained by seniority rights, embraced early retirement as an acceptable means to enhance job opportunities for youth; and governments, having to deliver on full employment promises, found in early retirement a convenient helping hand. In this triad of implicit consensus entered the aged worker, more often than not tied to a tiring and incapacitating industrial job, whose welfare would clearly improve from moving into an acceptably renumerated pension.

Two facts are indisputable. One, the trend towards early withdrawal of aged male workers is international, accelerating in almost all countries during the 1970's. The second fact, however, is that the rate of early retirement among males varies dramatically among nations. Countries like Germany and France represent one group of countries in which participation rates among males, 55-65, has plummeted. Indeed, France has officially lowered normal retirement age to 60. Across the board, early retirement schemes and a variety of "social pacts" have

de facto made labor market withdrawal a normal occurrence for males in their late 50's. It is in this group that labor market problems most clearly found a solution in retirement schemes. At the other extreme, the decline has been small indeed in countries like Sweden and Norway. In between lie the United States and Great Britain.

West Germany, Sweden and the United States exemplify the international variation very well, and will constitute the empirical test-cases in our study. In Table 1, we present comparative data on participation and retirement trends in these three countries.

TABLE 1. PARTICIPATION AND RETIREMENT RATES FOR MALES, 55-64, IN GERMANY, SWEDEN, AND THE UNITED STATES, 1965-1985.

| | Germany | Sweden | United States |
|---|---|---|---|
| Participation rate among males, 55-64: | | | |
| -1965 | 86.7 | 87.6 | 84.2 |
| -1975 | 72.0 | 80.9 | 75.6 |
| -1985 | 67.5 | 76.0 | 67.9 |
| Average Annual percent change: | -1.5 | -0.7 | -0.7 |
| Percent of total population, 55-64, in retirement: | | | |
| a) disability 1975 | 6.4 | 7.0 | 4.5 |
| disability 1985 | 8.7 | 7.2 | 3.3 |
| b) other 1975 | 18.3 | 3.1 | 18.3 |
| other 1985 | 27.6 | 11.0 | 23.2 |

Source: WEEP Data Files[2]

[2]. The WEEP Data files ("Welfare state entry-exit Project") are the result of a cross-national research program, housed in Scandinavia, at the Science Center in Berlin, and at the European University Institute in Firenze. It would fill a book to list all the individual data sources. Aside from standard statistical sources on labor markets (both international and national), much of the data derive from labor market surveys (such as the AKU in Sweden, and the Mikro-census in Germany).

From Table 1, we learn that cross-national diversity is a recent phenomenon. In 1965, participation rates were virtually identical in all three countries; by 1985, they were 10 percentage points lower in Germany than Sweden.[3]

The data illustrate a second important point: the decline in labor force participation is almost exclusively an effect of early retirement; the disability pension rate has remained essentially constant. Since access to non-medicalized early retirement has undergone substantial improvements in terms of both eligibility and benefits in all three countries, it is probably no longer the case that disability programs contain other than genuinly disabled workers. And, if this is the case, it would appear that almost the entire increase in retirement is due to factors that are unrelated to the health status of workers. Hence, our aggregate participation rates should measure a trend that is more or less net of the health, or disablement, effect.

These facts speak to the longstanding debate on whether declining participation among the aged is a phenomenon compelled by adverse economic conditions -- such as recessions, high unemployment, industrial rationalization -- or induced by the financial attractions and leisure opportunities afforded by improved pension arrangements.

Empirically, there is no doubt that governments have taken deliberate legislative action to accommodate pension schemes to economic objectives by, for example,

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[3]. More or less the same picture obtains for women. If we confine ourselves to women, aged 60-64, we find that their participation rates actually rose in Sweden, were more or less stagnant in the United States, and declined sharply in Germany.

lowering retirement age, liberalizing eligibility, or offering various incentives. Nonetheless, most early retirement reforms were initially introduced for social policy reasons and then, more or less inadvertently, later employed for labor market goals.[4] As Jacobs and Rein (this volume) note, in West Germany both key court decisions and government legislation pertinent to early retirement emerged in the era of labor shortages and bouyant economic growth. But, as economic conditions worsened in the 1970's, the social security schemes were admirably suited to the needs of German industry to shed itself of excess (elderly) manpower in its struggle to rationalize and restructure. And many countries found new ways to extend eligibility and encourage early retirement as unemployment rates soared in the late 1970's and 1980's.

That early retirement has been accelerated by pension reforms in tandem with slack labor markets is indisputable. But it remains unclear how the two factors interrelate. The tendency towards increasingly early labor market exit is, at least for males, a long-term phenomenon that pre-dates the 1973 and 1979 oil-shocks, rising unemployment and widespread industrial rationalization. In Germany, there is a noticable increase in the rate of older male (55-64) exit during

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4. In Germany, the first major liberalization of early retirement provisions occurred in 1972, i.e. before the emergence of the OPEC oil-crisis and recession. In the United States, the principal reform dates back to 1961 and can, indeed, be regarded as more directly motivated by labor market concerns -- it emerged with the relatively deep recession of 1959. Note, however, that major benefit improvements occurred in the period 1971-73. In Sweden, the first provision for early retirement came in 1963, and was extended in 1970 and, again, in 1975. See also B. Casey and G. Bruche, Work or Retirement? Aldershot: Gower (1983); OECD, Employment Outlook. Paris: OECD (1988); and K. Jacobs and M. Rein's contribution to this volume.

the 1970's and 1980's, but in both Sweden and the United States, the annual rate of decline in participation for the same group has remained essentially constant since the early 1960's.

On a broader scale of comparison, international differences in early retirement are much more extreme than variations in pension systems or in the severity of economic crisis warrant. This is clear when we examine Table 1. The annual rate of early exit is, in Germany, twice as high as in Sweden even if (as we shall discuss below) Swedish pension benefits are clearly more attractive; and the rate of industrial job-loss has been quite similar in the two countries. Vice versa, the American rates of early exit are similar to the Swedish even if benefits in the United States are dramatically lower. Clearly, benefit incentives alone cannot explain much of the international variance. Unemployment or job-losses in manufacturing are neither, per se, convincing causes. In Sweden, it is true, unemployment rates have remained extraordinarily low; but they have been high in the United States throughout the 1970s and most of the 1980s; and in Germany since the mid-1970s.

