[DRAFT]

Danish “Flexicurity”: Are the Secure Flexible and the Flexible, Secure?

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In recent years the Danish labor market has become internationally famed for its so-called “flexicurity” model. “Flexicurity” refers to a system that combines flexible hiring and firing rules for employers and a system of income security for workers. Many observers have taken this as a model conducive to job creation, structural change, and growth, and the fact that Denmark has a low unemployment rate, by international standards, is taken by some as evidence of the virtues of this model. The flexicurity model has attracted a lot of attention among policy makers in Europe and abroad because it suggests that a flexible system of hiring and firing can coexist with a generous benefit system and even produce relatively low unemployment numbers. This combination seems of course attractive for many European political leaders because their labor markets are characterized by highly inflexible labor markets with labor protection legislation that makes it difficult to make adjustments to the demand for labor at work place level, high unemployment especially among youth, and relatively low growth.

But are the secure really flexible? If so, how can this be measured? Few have explored the microeconomics of the Danish

labor-market system. Since, depending on various factors, not all workers are equally “secure,” these disparities afford us an opportunity to describe the system and analyze its microeconomic aspects.

{A}Features of the Flexicurity Model{/A}

There is no doubt that the Danish labor-market model has some attractive features. A number of recent papers have given reasonable and balanced descriptions of how the model works, but they have tended to emphasize different aspects and levels of the policy. Thus, Andersen and Svarer (2007) give a macro- and micropolicy evaluation of labor-market policy in Denmark in recent years, including the flexicurity model. Their main conclusion is that the Danish experience is a product of a historic process and therefore the Danish model cannot be exported. Westergaard-Nielsen (2008) follows a similar line of reasoning but with an emphasis on low-wage workers. He also argues, that a long-standing environment of trust between the social partners together with the decentralisation of the wage-negotiation process since 1993 may have had a significant impact on the successful profile of the Danish labor market since 1995.

Jianping Zhou (2007) surveyed nineteen countries to identify the key features of the flexicurity model:employment protection legislation; wage flexibility; generous unemployment benefits; duration of benefits; active labor-market policies (education and training); enforcement of the labor market policies; tax wedge; the high total public spending on labor-market programs; business cycles

Explaining unemployment in a model specification, as in Blanchard and Wolfer (2000)Zhou gets significant negative effects to expenditure on job training and education or active labor-market policy (ALMP),and benefit duration, and positive effects to replacement ratio and union density. Subsequent simulations show that increasing the spending on ALMP to the

Danish level reduces the unemployment rate, but the process is very slow and the costs with respect to the tax wedge are high. Zhou (2007) and Blanchard and Wolf (2000) suggest that Danish context and history have led to Denmark's positive results with flexicurity.

Recently, Robert Kuttner (2008), interviewed key labor-market policy players in Denmark and wrote a well-balanced description of the Danish system and of why and how it developed. Specifically he compares the U.S. labor market to the Danish and asks whether the Danish model is exportable to the United States. He points to the Danish investment in the workforce as a strategy for attaining greater competitiveness, equality, and security--a tradition that cannot be understood outside the context of the long history of cooperation between labor and management at the floor level in Denmark. He also admits that the Danish case has a huge element of what historians call *path dependence*, meaning that the present situation is a result of the path taken in the past. One aspect of this path has been the development of strong social solidarity.

Low exportability is also one of themes in Jørgensen and Madsen (2007). They also note that the Danish success story is not the result of a planned process.

A common theme in all of this literature is that some caution should be exercised when we interpret the virtues of the flexicurity model (see, e.g., Andersen and Svarer 2006).

Our intention here is to review the mechanisms in the Danish labor-market models, in particular, how they affect individuals' job-seeking decisions and behavior and , by comparing the behavior of workers in terms of whether they are covered or not members of the Danish unemployment insurance system. After all, the behavior of individuals is what determines the success, failure, and sustainability of the model.

It may be premature to say that the flexicurity model is responsible for the upswing in the Danish economy in the mid-1990s and the subsequent reduction in unemployment. The features of flexicurity had been basically unchanged over several decades and were therefore also in place from the mid-1970s to the early-1990s, a period in which Denmark experienced double-digit unemployment rates. The main changes to the system made over this period were the introduction of the active orientation of labor-market policies during the 1990s---including, in particular, a shorter period of eligibility for unemployment benefits---and the activation policy **(**described later; see also Andersen and Svarer 2007). Moreover, despite the reduction in the official unemployment rate, there has not been a corresponding fall in the number of persons who are dependent on public transfers (see Andersen et al, 2006). Consequently, the "road back to a job" has not been sufficiently strong, and the fact is that a substantial number of people have difficulty finding new employment if they lose their jobs (Ibsen and Westergaard-Nielsen 2005).

There may of course be other explanations for the current positive conditions in Denmark, including the decentralization of wage negotiations and the close cooperation between employers and local trade union representatives. Equally important and positive is a general sense of mutual trust in the workplace. The recent strong showing of the Danish system could also stem from the fact that unemployment benefits are administered less leniently now than in the past (see Andersen and Svarer 2007). And finally, it should be mentioned that the business cycles have been relatively advantageous in the years since 1995.

Irrespective of these critical factors, however, the interesting point is that the Danish combination of U.S.-style flexibility with an extended welfare model can actually produce a relatively efficient labor market, as measured by the per capita growth in GDP and the rate of unemployment.

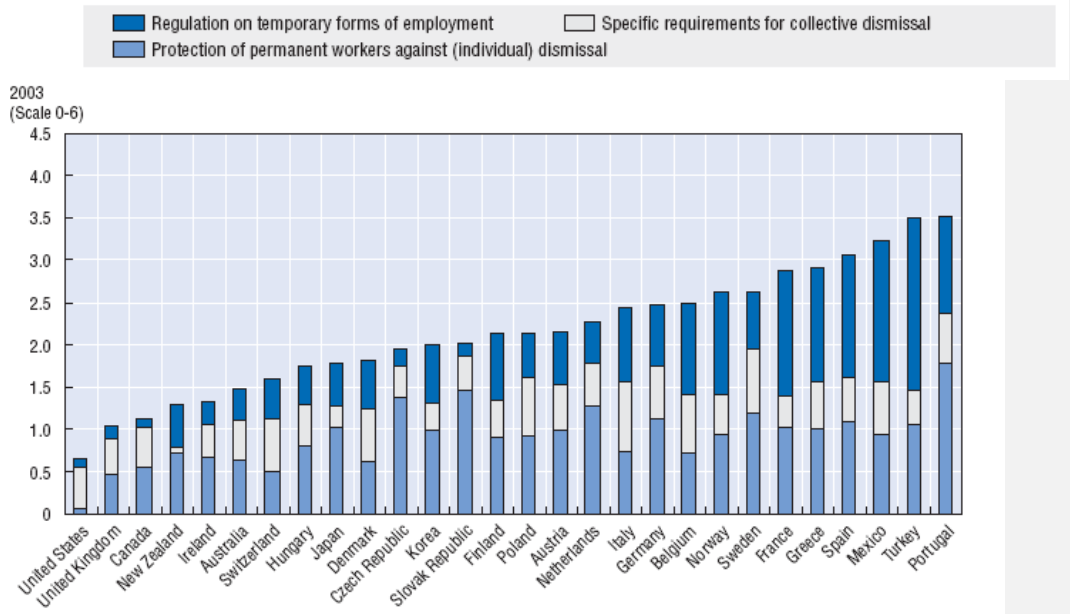
The foundation of flexicurity is a system with relatively low employment protection. Most blue-collar workers can be laid off on very short notice, the actual rules depending on the specific labor-market contract. In some occupations, white-collar workers and salaried employees are legally guaranteed a certain period of notice in case of layoffs according to their tenure in the position (one month per year of employment, up to a maximum of nine months after nine years of employment). There is no similar law for blue-collar workers---in fact, some unions have included shorter notice periods as part of the contract. This short or nonexistent notice has been widely accepted among unions and legislators because it creates a flexible labor market that allows for the most efficient use of labor. For the trade unions and their members the compensation is probably the relatively high unemployment insurance benefit and the fact that such benefits are readily available (this is one of the main explanatory elements in Zhou 2007). This is probably also the justification for the greater legal protection of white-collar and salaried workers: they get a relatively lower unemployment benefit in relation to their higher salaries, and presumably it takes somewhat longer for a white-collar worker to find a new job.

Figure 1 describes how OECD evaluates the strictness of Employment Protection Legislation (EPL). They use a scale from 1 to 6 and distinguish between individual dismissals, collective dismissals and temporary employment. The most relevant measure is probably the EPL strictness of individual dismissal. Thus, it is obvious that worker protection is much looser in Denmark than in the rest of Europe (with the exception of Switzerland) and in some ways is more comparable to the U.S. situation, but the income replacement system is much more generous in Denmark than in the United States.