Early retirement is predominantly a masculine affair. This is to an extent logical when we consider the historically low, and typically interrupted, participation profiles of women. It is in very few countries, and then only recently, that women's labor force participation profiles have come to parallel males'. Thus, women typically left the labor market at child-bearing age, and even if they later returned they would normally not have accummulated adequate pension rights for a full pension, let alone early retirement. Furthermore, be it for "push" or "pull" reasons, males

are more likely than females to participate in early retirment schemes. On the push-side, unemployment-prone unskilled jobs in smokestack industries are more likely to be filled by males. On the pull-side, older males are for the same reasons more likely to be physically or otherwise impaired and are, as mentioned, more likely in possession of adequate pension rights.

In this study, we shall explore the interplay of social policies and labor market conditions in the formation of early retirement among male workers. We begin with the classical debate on whether early retirement is induced by attractive benefits and "negative" work incentives (the pull-argument), or whether it is primarily compelled by adverse economic conditions, unemployment and industrial re-structuration strategies (the push-argument).

Whereas most studies generalize from single-nation specific analyses, our approach is comparative and longitudinal. We have selected Sweden, Germany, and the United States for our comparison, not only because they represent three diverse early exit-trajectories, but also because each represents a unique welfare state "regime-type". [5]

Sweden, firstly, typifies the Scandinavian social democratic model of universalist, egalitarian and "institutional" social policy; in Sweden, the decline in older male participation has been internationally modest. Germany, in turn, represents the typical European welfare state with an emphasis on occupationally differentiated

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[5]. For a detailed discussion and empirical treatment of the concept of welfare state regimes, see G. Esping-Andersen, The Three Worlds of Welfare Capitalism. Cambridge: Polity Press, and Princeton: Princeton University Press (1990).

programs, relatively high benefit inequalities, and somewhat narrowly defined government responsibilities in the labor market; in Germany, the rates of early male retirement have been extraordinarily high. The United States, finally, illustrates the typical "residualist" kind of welfare state regime with its modest public welfare responsibilities and powerful bias in favor of private sector solutions. The American rates of early male retirement fall in the middle category.

In most studies, the social policy "pull-effect" has been examined fairly narrowly in terms of pension entitlements. With the concept of welfare state regimes, our analyses are pitched at a more macro-level of comparison. We do not just mean that pension benefits or legislation pertaining to early retirement vary significantly. Rather, our countries represent three internationally distinct welfare state clusters in terms of underlying institutional principles, among which the relationship between work and welfare, labor market and social policy, is one of the most crucial factors. So, while pension policies are crucial, they by no means exhaust the analytically relevant package of policies. We must take into consideration also the integration of active employment policies and, more generally, the ways in which citizens face a menu of choices between working and retiring.

## CHOICE AND CIRCUMSTANCE IN EARLY RETIREMENT DECISIONS

The bulk of existing research has been conducted by American economists concerned with the trade-off between

work and leisure.[6] The issue has been typically studied at the micro-level because only at the level of the individual is it possible to distinguish push- and pull-factors in retirement decisions: we need to know which conditions, such as lay-offs, unemployment duration, health, or expected retirement benefits, are most decisive in the actual trade-off situation. Also, in the micro-economics of early retirement, the actuarial approach is quite dominant; that is, estimating retirement decisions on the basis of actuarial accounting principles.

By and large, what we have available for theoretical generalizations are studies based on American data. The ethnocentric bias of existing research makes it impossible to evaluate how different types of welfare states and different kinds of labor markets affect elderly male labor force participation. Very few studies have directly addressed the "push-pull" debate on the basis of comparative, macro-data based research. [7]

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[6]. For representative examples, see M. Feldstein, "Social Security, Induced Retirement, and Aggregate Capital Formation". Journal of Political Economy, 82 (1974); I. Leonard, "The Social Security Disability Program and Labor Force Participation". NBER Working Paper, 392. Cambridge, Mass. (1979); M. Boskin and M. Hurd, "The Effect of Social Security on Early retirement". Journal of Political Economy, 10 (1978); M. Hurd and M. Boskin, "The Effect of Social Security on Early Retirement in the early 1970s". NBER Working Paper, 659 (1981); D. Parsons, "The Decline in Male Labor Force Participation". Journal of Political Economy, 88 (1980). For an overview of the debates, see H. Aaron and G. Burtless (eds), Retirement and Economic Behavior. Washington DC: Brookings Institute (1984).

[7]. Among the few exceptions are J. Pechman, H. Aaron, and M. Taussig, Social Security: Perspectives for Reform. Washington DC: Brookings Institute (1968); F. Pampel and I. Weiss, "Economic Development, Pension Policies, and the Labor Force Participation of Aged Males". American Journal of Sociology, 89 (1983); and K. Jacobs, M. Kohli, and M. Rein, "Testing the Industry-mix

The empirical case for a negative work-incentive effect (the pull-thesis) appears to have weakened considerably in recent research. Early econometric studies, such as Feldstein's (op.cit.), Boskin & Hurd's (op.cit.), Leonard's (op.cit), and Parsons' (op.cit.) found strong evidence supporting the argument that workers leave the labor market primarily because of attractive benefits. Leonard, indeed, claimed that pension benefit increases alone explain 40 percent of the decline in participation.

A principal weakeness of this early literature is its narrow actuarialism and its frequent neglect of competing variables. To begin with the actuarialism problem, it may rightly be pointed out that there are alternative interpretations of the correlation between benefit improvements and exit. If, for example, we took workers' health conditions into account, it may very well be that there always existed a large pool of partially disabled workers ready to embrace early retirement once adequate provisions were granted.

Secondly, when research began to control for competing variables, the negative incentive thesis suffered. Thus, Pampel & Weiss' (op.cit) study found that economic development was the strongest explanation for early retirement; Haveman et.al. show that unemployment experience among older workers was the chief cause behind the retirement decision; and Diamond & Hausman, as well as Burtless & Moffitt show that the importance of incentive effects relative to alternative variables, such

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Hypothesis of Early Retirement". Paper presented at the University of Bergen, Norway, June (1987).

as unemployment, health and education varies between labor force groups. [8]

The Jabobs, Kohli and Rein study (op.cit) offers one interesting first attempt to test the "push" thesis by examining the industry-bias in early retirement. If early retirement were to be a function of industrial decline, one would naturally expect that the rates of early exit would be higher in nations and/or industries in which declining employment is most dramatic. Yet, their study, comparing both high, low, and medium level exit countries across 16 industrial sectors, fails to find significant "industry" effects. Indirectly, then, they lend some support to the "pull" thesis.

It is clear that existing research fails to add up to any single unambiguous conclusion. To an extent, this is to be expected given sharply different methodological approaches. The real problem, however, may lie in the specification of the problem itself. The perspective offered by the standard "American" approach may be too narrowly focused on individual work-leisure choices. As such, it often fails to see the forest for all the trees. Without a comparative design, its results are difficult to generalize; with its micro-perspective, the larger logic of welfare state and labor market dynamics is lost.

In this study we shall offer an alternative, macro-level approach. We will, first of all, attempt to highlight

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[8]. See R. Haveman et.al., "Disability Transfers, Early Retirement, and Retrenchment"; P. Diamond and J. Hausman, "The Retirement and Unemployment Behavior of Older Men"; and G. Burtless and R. Moffitt, "The Effect of Social Security Benefits on the Labor Supply of the Aged", all included in H. Aaron and G. Burtless (eds), Retirement and Economic Behavior (op.cit).

welfare state differences within the three welfare state regimes in Sweden, West Germany, and the United States. Concomitantly, we will employ a time-series design to capture important legislative changes over the past decades. In this sense, our analyses on declining participation rates of older males will be couched within identified structural contexts.

Secondly, we will examine the relative influence of economic "push" variables at the macro-level: first, unemployment rates among the relevant age groups and, second, levels of job-losses (or gains) in the manufacturing sector. All three nations in our study have experienced significant job-losses and unemployment levels in the manufacturing sector over the past 10-15 years.[7] These events, however, have not translated into similar trends in early exit. Hence, our design allows us to identify the relative influence of the welfare state on labor force exit under fairly similar economic circumstances. It is important to note that ours is not a study of work-leisure trade-offs per se. Its aim is to show how, under fairly comparable economic constraints, the nature of welfare state regimes come to be decisive for the process of labor market clearing: certain types of welfare states are much more likely than others to use

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[7]. Since economists routinely use GDP growth variables in their models, we ran all the subsequent statistical models with a (one-year lagged) real annual rate of GDP growth variable, substituting for the industry job-loss variable. The argument in favor of the GDP variable is that it captures overall macro-economic performance, hence including also its expected effects on the labor market overall. This variable, however, proved to be systematically uncorrelated with participation trends and, moreover, seems to us to be vaguer and less directly relevant for the testing of the "push" effect. In the estimations to follow, we have thus ommitted the GDP variable entirely.

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## THE THREE WELFARE STATE REGIMES

The welfare state's impact on retirement behavior will depend on a complex set of variables, of which the pension system is but one. On one side, we must consider the interaction between income maintenance programs: older workers can retire, but often they can choose to apply for unemployment-, or sickness benefits as an alternative. Vice versa, sick or unemployed workers may choose the retirement option if it exists. Accordingly, we must examine the menu of alternative income maintenance choices. On the other side, the choice between income maintenance programs will depend also on labor market, and overall employment policy. With active manpower programs, retraining, and employment expansionary policies, for example, the potential retiree is also offered greater opportunities to remain in the labor force. Our three nations differ considerably in the configuration of these variables. For this study, the relevant approach is to examine the three welfare state regimes from the vantage point of a male worker in the age range of 55-64.

All three countries have, over the 1970's, extended access to early retirement. Apart from disability pensions, there are special early retirement options. In the United States, actuarially discounted social security benefits can be drawn from age 62. Benefits have improved significantly, especially after 1972-73 and, for a "primary" sector worker, we must bear in mind the likelihood that he will complement the social security pension with occupational pension benefits. Employers may

even cash these out at an earlier date to induce retirement. But, overall, the financial attraction of early retirement in the United States would appear, all other factors held constant, quite modest. From the point of view of a pure leisure/work maximization trade-off, a standard, healthy, employed American worker would be better off delaying retirement. The incentive to retire early would, in other words, be most likely to operate when a worker faces unemployment or ill-health. In the latter situation, however, the disability insurance program offers superior benefits. The usually modest unemployment benefits are quickly exhausted, even where entitlements are prolonged, and the United States offers no sickness benefit insurance.

Hence, for redundant American aged workers, early retirement is often the only really viable option, especially when we consider the labor-market side of the American welfare state regime: firstly, the experience of lay-offs and unemployment in the United States tends to be very concentrated, industry-wide and regionally; this implies that the probability of finding alternative employment for an older worker is quite small. Secondly, there are no organized manpower programs which help the redundant older worker relocate or retrain. Thirdly, government employment stimulus, generally, and provision of sheltered employment, specifically, are essentially non-existent. In brief, our understanding of the American welfare state would seem to exclude a significant "pull" effect.

If, then, the "push" effect is likely to dominate in the United States, its effect may not be that powerful. De-industrialization with its concommitant job-losses in manufacturing began in earnest only in the 1980s (until

1980, manufacturing continued to grow in terms of absolute number of jobs), and it was heavily concentrated in the old primary-sector, unionized industries with strong seniority rights. Indeed, average unemployment rates among older males have been relatively low in the United States.

In contrast to the United States, the German system is one in which early retirement programs were deliberately employed as the basic means to accelerate industrial restructuration and to combat rising unemployment. With the reform in 1972, a person was eligible for a full pension from age 63 (with 35 years' contribution). But more important was the emergence of "social plans", agreements between unions and employers (and, implicitly also the government) which allowed for de facto retirement at age 58: in return for trade union concessions on job security, employers could dismiss older workers by topping up unemployment pay (or discounted retirement benefits) until they reached full pension age. This practice was made possible by a legislative act permitting early retirement before age 63 for workers with one year's unemployment experience. An even more recent law (1984) permits early retirement at age 55. In Germany, active manpower programs and employment stimulation policies are, in comparison to Scandinavia, underdeveloped, especially for older workers. The German welfare state regime is peculiar in its heavy transfer bias. This means that services in the government are underdeveloped and that the state will fail to compensate significantly for private sector employment stagnation. This inability is additionally strengthened by the unusually restrictive economic policies pursued by German authorities over the past decade. Put differently, with overall high unemployment, rising female labor supply,

and large new cohorts entering the labor market, government's chief means to clear labor markets are to reduce labor supply via early retirement.

Hence, for Germany, we are likely to best explain the extraordinarily rapid rise in early retirement as a combined function of heavy joblosses with unemployment, and the liberalization of early retirement provisions.[10] Since pension benefit levels have been left unchanged over the past two decades, it is not possible that rising retirement rates are caused by a purely pecuniar inducement.