One of the immediate costs of low employment protection is undoubtedly higher turnover---the number of people who change or leave jobs per year. In Denmark the annual average employment

turnover is 27 percent meaning that on average 27% of all employees will not be at the same work place the following year. (Ibsen and Westergaard-Nielsen 2005). Turnover in Denmark is in general of the same magnitude as in the United States, but Danish social institutions are far more accommodating the higher employment turnover than the analogous American ones. First and foremost, in Denmark, health insurance is independent of the workplace, since health costs are almost all covered by the state. Vacation pay and pension costs are also independent of the employer. Finally, the unemployment benefit provides a much better safety net if a person cannot find a new job immediately.

Figure 1. Overall Strictness of EPL in OECD member states



Source: OECD, Economic Outlook 2004

Turnover is somewhat higher for young people and especially for people with less than two years of employment, and turnover is in particular high among the newest hires. In fact, the probability of staying on for another five years is 50 percent if you already have five years' tenure (Eriksson and

Westergaard-Nielsen 2007). Turnover does not differ much across occupational groups. Furthermore, changes in employment have been found to be closely related to wage growth. For instance, Bingley and Westergaard-Nielsen (2003) found that about one-third of all accumulated wage growth for a fity-year-old employee since the beginning of his or her career has come about in connection with a change of employer. More interesting still is that mobility out of low-wage jobs is also found to be high (see Westergaard-Nielsen 2008). Finally, it should be mentioned that workers also use the UI system to cover many short spells of unemployment, where some of them are classified as temporary layoffs, technically defined as the case where a person returns to the same employer and workplace after a period of unemployment[1]. The cost of this is that the number of hours actually worked becomes relatively low in Denmark.[2]

Thus, on the one hand it looks as though young people tend to carry the immediate burden of a high job turnover of the liberal job protection policies. On the other hand, these liberal job protection policiesy is probably also one of the reasons why youth unemployment is as low as 3 percent instead of the more than 20 percent reported in many EU countries.

Of course, there are other reasons for high youth employment in Denmark, the most important being the Danish apprentice system , which probably explains the gap between it and the higher unemployment rate among young people in the United States. But one may conclude that higher employment flexibility (and higher turnover) in Denmark do not lead to higher unemployment. Interestingly enough, they also lessen concern about job security relative to Great Britain, which also

[1] Temporary lay offs are described in Jensen and Westergaard-Nielsen, 1990.

2. Up to 1996, the average number of hours actually worked per week was between twenty-five and thirty-two for the five lowest income deciles for full-time employed men, compared to full-time, which at that time was forty weekly hours (Westergaard-Nielsen 1999).

has a high worker turnover (Kristensen and Westergaard-Nielsen 2006).

{A}The Danish Unemployment Insurance Program{/A}
Since the Danish unemployment insurance model is an essential part of the flexicurity system, we will give a brief introduction to the system.

The unemployment benefit system is still partly organized according to “Bismarckian principles,” which means that workers can voluntarily choose to join one of more than thirty different unemployment insurance funds, according to their occupation. Eligibility for unemployment benefits is conditional on the person’s having held a job for at least one year and of membership for the same period. The formula for calculating daily UI is (the wage in the last 65 of days – 8%)*90%/65, up to a maximum monthly payment of 1,800€. Unemployment benefits are taxed, but the effective rate is lower for the unemployed because a special 8 percent tax on all work income does not apply to unemployment benefits. Similarly, this tax is actually deducted from the wage in the formula for the UI. Thus, low-wage workers have a replacement ratio of 90 percent whereas the replacement ratio is lower for higher-income earners.) Together, the high replacement ratio and the asymmetric tax treatment create a disincentive for low-wage workers to go back to work, as they earn little by working compared to being unemployed. It has been demonstrated that 23 percent of all employed women and 12 percent of all employed men actually earn 80€ or less per week by working relative to what they would have received as an unemployment benefit (see Smith 1998).

Laid-off workers are entitled to unemployment benefits from the third day of unemployment, for one year, without any other obligations than seeking work. The employer who lays off an employee is by law obliged to pay for the first two days of unemployment, but surveys show that this only happens in about

half of all cases. [3] Consequently, there is a small element of experience rating in the Danish system. After one year of unemployment, the UI recipient has to take part in an active labor-market policy program (ALMP)---an individualized education or training plan.

{B}The Active Labor-Market Policy Program (ALMP){/B}

ALMP is believed to be a vital part of the Danish Labor-market system and of the "flexicurity" system because it provides training for those separating from a job. Some even call it a part of the "golden triangle": job, unemployment, and a new job (Madsen 2004). The obvious rationale behind spending money on ALMP is to train an unemployed person and and upgrade their skills so that they can return to a higher-level job with more training and higher potential productivity. But it has been hard to prove that ALMP has had any positive effects on either the earnings of the participants or the probability of their reemployment. One reason for this is the so-called "locking-in effect" of the ALMP activity, where the outside options for a worker become more narrow because of the training (see Andersen and Svarer 2007; for this effect observed elsewhere, see Heckman et al. 1999). Countering this evidence, —it has recently been shown that ALMP programs exert a "threat effect" such that the unemployed tend to find a job themselves just before they have to start on an ALMP program (Rosholm and Svarer 2004; Geerdsen 2006).

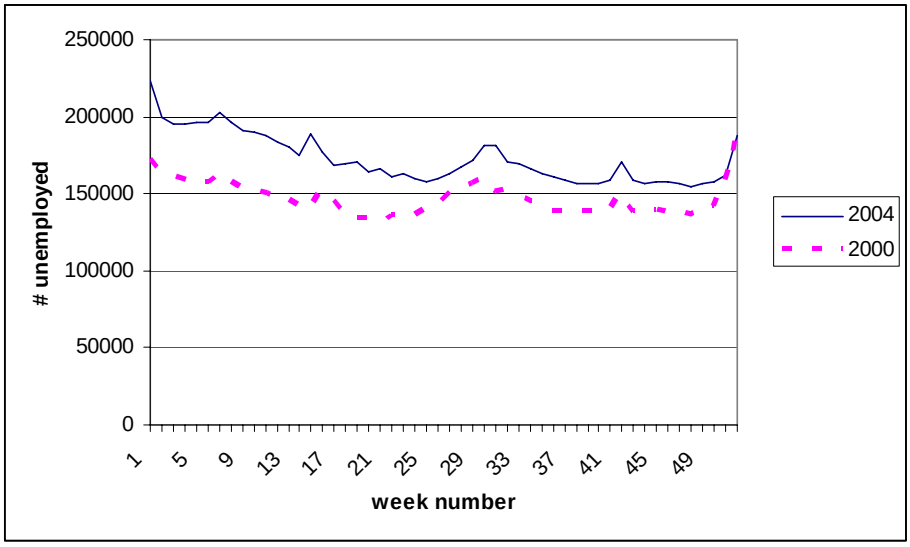
Since the period 1989 to 1995, one of high unemployment, the rules for UI have been changed only marginally, with a few exceptions for some groups. One exception is the so called "youth package (Jensen et al. 2003), introduced in 1996, whereby youths up to the age of twenty-five could only obtain unemployment benefit for a half-year period. After that, youths

3. Employer-paid compensation for one day was introduced in January 1989, and for the second day, in July 1993.

without any vocational training had to undertake vocational training while receiving a subsidy equal to approximately 50 percent of UI benefits. Failing this they would lose their benefits altogether. Youths who already had vocational training were obliged to take part in an activation program. In 2008 early activation was extended to those twenty-five to thirty.

A high replacement ratio coupled with the fact that there is almost no experience rating for either employer or worker suggest that there are many short spells of unemployment---and indeed there are: even in years of low unemployment, more than 20 percent of all wage earners experience at least one spell of unemployment. A significant proportion of these are concentrated around Christmas and the New Year and other holidays and have the character of temporary layoffs, where the worker returns to his previous employer after a period of unemployment. As a result, low-pay workers' total working hours are about 80 percent of the figure for average total hours given earlier. Still, it is important to note that short-term unemployment is not limited to low-wage earners. In figure 2, spikes of unemployment of otherwise full-time workers all coincide with school vacations: New Year, spring vacation, Easter, summer vacation, fall vacation; and Christmas vacation.

Figure 2. Seasonal Unemployment of Full-Time-Equivalent Persons, 2000 and 2004 (by Week)



Source: own calculations on IDA.