In Sweden, it is unlikely that growing early retirement is directly related to push-factors, such as unemployment and industry job-losses. Although Swedish industry has been shedding jobs at a very rapid rate, it does not automatically translate into unemployment due to its vast active manpower policy system. The active manpower programs offer financially attractive support for relocation, re-training or sheltered re-employment. On the pull-side, eligibility and benefit rules do offer considerable incentives (offering probably the highest pension benefits in the World), but usually not of such magnitude that they overpower the incentive to remain in the labor force. Beginning in 1963, a Swedish worker could retire at age 60, but with a reduced pension. Workers could also claim a full disability pension after 1970 for "labor market reasons", meaning that they face difficulties of finding jobs. Access to early retirement at age 60 with a full pension was liberalized in 1972,

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[10]. A special problem we confront in analyzing the German data is that some of the early retirement is disguised as unemployment; a significant proportion of the unemployed males, aged 58-59, are de facto retired.

but only under conditions of previous unemployment. However, for the average older Swedish worker, the likelihood of unemployment has remained miniscule; in part due to job security provisions; in part due to the active manpower policies and general employment expansionary programs of the government. In the mid-1970's, the Swedish government introduced the system of partial pensions, a scheme designed to allow older workers to remain in the labor force on a part-time basis while drawing a corresponding fraction of their pensions. While this program never grew to huge proportions, it forms part of the menu of alternatives to early retirement open to older workers.

In Sweden the trend towards early retirement is much lower than in either Germany or the United States, clearly not because the Swedish pension system offers inferior incentives -- on the contrary --but because the overall package of social policy is designed to inhibit the emergence of those "push" factors that induce early retirement. It virtually guarantees an older worker the possibility of remaining in the labor force, and with government's success in averting unemployment and, simultaneously expanding (social service) jobs for new job-seekers (mainly women), the system is not under pressure, like in Germany, to clear the labor market of older workers.

## EXPLAINING COMPARATIVE EARLY RETIREMENT PROFILES

What we shall examine then is an over-time and comparative variation in early retirement, measured as percentage labor force participation among males, 55-64.

Although we must rely on assumptions derived from aggregate data, we can pretty well assume that changes over time and variations across countries are not due to differences in the health status of workers. This, in turn, implies that the "push-effects" will be primarily related to labor market conditions, while the "pull-effects" primarily to the marginal incentive of retirement programs.

In the following, we present a similar time-series econometric model for the three countries, in which we attempt to explain changes in older male participation rates by two key labor market variables: first, the rate of unemployment among males in the 55-64 age range and, second, the annual number of jobs (net) lost in manufacturing and mining industries. As noted, we choose to exclude annual GDP growth as a variable in the model.

To capture the role of "pull" effects, we included initially two variables: firstly, pension benefits as a percent of average worker earnings. This variable, however, has been ommitted because in all three cases its explanatory power (either alone or with the other variables) remained consistently nil. Indeed, this is hardly surprising since the relative pension benefit has remained unchanged in both Sweden and Germany, and changed only marginally in the United States. Secondly, to identify changing incentives of retirement programs, we introduce a social policy dummy variable in which the years after a significant liberalization/benefit increase are scored 1; the years before, a zero. Thus, following our discussion of legislative reforms above, for Germany the social security variable is scored zero for 1966-1971 and one for 1972-1986; for Sweden, zero from 1964-1975 and one for 1976-1987; and for the United States, zero

from 1961-1972 and one for 1973-1986. The dummy-variable approach was chosen because it best fits with the actual evolution of early retirement policy. In all three countries, early retirement provisions have remained very stable except for a one-shot major reform.

The time-series for the three countries differs according to the availability of data. For the United States, the series cover 1961-86; for Germany 1966-86; and for Sweden, 1964-87. In all three cases, the data cover periods of full employment with rapid growth (up to at least 1973-74), and periods of high unemployment and stagnation.[11]

Our interpretations of the relative causal importance of "pull" and "push" factors cannot be based solely on the relative explanatory power of discrete social policy, or labor market, variables, but must in the end take into account the regime within which these variables operate. Our analysis will test over-time models for each country individually; comparative conclusions will be derived from a confrontation of the three countries' parameter structure.

How, in light of our previous "welfare state regime" discussion, are we likely to explain the trend in each country and the differences between them? [12] The case of Sweden is perhaps the simplest. We have already argued

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[11]. Summary statistics of the main variables included are provided in the Appendix.

[12]. Much of the data on which the subsequent discussion is based derives from G. Esping-Andersen, M. Rein and L. Rainwater, "Institutional and Political Factors affecting the Well-being of the Elderly", in J. Palmer et.al. (eds), The Vulnerable. Washington DC: The Urban Institute.

for why we should not expect to find a strong "push-effect". This is supported by the unusually low unemployment rates among older workers (0.9 percent in 1965; 1.6 percent in 1975; and 3.5 percent in 1985). In Sweden, the eligibility rules and benefits would seem to offer positive incentives to retire. Firstly, with the combination of the flat-rate, universal peoples' pension and the earnings-related second-tier pension, the average employee facing retirement will expect to receive 75-85 percent of his previous earnings. The benefit-spread is quite small and a program of pension supplements for those not eligible for the second-tier pension assure in tandem that very few, indeed, would expect to receive less than 70 percent of an average wage. In comparison to our two other countries, the Swedish system probably offers the superior incentives. However, within the structure of Sweden, these are likely to be outweighed by the incentives to stay in the labor force. Hence, we would in the final analysis expect that neither "pull", nor "push" factors, as identified here, will explain the decline in participation among older men. Instead, we would anticipate a fairly large residual of unexplained variance that, most probably, can be ascribed to individual attributes or random factors.

In the United States, the "push"-effect is likely to be somewhat stronger than in Sweden. In the absence of active manpower programs, and with a comparably weak unemployment insurance scheme, laid-off or unemployed older workers have little other recourse than early retirement or finding a new job. However, we must note that labor market conditions have not been extremely adverse to older workers, at least not in the primary sector economy. Indeed, unemployment rates among males in the 55-64 age group reflect its rather sheltered

position: 3.3 percent in 1965; 4.3 percent in 1975; and 4.1 percent in 1985. For general labor market-management reasons, also, government has not faced serious pressures to soak up excess supply via retirement. The extraordinarily dynamic growth of service employment at both the bottom- and top-end of the labor market has allowed both large youth cohorts and female labor supply to be absorbed -- even in the absence of any job expansion in the public sector per se.

Comparatively speaking, the "pull-effect" in the United States is expected to be modest. First, we recall that the minimum age for eligibility to early retirement is 62. Second, although eligibility is liberal in terms of contribution requirements (27 years' coverage for full benefits), the benefit structure harbors many dis-incentives. The pension is actuarially reduced, and the normal social security benefit is hardly more than 50-55 percent of an average worker's earnings, implying a steep income decline for a large portion of the labor force. The primary-sector workforce will usually have occupational pension rights, and may thus add another 20 percent to the total retirement income-package. Still, unless the employer chooses to induce early retirement with a special premium, most American wage earners would clearly have a marginal financial advantage in delaying early retirement if they could. Hence, although for different reasons, the United States is likely to share with Sweden any strong "push" or "pull" effect -- with the modification that the American "push" effect ought to be somewhat stronger than the Swedish.

Germany is likely to deviate sharply from the other two countries, both on the "push"- and "pull"- side. Of the three cases, German industrial job-losses have been

proportionally the heaviest, with consequent high unemployment rates among elderly workers. For the 55-64 year-olds, the percentage unemployment jumped from 0.8 in 1965, to 3.7 in 1975, and to 9.9 in 1985. Indeed, in Germany the elderly are more likely to experience (long-term) unemployment than other groups -- although here we must recall that unemployment among the 58-59 year-olds is often early retirement in disguise. Still, in the 60-64 age group, unemployment rates were about 10 percent in 1981 and 6.4 percent in 1985. Furthermore, the framework of such unemployment and job-loss in Germany is such that it adds considerably to the overall push-effect. Among our three countries, Germany is the only one in which policy-makers and trade unionists will identify the situation as a genuine trade-off between young and old in the competition for scarce jobs.[13]

On the "pull" side, the German system offers incentives that are not exactly as generous as the Swedish, but which may easily appear attractive when we consider the lack of employment-alternatives. Except for the comparatively steep 35-year contribution requirement for a full pension, the pension system offers considerable attractions. An average worker can expect 70 percent of normal earnings in benefits (net) and, although private occupational schemes are of marginal importance, the "social plan" implies that employers will top-up any income loss resulting from early retirement. In Germany,

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[13]. In this light we can also understand why the German trade unions, the I.G.Metall in particular, have been such forceful advocates for a policy of reduced working-time, the objective of which is expressedly to redistribute more fairly the stagnant pool of jobs. Indeed, the Swedish trade unions are unequivocally against such a strategy, not merely because the net new employment dividend is questionable, but also (and principally) because their main strategy is to expand jobs.

the conditions are lined up such that the incentive and compulsion to retire early is powerful.

Combining the essential push- and pull-variables, the basic model (Model 1 in Table 2) to be tested for the three countries can be written in the following way:[14]

$$(I) \quad Yt = B(c) + B(Ut) + B(Zt) + B(Xt) + e,$$

where,
Y is male (aged 55-64) participation rates for the years t=1,n;
U is male (aged 55-64) unemployment rates for the years t=1,n;
Z is number of net jobs lost/gained in each year t=1,n;
X is a social security legislation dummy with scores of zero for years prior (and including) major reform, and score one for years thereafter.

The jobloss and unemployment rate variables both capture the major "push-effects" identified in the literature. We have included both because they need not be substitutable. Joblosses in industry may not automatically translate into mass unemployment if

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[14]. For all estimations, we have used the IAS-SYSTEM developed at the Institute for Advanced Studies in Vienna. This package is especially rich in econometric tests and diagnostic checks that are not widely available in other econometric packages. We have applied tests designed to detect irregularities in the deterministic part of the model (like incorrect functional form, structural breaks, and errors in variables). For an introduction to the modelling approach used, see W. Kraemer et al., "Diagnostic Checking in Practice". The Review of Economics and Statistics (1985). For a synthetic overview of the diagnostic procedures used in this study, see W. Kraemer and H. Sonnberger, The Linear Regression Model under Test. Heidelberg and Wien: Physica Verlag (1986).

alternative employment growth is strong and/or if active manpower policies are applied to the elderly workers. Indeed, the zero-order correlation between the two variables is quite low in all three countries: in the United States, a negative -.353; in Germany, -.138; and in Sweden, -.036. The social security dummy has already been explained.

Model 2, tested in Table 3, elaborates on the basic model by including an interaction term of unemployment and the social legislation dummy. This serves to capture the possibility that exit behavior is not just additively the result of either push or pull effects, but results when the two combine in a particular way. In essence, this model tests for whether legislation is an active mid-wife in the management of unemployment. This particular situation is, in our view, most likely to obtain for Germany. Model 2 can be written as follows:

(II) $Yt = B(c) + B(Ut) + B(Zt) + B(Xt) + B(Ut \times Xt) + e$

Finally, in Model 3 (table 4), we insert the one-year lagged dependent variable (participation rate of males 55-64) as an explanatory variable. By including the (lagged) dependent variable as an explanatory variable, the model soaks up the heavy autocorrelation. The theoretical rationale with this "dynamic" model is that it identifies the possible existence of a trend that is independent of "push" and "pull" forces. In essence, what it captures is the probability that increasingly early retirement is a self-generated, or self-inspired, trend with its own momentum. The lagged participation variable will clearly explain much of the trend in all three countries, especially since it is realistic to expect

that a large percentage of older workers chose to retire for an array of personal or random reasons related neither to the labor market, nor to the lure of a pension benefit. But, to the extent that this lagged variable absorbs the explanatory power of the alternative independent variables, we may conclude that the early retirement trend is caused by neither "push" or "pull" factors. It is this situation which we expect to dominate in the case of Sweden. Model 3 can be written as follows:

(III) $Yt = B(c) + B(Yt-1) + B(Ut) + B(Zt) + B(Xt) + e$

TABLE 2. PUSH AND PULL FACTORS IN THE LONG-RUN TREND TOWARDS LABOR MARKET WITHDRAWAL OF MALES 55-64 IN GERMANY, SWEDEN, AND THE UNITED STATES. OLS-ESTIMATES.