{B} UI Membership{/B}

The UI system is financed by an annual membership fee paid by workers, but this doesn't cover the cost of the system, and the state pays the deficit. Membership of the UI system goes hand in hand with membership of trade unions because membership in both is offered as one package at many workplaces. About 80 percent of the labor ~~force are~~force is member~~s~~ of the UI system and about 85 percent are members of trade unions. These two fees add up to about 2,000€ a year ($3,000), about 8 percent of a low-wage income before tax, of which the membership fee for UI is about two-thirds. Thus, there is little doubt that the UI system is partly responsible for trade union membership rates' remaining at almost 80 percent of the labor force (see Neumann et al. 1992).

Both union and UI membership fees are tax deductible. The relatively high fees mean that some low-wage workers choose not to be members of a UI fund. Eriksson and Li (2008) showed that few Danish hotel workers are members of the UI system, probably because many only work in the hotel sector briefly and find it either unnecessary or too expensive to become members. This is

probably also the case in other seasonal or temporary occupations.

Those who are not members of the UI system can get unemployment benefits, but only after means testing of the household's income and wealth. Thus, you cannot own property (not a limitation in the UI system). And the income of your spouse will in most cases prevent you from receiving benefits. Thus, there is a distinct incentive to become a member if you have a spouse earning more than minimum wage if you own your own apartment or house.

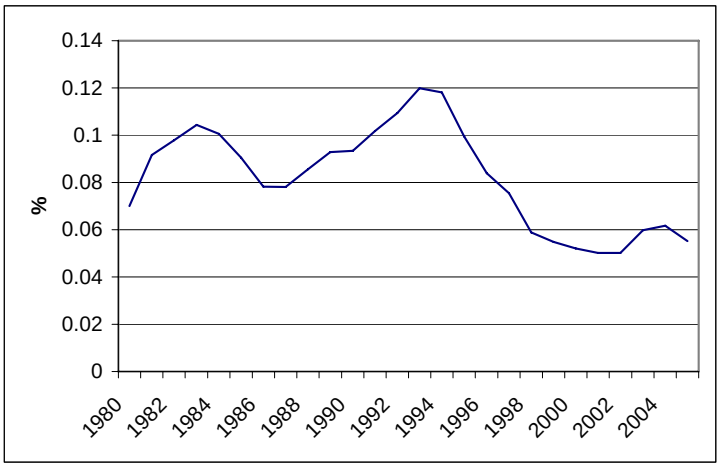
{A}Unemployment in Denmark{/A}

Denmark's unemployment rate generally increased throughout the 1970s and 1980s, with a few brief periods of lower rates. At its highest, in 1993, the measured unemployment rate was almost 12 percent of the labor force. The year 1994 was a turning point of the economy: over the next four to five years, the rate of unemployment went down from 12 to 5 percent of the labor force, and the actual number of unemployed was reduced by almost 200,000; obviously employment rose by almost 200,000 (see figure 3). But the result was not a wash because the number of people in the potential labor force (those between eighteen and sixty-five years of age) also rose in that period, which blunted the reduction of the unemployment rate. A closer inspection of the statistics reveals that a substantial number of the unemployed in the labor force did not go directly into employment, but instead took up different types of labor-market policy activities in the period after their introduction in 1994 and that explains why that growth in employment did not match the reduction of unemployment.

The major macroeconomic reasons for the improvement in employment figures undoubtedly were a fortunate combination of domestic fiscal policies and economic growth in Europe generally. Furthermore, the fall of the Iron Curtain meant increased demand from Germany in the aftermath of the

reunification. For years, the balance of payments had been the constraining factor in fiscal policy. The positive development of Danish oil production beginning in the mid-nineties, along with the reduction of international interest rates, laid a solid foundation for balance-of-payment surpluses in subsequent years, and since this change gave more room to ~~maneuver~~manoeuvre. Rising incomes and thus taxes made it possible to start reducing the public debt, with the result that it became relatively easy to comply with the Maastricht criteria for joining the single European currency. Even though, after a referendum, Denmark decided not to move to the euro, the Danish Krone was pegged to the euro, and interest rates have also approached the euro interest rate, so the market clearly believed in a steady and firm relationship with the euro.

Figure 3. Unemployment as Percentage of the Labor Force, Counted as Full-Time-Equivalent Persons, 1980--2005.

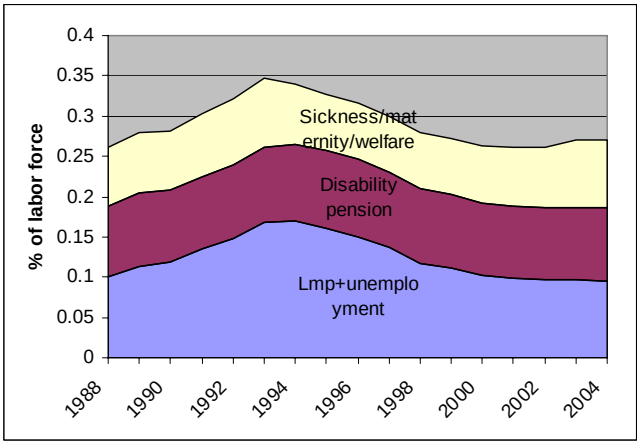


Source: StatBank, Statistics Denmark

Remarkably, the proportion of the population depending on labor market programs(LMP),sickness, welfare, and disability benefits seems to grow somewhat in years where unemployment goes down and the total costs of labor-market and related policies does not go fully down when business cycles improve (see figure

4). It is further remarkable that more than 25 percent of the labor force is receiving some sort of income transfer.[4] Both figures tell us that the total number of "welfare dependents" does not go down very much as unemployment goes down, because there was a clear tendency for people to take up other income transfers, such as sickness, disability, or welfare benefits, when they start to work again.

Figure 4. Proportion of the Labor Force (18 to 65 Years of Age) Depending on Income Transfer as Main Source of Income



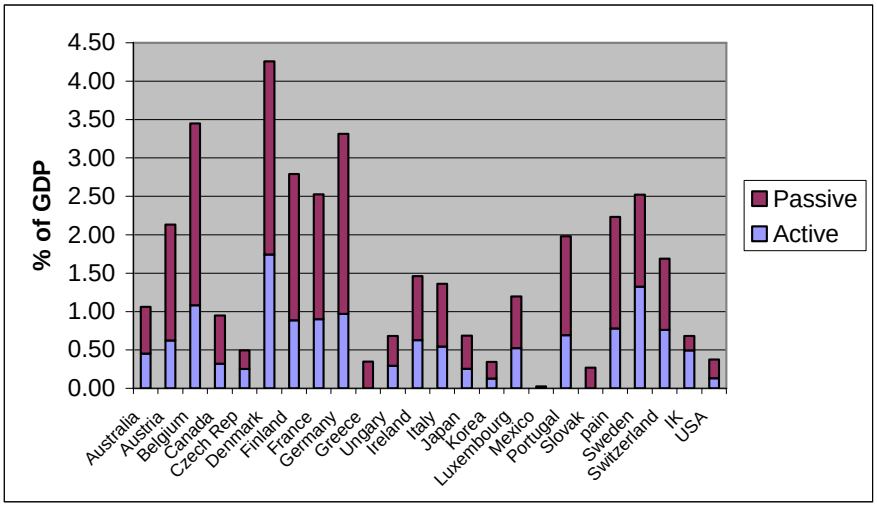
Source: StatBank, Statistics Denmark

This is one of the reasons why the costs of the Danish active labor-market policy are very high when compared to other countries. Thus, the Organisation for Economic Co-Operation and Development (2001 found that total Danish expenditure for labor; market policies was 5 percent of GDP in 1996, and in 2005 this

4. With the labor force participation rate of 80 percent, adding this 25 percent makes more than 100 percent. The reason for this arithmetic discrepancy is that by convention the number of people in the labor force is counted as heads irrespective of how much they work, and the statistics in this section count full-time equivalent persons.

figure was still almost 4.5 percent. Belgium and Germany are the only countries that approach Denmark (see figure 5).

Figure 5. Total Costs of Labor-Market Policies in OECD countries, 2005



Source: Organisation for Economic Co-Operation and Development (2007).

The OECD's statistics for Denmark (see table 1) show the breakdown of labor policy costs in Denmark. OECD rankings show that Denmark is the OECD champion in amount of resources used in most of the categories. Unemployment benefits are a heavy burden here, accounting for 1.83 percent of GDP even though Denmark's unemployment is among the lowest among the OECD countries. Costs for training and supported employment also score high. These high costs of course constitute one of the most critical aspects of the Danish labor market and raise doubts as to the sustainability of the country's labor policies. In the following, we will look at the micro data to see why so much unemployment benefit is used in this situation.

Table 1. Breakdown of Costs of Denmark's Labor-Market Policies in 2005, as Percentage of GDP and by OECD Ranking

		Denmark %	OECD rank rank order
1.	PES and administration	0.31	3
2.	Training	0.51	1
4.	Employment incentives	0.45	2
5.	Supported employment and rehal	0.48	1
6.	Direct job creation	-	
7.	Start-up incentives	-	
8.	Out-of-work income	1.83	3
	8.1. Full unemployment benefits	1.81	1
9.	Early retirement	0.68	1
TOTAL		4.26	1
of which	Active	1.74	1
	Passive measures (8-9)	2.51	1

Source: Source OECD, Organisation for Economic Co-Operation and Development.

Note: PES is public expenditures

{A}Individual Flexibility and Security{/A}

So how does flexicurity work for Individual workers? How does balancing flexibility and security work out for the individual employee? Clearly members of the UI funds feel more secure in searching for new employment than they would feel if they had no safety net. In a search model context, the existence of income security allows you to search longer for employment and you will have a higher reservation wage than if you didn't have UI. Thus it is to be expected that greater support of job seekers in Denmark than in other countries will result in the Danes' taking longer to find and accept new employment. --- Quite a few investigations do show that the Danes take longer to get a job than other Scandinavians whose systems are similar but are not as generous as the Danish system (see, e.g., Eriksson, Jensen, and Pedersen 1999).

UI membership also means that members and their employers can use the unemployment system to cover shorter layoff periods

with unemployment benefits in cases where the company doesn't have enough work. This is called temporary layoff, technically defined as the case where a person returns to the same employer and workplace after a period of unemployment. A similar situation occurs if the firm declares that it shuts down because of summer vacation but an employee cannot draw vacation pay because he has not been employed long enough. According to UI rules and most employment contracts such employees are eligible for UI. A worker who is not an eligible UI member may be eligible for welfare (full-time students, however, generally are not eligible for either welfare or UI).

We now turn to micro data in order to examine how the UI system affects different groups of workers. We systematically examine the data to answer the question of whether flexible workers are also secure, or whether proportionally more flexible workers are to be found among the uninsured. We also examine whether the insured or the uninsured work more hours.

{B}Data{/B}

We base our anayses on newly constructed data set in which the unit is the spell (period) of activity as employed, unemployed, public support etc. A new spell is registered every time the person changes activity. In this it differs from most other data sets, which use data “snapshots” gathered at given points in time but neglect what happens in between. The algorithm that makes these periods of working/nonworking is constructed from information on how many and which jobs a person has had during the year, and for how long. This is linked with weekly information about periods of unemployment. Thus we are using real-time information on the timing of periods of unemployment to anchor other less temporally precise employment information. Drawing also on further information from several registers in Statistics Denmark (Integrated Database for the Labor Market, or IDA, and the

Central Register for Labor Market Policy Measures, AMFORA) we are in a position to ascertain when a person changes from one employer to another, and whether there has been unemployment in between two periods of employment. Such data are clearly superior to data based on one annual snapshot of a person and otherwise ignoring what the person has done during the year. The first result of this new method is that for many individuals we find multiple periods of employment within a year, whereas the “old-fashioned” method gave us just one piece of data. Thus, the average number of periods of employment per year of those who had one or more periods of employment during a year is 1.5. We also found that among those who have left a job during the year many have up to five different jobs during that year. All of these periods of employment were overlooked using traditional collection methods.[5]

The size of the data set for data collected on a weekly basis is very large and demanding to construct, so we reduced the size of the total sample, to about 150,000. First, we made a random sample of 10 percent of the entire labor force, and we further limited sample size by including only people eighteen to fifty-nine years of age. In this way we excluded effects from old age and early-retirement pensions. Also, we included only the privately employed, because it is often difficult to identify a change of job within a public agency because of inconsistencies in the way the municipal sector defines a workplace. (Toward the end of this paper when we look at periods of employment we do include both publicly and privately employed irrespective of this problem.)

{B}How Often Do Danes Change Jobs?{/B}

5. Similar data were used in earlier studies by the Center for Labour Market and Social Research, but the new data sets build on a much improved algorithm and contain newer data.

Table 2 shows how we can follow the periods of employment for all privately employed between eighteen and fifty-nine years of age for every year since 1986. About 39 percent of them leave a job at least once in a calendar year. In our sample, 34 percent get new jobs, 2 percent leave the labor force, 10 percent are temporarily laid off, and about 12 percent becomes~~are as~~ unemployed. Labor Market Programs (LMP) takes a mere 1 percent. Those who leave a job do so on average 1.5 times within a calendar year. The numbers for 1999 are right-hand-censored because we do not know if a person who is unemployed in the last week of 1999 will become employed by the same employer in 2000 or if he will remain unemployed until he gets into an LMP. This means that conventional studies based on status once a year actually underestimate the true level of flexibility by a factor 1.5.

The improvement of the labor market is clearly seen in the increase in the proportion that get another job, and the reduction in the fraction that experience temporary layoff and unemployment. But notice that the total number of separations per separator (last column) only goes down marginally. The averages in the bottom of the table show the combined effects of policy changes and the improved macroeconomic conditions. The first change is the increase in the percentage finding another job. The next is the probability of being on temporary layoff. This falls for the first time in 1989, after the introduction of a first employer-paid day of unemployment compensation on January 1, and again in 1994 after the introduction of the second day of employer-paid compensation on July 1, 1993. When ALMP is introduced in 1994 they accounted for 1 percent of all spells of employment and rose to 2 percent of all spells of employment in 1995 and 1996. Then ALMP goes down to 1 percent again. Finally, the total number of spells of employment goes down for each person who separates from a job. By coincidence, the total reduction is similar to the reduction in the incidence of temporary lay-offs.

Table 2. Spells of Employment and Unemployment Among a 10 Percent Sample of All Privately Employed, 18 to 59 Years of Age

	employed private sector	of which with >= 1 separation	Another job	Out of the labor force	Temporary Layoff	Unemployment	LMP	Total number of Separations	Average Separations
Year	#				%				
1986	129815	32	26	2	11	10	0	50	1.6
1987	145760	40	37	2	15	13	0	66	1.7
1988	141782	41	37	2	16	14	0	69	1.7
1989	139793	39	34	2	11	13	0	61	1.6
1990	142740	39	33	2	11	13	0	60	1.5
1991	142865	41	35	2	11	13	0	61	1.5
1992	143955	39	32	2	11	14	0	59	1.5
1993	139849	40	31	3	12	14	0	60	1.5
1994	140158	38	33	3	9	12	1	58	1.5
1995	144636	39	35	3	8	11	2	58	1.5
1996	150387	38	34	3	9	10	2	57	1.5
1997	154368	36	33	3	7	9	1	54	1.5
1998	157947	38	35	3	8	9	1	56	1.5
1999	156254	39	40	0	5	9	1	55	1.4
Average									
1986-1994	140746	39	33	2	12	13	0	61	1.56
1995-1999	152718	38	36	2	7	10	1	56	1.47

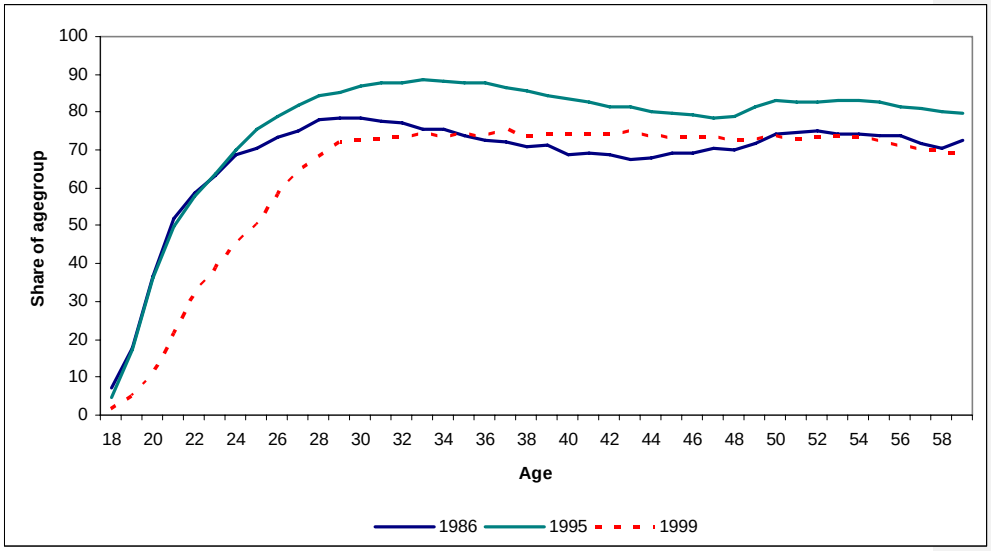
Source: Own estimates

{B}Who Are the Insured?{/B}

Of the 145,000 people in our sample, 113,000 are members of the unemployment insurance system and the balance, 32,000, are not. Who are the insured persons and how does their status influence their subsequent work histories?