| | MODEL I | | |
|---|---|---|---|
| | Germany (1966-86) | Sweden (1964-87) | United States (1961-86) |
| | (t-statistics in parentheses) | | |
| constant | 87.214 | 88.025 | 85.949 |
| | (95.36) | (62.11) | (39.45) |
| Unemployment | -2.215 | -1.373 | -0.492 |
| | (-11.16) | (-2.11) | (-0.85) |
| Industrial Job-losses | -0.005 | -0.021 | 0.000 |
| | (-2.83) | (-1.14) | ( 0.06) |
| Legislation Dummy | -8.310 | -9.236 | -11.886 |
| | (-6.64) | (-8.03) | (-9.84) |
| R squared (adjusted) | 0.949 | 0.799 | 0.809 |
| Durbin-Watson | 1.400 | 1.105 | 0.563 |
| N | 21 | 24 | 26 |

Source: WEEP Data Files

The "basic" model in Table 2 does not perform very well, except perhaps for Germany where autocorrelation is modest, where heteroscedasticity is not a problem, and where the main explanatory variables are strongly significant. For Germany, unemployment is by far the strongest determinant of exit, accounting for 55 percent of the total variance (the legislation dummy accounts for 33 percent).[15]

This supports our argument that, in Germany, the "pull" effects and, especially, the "push" effects are crucial. For Sweden and the United States, the basic model is essentially mis-specified. The only variable of real significance is the legislation dummy which, in Sweden explains 72 percent of the variance and, in the United States, a full 91 percent. But, in both cases, the model is heavily autocorrelated.

In Table 3, we test the interactive Model 2 as described above. The question is whether the combined, multiplicative effect of unemployment and the legislation dummy captures better the trend in declining participation. This is what we would expect to happen for Germany, since it is in this regime that we argue that labor market push-effects and legislation went hand-in-hand to clear labor markets of older workers. Our case would be especially strong were it to emerge that the inclusion of the interaction variable does not annull the independent effect of unemployment. For the two other countries, there is no reason to believe that the interaction term will fundamentally alter the previous model.

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15. The IAS program routinely provides the standardized beta coefficient. For space reasons, these were omitted in the tables.

TABLE 3. PUSH AND PULL FACTORS, AND THEIR INTERACTION, IN THE LONG-RUN TREND TOWARDS EARLY EXIT AMONG MALES, 55-64. OLS-ESTIMATES FOR GERMANY, SWEDEN AND THE UNITED STATES

| | MODEL II (t-statistics in parentheses) | | |
|---|---|---|---|
| | Germany (1966-86) | Sweden (1964-87) | United States (1961-86) |
| constant | 83.468<br>(46.37) | 87.144<br>(30.54) | 81.362<br>(35.77) |
| Unemployment | 0.241<br>( 0.23) | -0.897<br>(-0.60) | 0.933<br>( 1.45) |
| Jobloss | -0.003<br>(-1.82) | -0.019<br>(-0.91) | -0.000<br>( 0.66) |
| Legislation Dummy | -3.836<br>(-1.73) | -7.969<br>(-2.14) | -0.907<br>(-0.26) |
| Interaction of Unemployment and Legislation | -2.550<br>(-2.33) | -0.616<br>(-0.36) | -3.057<br>(-3.32) |
| R squared (adjusted) | 0.959 | 0.790 | 0.869 |
| Durbin-Watson | 1.438 | 1.032 | 0.772 |
| N | 21 | 24 | 26 |

Source: WEEP Data Files

For Sweden and the United States, the inclusion of the interaction term does not improve upon the initial model. In both cases, the model-fit is considerably worsened as indicated by the poor performance of the Durbin-Watson statistic. But, for Germany the interaction model gives support to our hypothesis. The model-fit has improved, and the interaction variable is significant. But, contrary to expectations, the independent effect of unemployment disappears. In brief, the exit of older men in Germany appears to be a function of "push" and "pull" factors operating in synchrony.

In Table 4, we present a test of Model 3. The inclusion of the (T-1) lagged dependent variable on the right-hand side serves to identify the degree to which the trend in early retirement is, so to speak, autonomously driven. If we find strong significant effects of the lagged participation variable, and if it obliterates the independent effect of the alternative push- and pull-variables, our conclusion would have to be that early exit is a trend autonomous from either labor market or legislative forces. This is especially what we would anticipate to be the case for Sweden, and (to a lesser degree, and for different reasons) the United States. For Germany, our thesis would be seriously weakened if the lagged participation variable cancels out the independent effect of the "push" and "pull" variables, the former in particular.

TABLE 4. PUSH AND PULL FACTORS IN THE LONG-RUN TREND TOWARDS EARLY EXIT AMONG MALES, 55-64. OLS-ESTIMATES FOR GERMANY, SWEDEN AND THE UNITED STATES.

| | MODEL III (t-statistics in parentheses) | | |
|---|---|---|---|
| | Germany | Sweden | United States |
| constant | 27.166<br>(2.05) | 9.780<br>( 0.96) | 4.264<br>( 1.18) |
| Unemployment | -0.800<br>(-2.35) | 0.151<br>( 0.37) | -0.047<br>(-0.37) |
| Jobloss | 0.001<br>( 0.29) | -0.008<br>(-0.79) | -0.000<br>(-0.05) |
| Legislation Dummy | -2.245<br>(-1.41) | -1.322<br>(-1.02) | -0.976<br>(-1.93) |
| Participation rates, lagged (t-1) | 0.681<br>( 4.53) | 0.874<br>(6.87) | 0.944<br>(22.97) |
| R squared (adjusted) | 0.974 | 0.939 | 0.993 |
| Durbin-Watson | 1.524 | 2.217 | 1.565 |
| N | 20 | 23 | 25 |

Examining Table 4, it is, of course, no great surprise that we eliminate previous autocorrelation problems with the inclusion of the lagged dependent variable. In this model, also, all three nation-tests are free of heteroscedasticity problems. What is considerably more interesting is the effects it has on the overall parameter structure. For Germany, model 3 essentially confirms our argument. Although the lagged participation variable of course is significant (as one would expect), the independent effect of unemployment remains strong and significant; the legislation variable is close to significance. For Germany, then, the push-effect dominates, but the pull-effect cannot be disregarded. Alone, the unemployment variable now accounts for 24 percent of the total variance explained; the legislation dummy, 11 percent.

The results are also consistent with our argument for Sweden. Early retirement there is neither driven by push, nor pull-effects; the strong and significant effect of the lagged participation variable suggests that, in Sweden, early retirement is an independently generated trend. Finally, for the United States, the story is quite parallell to the Swedish. Alone, the lagged participation variable alone accounts for 92 percent of the total variance explained; unemployment plays no role, whatsoever, and only the legislation dummy approaches statistical significance. This contradicts our expectations, since we would have anticipated that unemployment (push) should have been stronger than legislation (pull). It is evident that American early retirement has been driven by neither labor market reasons, nor by the lure of pension benefits. The "push" effect that we anticipated to have some influence in the

United States does not exist, at least at the level of aggregate trends.

So far, our analyses confirm the presence of basic structural differences in the three nations' early retirement behavior. Only in Germany do we detect a clear "push" effect, mediated by legislation. We should, however, note that our time-series bridge two distinct epochs: the pre-1970's period of dynamic growth, full employment and labor shortages, and the post-1973/74 period of stagnation and unemployment. By chance, our legislation dummies tend to coincide with the division of these epochs; in all three countries, the major early retirement reforms or improvements occurred around 1972-75. In this sense, the previously found effects of the legislation dummy variable may, in fact, also have been picking up a break in economic performance.

It is clearly vital to distinguish between the pre- and post-crisis epochs, especially if we wish to isolate the "push"-effect. It is not very likely that the economies, the German included, exerted much of a push to rid themselves of older workers in the period of a full-employment boom.

To more directly identify whether different causal logics operate in the former, as opposed to latter, period, we have tested for structural breaks in the data, using the CUSUM test for regression constancy. For Germany, there is a clear structural break beginning around 1974, indicating the presence of two distinct regimes: 1965-1972, and 1975-1986, with the years 1972-73 acting as transition years, so to speak. For the United States and Sweden, we can similarly identify structural breaks; in Sweden, the two regimes are 1964-1975, and 1975-87; in

the United States, 1961-1972/73, and 1973-1986. For all purposes, the CUSUM test has identified the shift from economic growth- to stagnation very well.

Table 5 presents analyses on the basis of model 3 for the two seperated periods. We ommit the social legislation dummy variable due to its coincidence with the regime changes. What we expect, of course, is that the push-effects should operate much more powerfully in the second period, since it is here that the countries experienced rising unemployment, stagnation and major industrial rationalization. Concisely, we expect that the push-effect emerges more powerfully for Germany, that it remains insignificant for Sweden, and that it plays a modest, but significant role in the United States.

TABLE 5. THE STRUCTURE OF EARLY EXIT IN THE PERIOD OF GROWTH AND IN THE PERIOD OF ECONOMIC DECLINE. OLS-ESTIMATES FOR GERMANY, SWEDEN AND THE UNITED STATES.
(t-statistics in parentheses)

| | Germany | | Sweden | | United States | |
|---|---|---|---|---|---|---|
| Period: | 1 | 2 | 1 | 2 | 1 | 2 |
| constant | 2.560 | 28.900 | 6.056 | -1.750 | -22.170 | -5.525 |
| | (0.21) | (1.91) | (0.37) | (0.10) | (1.86) | (1.30) |
| unemployment | 0.544 | -0.973 | -0.647 | 0.372 | -0.387 | -0.090 |
| | (0.58) | (-2.46) | (-0.64) | (0.68) | (-1.75) | (-0.46) |
| Industry jobloss | 0.001 | 0.003 | -0.021 | 0.013 | 0.000 | 0.000 |
| | (0.37) | (1.24) | (-1.36) | (0.73) | (0.96) | (0.17) |
| Participation (t-1) | 0.944 | 0.641 | 0.935 | 1.005 | 1.270 | 0.916 |
| | (6.06) | (3.31) | (4.91) | (4.47) | (8.69) | (17.95) |
| R squared (adjusted) | 0.897 | 0.968 | 0.694 | 0.802 | 0.914 | 0.977 |
| Durbin-Watson | 3.004 | 2.066 | 2.024 | 2.363 | 2.470 | 1.776 |

Source: WEEP Data Files

Our conclusions regarding the first time-period must be considerably hedged given that we have so few degrees of freedom. Beginning with Germany, we see from Table 5 that the model for the growth period (period 1:1966-72) performs poorly with regard to autocorrelation, but this aside, it indicates a complete absence of push-factors in early retirement behavior. In this pre-crisis period, Germany more or less behaves like Sweden. It is clearly in the second, post-1973 period in which push-factors come to the fore. The unemployment variable is significant and the jobloss variable, albeit insignificant, has become stronger. The model for the post-1973 period provides a very good fit, as indicated by the increased variance explained and the complete absence of autocorrelation or heterescedasticity problems.

For Sweden, the model is robust for both periods, but it is also evident that the underlying logic does not change at all from one period to the next. The only variable with explanatory power is the lagged participation rate. Hence, we may fairly safely conclude that even during the more troublesome period of economic crisis, early retirement in Sweden was not moved by push-factors.

The results for the United States come as somewhat of a surprise. The model is robust for both periods, and in both cases shows results parallel to the Swedish case, that is, early retirement is largely a self-generated autonomous process happening independently of labor market constraints. The effect of unemployment is insignificant in both periods. Hence, the early retirement trend after 1973 appears to have nothing to do with the deterioration of the economy.

## INDUSTRIAL RESTRUCTURATION AND EARLY RETIREMENT

If, indeed, early retirement has been the mid-wife of industrial rationalization and restructuration, be it via push- or pull- mechanisms, it should be evident in the age composition of the industrial labor force. There are two scenarios possible. Firstly, in the optimistic version usually espoused by the trade unions, the mass-exit of older workers should open the gates for youth entry. In this scenario, we should find that the proportion of young workers has increased while that of older workers has decreased. In the second, more cynical scenario, companies had set their eyes solely on slimming their workforce of the less productive (and generally more costly) older workers. In this case, the gates were not opened to youth, and the result should be that the proportion of aged declines with no increase among the young. The cynical scenario comes closest to what we would expect in Germany.

One can approach the question in a number of different ways. Clearly the most appropriate test would be to analyze over-time data at the micro-level of firms. A second approach is that of Jacobs, Kohli and Rein (op.cit). In the present study, we shall offer only suggestive data on the changing age distribution in manufacturing industries.

In Table 6, we present data on the age structuration of manufacturing industries in the three countries for 1970, i.e. prior to the period of economic upheaval and

accelerated early retirement, and for the latest year available (1980 for Sweden; 1985 for the United States; and 1986 for Germany). As an index of age-specific over-/under-representation, we give the percentage point deviation for each age group relative to its proportion in the total working-age population.