The major determinant for being insured seems to be age (see figure 5). Young workers are insured at a very low rate, but the curve for insured rises steeply with age, and 70 to 80 percent of workers have become insured by the age of thirty. Undoubtedly the main reason for this is that young workers without family obligations are less risk-averse. The figure also shows that becoming insured seemed to be somewhat delayed in the latter years of the 1990s. The reason is most likely that the “youth package” introduced in 1996 made it much less favorable for young people under the age of twenty-five to be insured. We also see from the dotted red line (1999) that young workers are waiting for a longer time to become insured.

Figure 6. Age Profile of UI Membership, 1986, 1995, and 1999



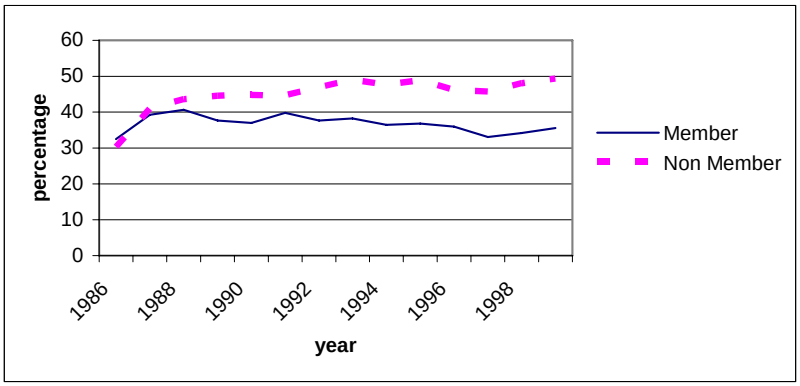
Source: own estimations

{B}Who are the flexible?{/B}

With the new data on spells of employment we are able to monitor the number of separations among UI members and non-members.

Figure 7 compares the flexibility of insured and uninsured workers. By flexibility we mean the number of separations per year for each person employed in the private sector.

Figure 7. Percentage of Separations Among UI Members and Nonmembers



Source: own estimates

Figure 7 shows that members and non-members had almost the same frequency of separations in the late 1980s, but that changes gradually, so that non-members tended to become more flexible and members tended to become slightly less flexible during the 1990s.

{B}What Happens to Flexible Workers After Separation?{/B}

We will now compare the destination of those who separate in order to disentangle some of the difference between the flexibility of the members and non-members. Table 3 shows the difference in frequency of different separation destinations. The Table shows the insured minus the non-insured, so a positive number means that the insured are overrepresented and a negative means that the insured are underrepresented.

The insured seem clearly to dominate among those who obtain unemployment benefits, the two statuses of “temporary layoffs” and “unemployed,” whereas the non-insured dominate in the statuses of “find another job” after separation and “leave the labor force altogether.” The first column reflects the trend in figure 7.

Table 3. Overrepresentation of Insured vs. Non-insured in Different Statuses After Separation (Difference in frequencies, percent)

Year	Number with more than one separation	Find Anoth job	Out of labo force	Temporary layoff	Unemployed	Labor-market pensions	All separations
1986	1	6	-39	25	15		4
1987	-1	7	-32	21	11		2
1988	-1	7	-30	20	10		2
1989	-3	8	-32	18	7		-1
1990	-3	9	-36	17	7		-2
1991	-2	10	-47	24	13		0
1992	-3	9	-39	15	5		-2
1993	-4	11	-21	15	6	-3	-2
1994	-4	9	-21	15	6	-6	-3
1995	-4	10	-26	15	6	2	-4
1996	-5	12	-34	21	10	9	-4
1997	-6	14	-34	21	10	-1	-6
1998	-7	14	-33	22	10	-3	-6
1999	-7		-2	20	12	-6	-6

Average	**-4**	**10**	**-32**	**19**	**9**	**-1**	**-2**

Source: own estimations

Table 3 clearly shows that members of a UI insurance fund do not find a new job at once but tend to have a higher incidence of unemployment than the non-insured. Since the length of unemployment may be different for these two groups, we turn to the length of the period of unemployment in conjunction with each change in status. The only way to do that is by looking at the people who leave a job and who either get a new job at once or get a job after a period of unemployment. We exclude people who do not get a job after separation and those classified as temporary layoffs. Among the people who leave a job and who either get a new job at once or get a job after a period of unemployment, 72 percent of the insured go directly to a new job without being unemployed and 92 percent of the uninsured go directly to a new job. Thus, 28 percent of the insured and only 8 percent of the uninsured do have some unemployment after separation.

Table 4 shows that the average duration of a period of unemployment is two weeks longer for the insured than for the uninsured. The distribution shows, furthermore, that the difference between the two groups lies in the proportion of each group in the short period. It looks as though the insured have better means (UI benefits) than the uninsured to search and wait for the right job. This finding should of course be viewed in light of the finding that a period of unemployment is more than three times as frequent for insured as for non-insured persons and that their average unemployment is two weeks longer.

One should also be aware that the uninsured group includes people who do not get any benefits at all and those who get welfare.

Table 4. Unemployment after Separation Ending with New Employment, for Insured and Uninsured Workers

	Members of UI	**Non-members of UI**
Unemployed before job, percentage	28	8
Average duration of perio of unemployment, in weeks	20	18
Distribution of unemployment		
1--4 weeks	27	19
5--10 weeks	23	26
11--20 weeks	20	29
20+ weeks	30	26

Source: own estimations.

Since most of the effect of UI membership is accounted for by those who move directly into a new job without intervening unemployment (see table 3) we will now focus on the issue of whether or not the person has intervening spells of unemployment. In order to investigate whether this result is a composition effect, we ran two logic regressions of the probability that a person moves directly into employment or not.

The explanatory factors are all observed in the data. We use age and age squared to pick up the age effect presented at the beginning of this paper. Student status is a variable taking the value of 1 if the person is a student or was a student when the current period of unemployment started. This should include the cases where workers are willing to work in jobs with a short notice. We describe the status as insured where a person is a

member of an insurance fund or is a member of a particular insurance fund. We used data from the larger UI funds (see table 5). Level of education is controlled by secondary education (high school), vocational training (apprentice), and postsecondary (further) education, with basic education as a reference. Experience and squared experience are the number of years the person has been in the labor market. The data on experience comes from a retirement savings system and is considered to be reliable. Tenure is calculated on the same basis and is the number of years the person has been with the last employer. The data on residency and work area are intended to pick up effects from competing in a large or smaller labor market. Finally, a marriage or living together variable should pick up an element from the budget constraint of the worker and that should say something about the urgency of getting a job.

We present the marginal effects in table 5. Regressions are based on 1,193,280 individuals. All shown coefficients are significant at the .05 percent level. The first column shows that the insured have a 23 percent lower probability of getting a job directly without intervening unemployment than the uninsured. The older you are the lower the probability. The probability is higher if you are a student or you have just graduated, probably because most students are not eligible for UI and the newly graduated get a lower unemployment benefit than others. The probability increases with education and work experience, probably because these variables make the worker more valuable for other employers. These characteristics also make the replacement ratio between the UI benefit and the wage lower.[6] Females have a lower probability of moving straight to another job, as do people living and working outside the greater Copenhagen area. This may be because they have better alternative use of time.

6. Because UI is capped and wage is increasing in education and experience.

The second column expands on UI funds to investigate whether our finding is a general result or varies with the type of fund member.[7] First of all, it is remarkable that most of the UI funds have marginal effects between --17 and --34 percent. The exceptions are the UI funds for the more educated, which all have lower marginal effects. To some extent this is an effect of the higher wages and thus lower replacement ratio, but it might also be an effect of a tighter labor market for these groups.

Table 5. Logit for the Probability That a Person Moves Directly into a New Job After a Job Separation (Marginal Effects Significant at 5 percent level)

	Marginal Effect	
	Coeff.	**Coeff.**
Age	-1.1	-1.3
Age 2	0.0	0.0
Student	9.4	9.4
Not member	-	-
Member	-22.5	-
Construction industry		-31.4
Metal		-24.2
Female workers		-34.1
Manufacturing		-31.4
Engineers		-17.0
Office clerks		-20.1
Salaried employees		-10.7
University-educated		-14.8
Self-employed		7.5
Supervisors		-9.1
Other UI funds		-22.1
Unskilled	-	-
Secondary education, high school	11.2	8.5
Secondary education, apprentice	9.0	6.0
Postsecondary education	18.9	10.7

Comment [R1]: Jeg skal vist lige finde kontrolgruppen, eller ved du hvem det er?

7. UI funds reflect trade union membership, which to some extent still reflects the old guild structure.

Work experience	0.7	1.0
Work experience 2	0.0	0.0
Tenure in previous job	0.1	0.1
Female workers	-7.4	-9.9
Lives outside greater Copenhagen	-2.2	-0.9
Works outside greater Copenhagen	-8.1	-7.3
Married	2.3	2.1
Pseudo R-squared	0,1022	0,1161

Comment [R2]: Er det ikke mærkeligt, at alder er negativ, når experience er positiv, og burde den ene af disse Ikke ud?

Source: Own estimations.

{B}The role of labor market reforms on what happens after job separations {/B}

So far we have looked only briefly at what happens to people after they leave a job. From tables 2 and 3 we know that there are different destinations after separation. In order to investigate whether UI members are different from non-members in these destinations and whether there are differences between the spells before and after labor market reforms in 1994/95, we ran a multinominal logic on the probability of separating directly to a job, to unemployment, to temporary unemployment (i.e., returning to the same employer), or to leaving the labor force. This is done for 1992 and 1997 for married men who did not separate from student jobs (see table 6 for our predictions). Students, females, and unmarried men were excluded to get a clean sample where alternative motives interfere as little as possible.

Table 6. Probability of Different Statuses After Leaving a Job, Married Men Who Do Not Leave a Student Job, 1992--97 (Predictions from Multinominal Logics)

1992		Directly to job		Unemployment		Temporary Lay off		Out of labor force	
education	age	insured	non insured	insured	non insured	insured	non insured	insured	non insured
Unskilled	Below 30 years	48	77	28	15	22	3	2	6
	30-50 years	42	74	25	14	31	4	2	7
	50+ years	33	65	24	16	39	6	4	13
Secondary	Below 30 years	59	82	26	12	14	2	2	4
	30-50 years	54	81	23	11	21	3	2	5
	50+ years	45	73	25	13	27	3	3	10
Post secondary	Below 30 years	70	87	20	8	9	1	2	4
	30-50 years	66	86	19	8	14	1	2	5
	50+ years	57	79	20	9	19	2	4	10
1997									
education	age								
Unskilled	Below 30 years	56	78	23	10	18	2	4	10
	30-50 years	50	75	20	10	25	3	4	12
	50+ years	40	63	20	11	32	4	8	22
Secondary	Below 30 years	66	83	20	8	11	1	3	7
	30-50 years	62	81	18	8	16	2	4	9
	50+ years	52	71	20	9	21	2	7	18
Post secondary	Below 30 years	75	87	15	6	6	1	3	7
	30-50 years	71	85	14	6	10	1	4	8
	50+ years	63	76	16	6	14	13	7	16

The combination of the reforms and more positive business cycles have led to the result that all insured were more likely in 1997 than in 1992 to go directly to a new job without intervening unemployment. Conversely, the probability that separation leads to unemployment and a temporary layoff has also been reduced. The only status that has become more prevalent among those surveyed is “out of labor force.”

Table 6 also highlights differences between the insured and the uninsured both within the same year and between 1992 and 1997. The largest difference was found for temporary layoffs because temporary layoff plays a significant role for the insured and only a minor role for the uninsured for the obvious reason that the uninsured get no compensation whereas the insured do. This also means that employers do not lay off workers temporarily unless they are insured.

Improvement between 1992 and 1997 is mostly to the benefit of UI members. One of the changes in labor-market policies that have benefited the insured is the introduction of a second employer-paid day of compensation for most layoffs, which has the effect of limiting the use of temporary layoff. The maximum duration of unemployment was reduced to four years. These results could be interpreted as indications that the system has become more efficient. However, since it would be an

exaggeration to say that the uninsured were unaffected by the reforms, we will abstain from a causal explanation using the uninsured as a control group. The increase in the number of those with the “out of the labor force” status between 1992 and 1997 suggest the opposite---mainly because this status includes the labor-market programs (LMP), introduced in 1994/1995, which was still in full force in 1997. These programs were dominated by leave schemes which made it possible for employed and in some cases also unemployed to get paid leave for education, children and sabbatical for up to one year[8] seemed to be attractive to both UI members and non-members because for once there was also an option for non-members to participate in some of these schemes and get compensation similar to UI benefit. The leave schemes were gradually limited and finally abandoned in 2000.

{B}Does UI Membership Lead to Behavior Changes?{/B}

Since UI membership creates eligibility for receiving unemployment benefits, we would expect members to spend more time unemployed than non-members. But the real test of the efficiency of the system is how membership affects the behavior of those who become members: Does UI become a sweetener for increased unemployment time. Table 7 shows the duration of the total working time spent in each of these states for the group of members and non-members. Total working time is here defined as the total time available for work, using the usual working year of about 1,650 hours as the base line. We compared the behavior of those who change their status and become members within the observation period. It is obvious that this group is relatively small and it is clearly a selected group, since those who become members may also be those who will benefit most from membership, and this in turn means that they may also have had relatively high unemployment before they joined the group of insured. But we should also remember that age seems to be the dominant factor in people’s becoming members. The clear result

[8] The idea was presumably to create more job openings for the unemployed.

is that membership does not affect the average time spent in job, but it does affect the time spent in a status where benefits can be collected.

Table 7. Percentage of Time Spent in Different Employment Statuses, Before and After Becoming UI Members

	Before member	As member
%-distribution		
Job	78	78
out of labor force	14	6
temporary lay-off	0	2
unemployment	6	10
LMP	2	4

Source: Own estimations

Next we look at the total time spent in the different employment statuses by all members and non-members (see table 8). The only condition is that they hold a job at some point in the study period.

Members now seem to have longer spells of employment than non-members, but that is probably because of selection (youth) and because we had to include public employees in our sample. However, it is highly significant that among insured job holders, people spend 17 percent of their available working time unemployed, and 12 percent of these receive benefits when not working. This partially explains the high costs of the Danish labor-market policy.

Table 8. Time Spent in Different Employment Statuses, UI Members and Non-members, as Percentage of Total Possible Work Time

	Non-member	Member
%-distribution		
Job	77	83
out of labor force	17	5
temporary lay-off	0	2
unemployment	5	7
LMP	2	3

Finally we looked at the percentage of total work time spent in the different statuses for insured and non-insured and for youths and no youths (see table 9), for two time periods, one before and one after the reforms in 1994/1995. Both insured and uninsured youths spent more time employed after the reforms than before, but this difference was more pronounced for insured youths, who were directly affected by the youth package of 1996. The similar and combined effect of policy changes and business cycles appear to be of a smaller magnitude for those above twenty-five years of age, partly because their employment rate was already high and partly because the 4 percent reduction in time spent unemployed is partly counteracted by an increase in the number of people on NLP also increases for youths. Table 9 shows clearly the percentage of uninsured who are also eligible to ALMP. Overall table 9 shows that the biggest effect of the combined changes in labor-market policies and business cycles is on youths. It would be premature to say that this indicates that the youth package is more effective for youths than the changes in policy for older workers are for them, because youths usually benefit most from a stronger labor demand, but it adds evidence to the existing study of the proven effectiveness of the youth program (Jensen, Rosholm, and Svarer 2003).