TABLE 6. THE AGE STRUCTURE OF MALES IN MANUFACTURING INDUSTRIES IN GERMANY, SWEDEN, AND THE UNITED STATES. PERCENTAGE POINT OVER/UNDER-REPRESENTATION RELATIVE TO PROPORTION IN TOTAL POPULATION.

| | Germany | | Sweden | | United States | |
|---|---|---|---|---|---|---|
| Age: | 15-24 | 55-64 | 15-24 | 55-64 | 15-24 | 55-64 |
| Year: | | | | | | |
| 1970 | +2.8 | +4.0 | +0.9 | +6.5 | +3.9 | +5.1 |
| 1980s | +2.8 | -1.1 | +1.9 | +3.1 | +3.8 | +3.1 |
| Change | 0.0 | -5.1 | +1.0 | -3.4 | -0.1 | -2.0 |

Table 6 helps illucidate two important questions. Firstly, it illustrates the degree to which trends in early retirement of older workers has gone hand-in-hand with recasting the age-profile of the (male) industrial workforce. It is clear that manufacturing industry used to be markedly over-represented by elderly workers, and this has declined. That manufacturing has been biased in favor of older men is, as such, no surprise. By and large, these are industries that emerged and grew in the immediate postwar years, and which recruited a labor force which, by the 1970's, would tend to be quite aged.

As would have been expected the decline in aged male over-representation is most dramatic in Germany where, indeed, older males now are relatively under-represented. The decline in Sweden and the United States is far less marked.

The second lesson from Table 6 is that the reduction of older workers hardly produces a major influx of youth. Hence, using early retirement as a strategy for generating youth jobs has not been very rewarding, as most experience has also shown. Instead, it seems evident that where early retirement has been utilized for economic reasons, the aim -- and result -- has primarily been to slim the existing workforce at the cost of its oldest and least productive manpower.

## CONCLUSION

This study has sought to examine how demographically specific age groups have become tools for labor market management during the past twenty years. All three countries have passed legislation to help facilitate early retirement. Our objective has been to identify the

conditions under which such programs played the role of active instruments in clearing labor markets and accelerating industrial rationalization.

In address to the existing literature on the subject, we have argued that the trend towards early labor market withdrawal must be understood in the nexus of welfare state policies and labor markets. Hence, we arrived at three divergent hypotheses to explain the trend in Germany, Sweden, and the United States.

Our econometric analyses generally confirm our expectations for the three cases. In Germany, social legislation made early retirement both feasible and attractive in its own right. However, what was decisive for Germany was the concommitant lack of employment growth, and the absence of public programs to provide alternative employment possibilities for elderly workers. It is in this context that early retirement emerged as one of the few means of managing both labor markets and industrial renewal. Our interaction-model as well as the seperate analyses of the post-1973 period strongly confirm this argument.

In Sweden, also, social legislation made early retirement an attractive option; yet, the insertion of the welfare state in the Swedish labor market is such that the individual prospective early retiree faces more options, among which the ability to remain employed is the most important. It is in this context that we may understand the very modest Swedish trend towards early retirement and, above all, the absence of any "push" factors.

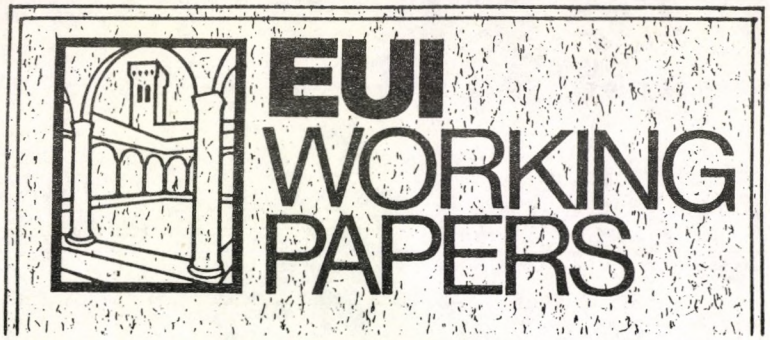
Finally, in the United States social legislation has offered the, comparatively speaking, least attractive incentives to opt for early retirement. We believed,

however, that the absence of Swedish-style welfare state alternatives would mean that older workers would opt for early retirement when push-factors such as unemployment and industrial joblosses emerged. Yet, this scenario does not fit well with the American experience. It is, instead, overwhelmingly the case that early labor market exit in the United States parallels the Swedish profile; i.e. a largely self-generated process, not observably related to either push- or pull-effects. This, somewhat unanticipated result can certainly not be explained by active government intervention, but must rather be traced to a double circumstance. Firstly, a strong keynesean growth effect in the American economy went in tandem with the process of industrial rationalization in the 1980's; hence, the United States remained capable of an immense job-growth if, perhaps, predominantly in poorly paid jobs. Secondly, job-security in the primary sector of the U.S. economy is quite pervasive and strong, meaning that the lay-off or unemployment risk for large parts of the elderly male labor force is lessened. Our analyses suggest that the older worker has not born the brunt of economic restructuration in the United States. It is possible that other demographic groups have.

APPENDIX: SUMMARY STATISTICS FOR VARIABLES INCLUDED IN THE STUDY

| | Mean | S.D. | Max. Value | Min. Value |
|---|---|---|---|---|
| Sweden (1964-87) | | | | |
| -participation | 80.6 | 5.6 | 89.2 | 73.1 |
| -Unemployment | 2.2 | 0.9 | 4.2 | 0.9 |
| -Job-loss/gain | -8.5 | 28.8 | 58.0 | -53.0 |
| Germany (1966-86) | | | | |
| -participation | 72.8 | 9.1 | 86.7 | 57.5 |
| -Unemployment | 4.1 | 2.8 | 9.9 | 0.8 |
| -Job-loss/gain | -117.4 | 287.3 | 407.0 | -768.0 |
| United States (1961-86) | | | | |
| -participation | 77.8 | 6.7 | 87.3 | 66.5 |
| -unemployment | 3.6 | 1.1 | 6.1 | 1.8 |
| -Job-loss/gain | 275.8 | 908.2 | 1639.0 | -1933.0 |

Note: participation and unemployment data refer to males, aged 55-64. Job-loss/gains are annual totals (in thousands).
Source: WEEP Data Files.

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