Table 9. Comparison of Average Time Spent in Different Employment Statuses, as Percentage of Total Work Time, Pre- and Post reforms

	Age 18-24 Insured	Not Insured	Age 25-59 Insured	Not insured
1990-1993				
In job	79	81	89	91
Unemployed	16	5	8	3
Temp. Unemployed	3	1	2	0
NLP	0	0	0	0
Out of labor force	3	13	2	5
Total	100	100	100	100
1996-1999				
In job	86	84	91	88
Unemployed	7	2	4	2
Temp. Unemployed	1	0	1	0
NLP	3	2	2	2
Out of labor force	3	12	2	7
Total	100	100	100	100

{B}How Long Unemployed, and Why?{/B}

Finally we look at the determining factors for the length of time people are unemployed after they lose a job. We know from the preceding analyses that it matters whether people are members of the UI system and can get unemployment benefit. Table 4 showed that 28 percent of members of the UI system have a period with unemployment after a separation, and that nonmembers are much less likely to have a period of unemployment. We also know that education, gender, and age matter to employment status. ~~Furthermore, we assume that personal factors such as motivation and economic hardship affect how long a person will search for work. A fixed-effect estimation, assuming that other unobserved personal effects are constant over time, could give an unbiased estimate of the variable person characteristics (see table 10).~~[9]

~~Table 10. Person Fixed Effects for the Length of Unemployment After a Period of Employment, 1988 to 1999~~

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Comment [R3]: Skal jeg tage 1 år som længst? Som jeg tidligere skrev, så burde det i så fald være censoreret, jeg er lidt i tvivl om, hvordan jeg får det ind i modellen

[9] ~~We are aware that a hazard function would be better suited to this form of estimation, but because the next step we want to take is not possible using a hazard function we have used a linear specification with a fixed effect. We have dealt with the possible length bias by excluding people with spell length of more than XX weeks.~~

Dependent variable: Duration **Person fixed effect**	All, no temp dummy	All, with temp dummy	Only unemployment	Only temporary unemployment
Temporary Unemp		**-14.82**		
Age	**-0.22**	**-6.51**	**-8.76**	**-0.64**
Age squared	**0.02**	**0.02**	**0.00**	**0.01**
Basic schooling	-	-	-	-
Vocational training	**-2.19**	**-1.86**	**-1.74**	**-0.97**
Secondary school	**-1.34**	**-1.23**	**-2.43**	**0.55**
College	**-2.99**	**-2.19**	**-1.84**	**-0.94**
Unchanged	-	-	-	-
Upsize	**-0.58**	**-0.71**	**-1.10**	**-0.23**
Downsize	**0.57**	**0.26**	0.21	**0.26**
Merge	**1.23**	**0.58**	**0.54**	**0.28**
Spin	**7.39**	**3.21**	**4.56**	-0.70
Take over	0.04	**-1.42**	-0.46	**-0.44**
Manufacturing	-	-	-	-
Primary	3.31	**3.24**	0.71	0.36
Public	**-0.70**	0.30	**-0.66**	**0.60**
Mail and tele	-1.20	-1.32	-1.43	**-1.32**
Construction	**-0.77**	-0.45	**-0.93**	-0.40
Service	**-0.94**	-0.41	-1.75	0.32
Transport	**-1.41**	-0.28	-0.29	-0.62
Finance and insurance	**3.01**	**1.87**	**3.00**	-0.39
trade	**1.69**	0.44	-0.10	0.12
Other industry	**-2.81**	**-1.55**	**-1.72**	**-0.45**
Year dummy	Yes	Yes	Yes	Yes
R^2 Within	0.0268	0.1711	0.0598	0.0101
Obs	245891	245891	200156	220529
#Groups	38460	38460	106299	59770

~~Source: Own estimations~~

However, there is also a workplace aspect in the duration of unemployment. Being laid off from certain workplaces may lead other employers to be more or less eager to employ the person. Furthermore, it is also very likely that coming from a particular job---with all what is embedded in a particular workplace, the type of industry, location, the perceived work ethics in that particular workplace and specific skills and experience connected to that particular firm---will affect future work prospects. Finally, some workplaces are known for laying off workers more frequently than others. However, most workers know this before they take the job in the first round. Therefore they will only take the job, if the offered

combination of a job and a risk of becoming unemployed maximize their utility as pointed out by Feldstein (19XX).

With the newly available data set, we can link every spell of unemployment with the workplace where the worker was employed prior to his or her unemployment. On these data we run estimates where fixed effects for persons and workplace are estimated simultaneously. Other explanatory variables are time dummies and other variables varying over time. These are the duration of the last period of employment and some variables describing the conditions of the layoff. "Upsize" means the workplace has increased the workforce by more than 10 percent in the period just before the person was laid off. "Downsize" indicates a reduction in workers greater than 10 percent. "Takeover" indicates the company has ceased to exist and~~because~~ more than 20 percent of its workers have been taken over by another company. "Merge" means the present company continues after having been~~being~~ taken~~ing~~ over another company. "Spin-off" means the present company has emerged from the old workplace because some people were moved to another workplace and others remained.[10]

We have run three different estimations: the first is on all observations, that is, all persons with positive unemployment durations following an employment spell in a workplace with ten or more employees. The second estimate is only on periods of unemployment that are not temporary. The third is on only the unemployment spells that are temporary (see table 11). Standard deviations are calculated by bootstrapping. In all three estimates, individuals must be either UI members or non-members; all changes between these two states are excluded.

10. The Agroup and a2reg software used for the estimates was created by Amine Ouazad. For another example of an application of this software, see Kramarz, Machin, and Ouazad (2007).

Table 101. 2-wayDouble Fixed-Effect Estimate of the Duration of Unemployment

Dependent variable: Duration			
	All	Only unemployment	Only temporary unemployment
Temporary	**-13.82**		
Duration previous Emp.spell	**0.04**	**0.04**	**0.02**
Upsize	**-1.02**	**-1.56**	**-0.30**
Downsize	-0.06	-0.03	**0.17**
Takeover	**-3.47**	**-3.47**	**-0.80**
Merge	**2.22**	**2.87**	**0.57**
Spin off	0.75	4.38	-4.07
Year Dummy	Yes	Yes	Yes
Person Fixed Effect	Yes	Yes	Yes
Firm Fixed Effect	Yes	Yes	Yes
R^2	0.4934	0.7435	0.5897
Adj. R^2	0.3113	0.0935	0.3426
Obs	245891	200156	220529

	All	Only unemployment	Only temporary unemployment
Duration previous Emp.spell	**0.003**	**0.002**	**0.003**
Unchanged	-	-	-
Upsize	**-0.097**	**-0.132**	**-0.058**
Downsize	0.011	-0.018	0.014
Takeover	**-0.213**	**-0.339**	**-0.163**
Merge	**0.196**	**0.255**	**0.102**
Spin off	**-0.137**	**-0.204**	**-0.088**
Closed	**-0.128**	**-0.310**	**-0.133**
Year Dummy	Yes	Yes	Yes
Person Fixed Effect	Yes	Yes	Yes
Firm Fixed Effect	Yes	Yes	Yes
R^2	0.5537	0.6224	0.5199
Adj. R^2	0.3884	-0.1447	0.2679
Obs	502505	231499	271006

Comment [NWN4]: Negative, hvordan?

Source: own estimations

The results show that a longer period of employment increases the duration of a subsequent spell of unemployment.

This is probably because of specific human capital and specialisation in the former job make it more difficult to find a new job when unemployed. The interpretation for the temporary unemployed is somewhat different because a longer duration of employment makes it more likely that the person returns to the same employer. Furthermore, upsizing, takeover, closed, and spin-off all lowers the expected duration of unemployment and ~~that~~ downsizing does not create longer durations. The only situation that creates longer spells of unemployment is where the firm has taken over another company.~~, but it increases durations of temporary layoffs, probably because downsizing is often followed by declared temporary layoffs to save wage costs.~~ The variables characterizing changes in organizations are probably related to how other employers judge whether or not it was a worker's own fault if he or she became unemployed (see Gibbons and Katz 1991; identified in Danish data in Frederiksen and Westergaard-Nielsen 2007). Thus, a~~A~~ takeover, a closure or a spin-off situation shortens the duration of unemployment, probably because other employers can see that the unemployment was not the fault of the unemployed worker. On the other hand those who separate from a company who has taken over another company (merge) are those who did not fit into a new organization and this is probably taken as a negative signal. ~~Mergers appear to prolong the duration of unemployment, probably because a merger causes the market for workers to become more limited. In the case of a takeover, on the other hand, it is more likely that the new company will limit production, which gives other companies the opportunity to move into this production area, giving more employment opportunities to workers trained in that particular type of production. There are no significant effects for those who become unemployed in a spin-off situation.~~ Finally, it is remarkable that the coefficients are generally smaller for the temporary lay offs indicating that re are no big differences between the

Next we will first report the correlations between the person and workplace fixed effects and how these are correlated with the duration of unemployment.

Table 11~~2~~. Correlation Matrices

All Unemployment, ordinary and temporary						
	Mean	**Std.**	**Person**	**Workplace**	**Duration**	**Residual**
Person	1.19E-16	0.851	1.0000			
Workplace	0.479	0.356	0.1537	1.0000		
Duration	0.114	0.287	0.0266	-0.0843	1.0000	
Residual	-2.37E-08	0.894	0.0000	-0.0474	0.0000	1.0000
N	502505		134691	43501		
Unemployment						
	Mean	**Std.**	**Person**	**Workplace**	**Duration**	**Residual**
Person	-1.97E-16	0.911	1.0000			
Workplace	0.698	0.431	-0.0459	1.0000		
Duration	0.131	0.343	0.0204	-0.1893	1.0000	
Residual	2.19E-08	0.777	0.0000	-0.0878	0.0000	1.0000
N	23149		114785	40326		
Temporary unemployment						
	Mean	**Std.**	**Person**	**Workplace**	**Duration**	**Residual**
Person	3.59E-17	5.044369	1.0000			
Workplace	0.341	1.848444	0.2633	1.0000		
Duration	0.075	1.298858	-0.0110	-0.0656	1.0000	
Residual	1.24E-08	5.005186	0.0000	0.0030	0.0000	1.0000
N	271006		67605	25660		

All Unemployment, ordinary and temporary

	Mean	Std.	Person	Workplace	Duration	Residual
Person	3.94E-15	8.944075	1.0000			
Workplace	6.876066	4.95007	0.1123	1.0000		
Duration	-6.893064	7.825507	0.0365	0.0374	1.0000	
Residual	8.73E-08	13.84497	0.0000	0.0220	0.0000	1.0000

Obs=245891
Categories: Workers=38460
Workplaces=26553

Unemployment

	Mean	Std.	Person	Workplace	Duration	Residual
Person	-6.20E-15	23.41183	1.0000			
Workplace	6.375647	6.656916	0.1815	1.0000		
Duration	2.993026	7.005609	0.0603	-0.0454	1.0000	
Residual	1.01E-07	15.76278	0.0000	0.0316	0.0000	1.0000

Obs=200156
Categories: Workers=106299
Workplaces=37206

Temporary unemployment

	Mean	Std.	Person	Workplace	Duration	Residual
Person	4.78E-16	5.044369	1.0000			
Workplace	1.759814	1.848444	0.2963	1.0000		
Duration	0.4795239	1.298858	-0.0239	-0.0494	1.0000	
Residual	6.03E-08	5.005186	0.0000	0.0260	0.0000	1.0000

Obs=220529
Categories: Workers=59770
Workplaces=23103

Source: own estimates.

In all three estimates, the variance for the person fixed effect is larger than the variance for the workplace fixed effect. This implies – as expected -- that persons are more heterogeneous than workplaces.

The correlations show how well the estimated fixed effects correlate with the duration of unemployment. If we treat all unemployment alike we find in the first table of Table 12 that the person and the workplace have similar correlations. This means that unemployment is determined equally by the last workplace and the individual. However, if we look solely at unemployment (excluding temporary unemployment), the person effect is still more important than the workplace effect. The last set of correlations, on temporary layoffs alone, shows that the workplace effect is now more strongly correlated to duration than the person effect. This tells us that the workplace is more important in determining the length of temporary layoffs than person-specific characteristics. It is probably not surprising

in itself that employers determine the length that their employees are on temporary layoff (TLO), but it is still surprising that we can show that the individual also has a say in how long he or she is laid off. This is partly because TLO is often determined by the employer in cooperation with the employee and partly because people choose jobs according to their taste for TLO and other issues with the job, such as pay. It is a new finding, but it is in full accordance with the theoretical arguments in (see Feldstein 1976).

Next we regressed a number of person-specific variables on the person-specific effects (see table 13). The main result is that the effect of UI membership depends on how temporary layoffs are modelled. Thus if TLO are not modelled as in the first column, UI membership gets a negative coefficient, but modelling it as in the second column renders a positive coefficient to UI membership. The last column shows that the negative sign to the overall effect from UI-membership actually comes from TLO. Thus, membership gives longer duration of unemployment once we have controlled for TLO. Similarly, we get numerically larger coefficients to the different variables when we separate permanent layoffs from TLO. Thus, females tend to get longer durations of unemployment whereas education shortens the duration of ordinary unemployment. Thus, it is crucial to be able to account for TLO.

Table 13. Second-Stage Regression on the Person Fixed Effect

Dependent variable: Person fixed effect			
	All, Unemployment and Temporary	Only unemployment	Only temporary unemployment
UI-membership	**-0.78**	**2.26**	**-3.67**
Woman	**0.55**	**2.70**	**-0.57**
Year of birth	**-0.07**	**-0.46**	**0.02**
Basic schooling	-	-	-
Vocational training	**-1.85**	**-4.82**	**-0.37**
Secondary school	**-1.05**	**-3.36**	**0.19**
College	**-2.91**	**-8.35**	**-0.46**
Adj. R^2	0.0254	0.0764	0.0215
Obs	245891	200156	220529

Source: Own estimates

Finally, we have made a similar second-stage regression on the workplace fixed effect (see table 14). First workplaces outside the capital, Copenhagen, tend to produce lower durations of unemployment, but that is actually due to a shorter duration for TLO. Looking at different sectors of the economy, primary, public, and transport sectors all have a positive duration effect but that is due to longer spells of TLO. Thus, mail and telecom, service, and trade all produce longer durations of unemployment when workers are laid off and when we take account of specific firm effects. In this analysis it is somewhat surprising that it is more difficult to find new employment after a job in the service and trade sectors than in any other sector, when we take account of specific workplace and individual effects---contrary to the result we got from table 10, where we ran simple fixed effects.

Table 14. Second-stage Regression on the Fixed Workplace Effect.

Dependent variable: Workplace fixed effect			
	All	Only unemployment	Only temporary unemployment
Workplace outside capital	**-0.15**	0.02	**-0.21**
Manufacturing	-	-	-
Primary	**1.71**	0.60	**1.38**
Public	**0.15**	0.08	**0.15**
Mail and tele	**1.50**	**1.15**	**0.26**
Construction	**-0.55**	**-1.48**	**0.46**
Service	**2.09**	**2.14**	**0.59**
Transport	**1.02**	0.14	**0.64**
Finance and insurance	**-0.30**	**0.54**	-0.03
trade	**3.40**	**4.30**	**0.91**
Other industry	**-0.22**	**0.39**	**0.13**
Adj. R^2	0.0165	0.0211	0.0124
Obs	245891	200156	220529

{A}Conclusion{/A}

We here describe and discuss the characteristics of the Danish flexicurity model and how it actually works at the micro-economic level. We used a new data set constructed on spells of unemployment, which maps all types of employment and other spells in the labor market, and which allowed us to look at continuous separation statistics. The result is that we were able to compare all periods of employment and unemployment to traditional data sets, which just looked at the status at one particular point in time. Thus we avoided the problems with the latter data, which was that multiple periods of unemployment within a year were overlooked, and it was not possible to identify the previous employer.

One of the key elements in the organization of the Danish labor market is the voluntary unemployment insurance (UI) system. In general terms we find that members of an insurance scheme leave a job almost as often as the uninsured. The analysis of periods of unemployment showed that the real rate of job transition---for those both with and without insurance---is actually 1.5 times higher than previously known because many people change jobs several times within a calendar year.

But there is great difference between what the insured and the non-insured do when they leave a job. The insured workers

are not nearly as quick to find a new job as the uninsured, which is just what a job-search model that incorporates unemployment benefits for the insured would suggest.

In addition, we find, as predicted, that because of this support, the unemployed with insurance more often are unemployed or temporarily laid off than the unemployed without insurance. There is of course a significant selection effect in these results, as people who expect to have jobs with higher risk of becoming unemployed will also be more likely to become members of the UI system. To see if there is an entitlement effect that comes into force when someone changes status from uninsured to insured, we followed a group of workers from before until after they became members; we found that the time these workers spent employed did not change at all, but the time they spent in paid states of unemployment increased after they became members. We also found that the insured take more time to search for a new job before taking one than the uninsured.

Thus we concluded that people do not become more flexible by becoming insured, nor do they become more employed, as measured in hours, but they do tend to become more unemployed and temporarily laid off when they have access to benefits. Finally, we investigated whether the duration of unemployment is determined by person effects or by workplace effects. Estimating a double fixed effect model shows that the main factor contributing to the explanation of the duration of unemployment is related to the characteristics of the person, but the workplace effect is nevertheless substantial in all cases. It is especially large in the case of a temporary layoff, where the employer decides when to recall workers. But even in this case, the worker effect is substantial, indicating the complicated structure of self-selection by workers who accept jobs with more or less temporary layoffs, as suggested in the literature (Feldstein 1967). Thus, our general impression, that UI members are not the ones who most quickly get a new job, was confirmed. In addition, however, we found that the factor of temporary

layoff has a peculiar role that should be taken into account in analyses. Nevertheless we want to stress that temporary layoff is only responsible for, on average, of about 10 percent of all unemployment.

Overall, we can conclude that the secure do not seem to be the most flexible and the flexible are not the most secure. The perceived income security of core trade union members is undoubtedly the condition that induces Danish trade unions and political parties to accept a level of job security that is among the lowest in Europe. At the same time, the total cost of labor-market policies is the highest in the world, so it is not clear whether the end result is worth the outlay.

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