

## **Crime and the Labor Market in Denmark**

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*Abstract:* We construct a unique panel dataset from the Danish National Register data, which consists of 10% of the Danish population. This is the first panel that includes detailed criminal records, as well as schooling, labor market records and socioeconomic backgrounds of a representative sample over all ages. We estimate the effect of past arrests on current unemployment and social assistance (i.e. welfare in Denmark). Our results imply that the effect of past arrests on the labor market outcomes are temporary and wear off when individuals stay away from crime. But overall they have long lasting negative effects in the labor market because many criminals do not stay away from crime but instead enters into a vicious circle between crime and unemployment.

## **1. Introduction**

Since the seminal paper by Becker (1968), there have been both theoretical and empirical studies on the economics of crime. Theoretical papers include Stigler (1970), Glaeser, Sacerdote and Scheinkman (1996), and some examples of important empirical studies are: Levitt (1998), Knowles, et. al. (2001).

Recently, economists have started to estimate the relationship between criminal behavior and the labor market. Examples are Freeman (1992), Grogger (1995) and Kling (2003), among others. They find that the effect of past arrests on current employment and income are small and temporary. On the other hand, Waldfogel (1994) finds that past arrest records result in substantial decrease in employment opportunities and wages for those that were working in jobs that required “trust”. Imai and Krishna (2004) argue that even though the effect of past criminal records on current labor market outcome is small and temporary, the same effect works as deterrence against crime when an individual anticipates a decrease in future employment opportunities when he commits a crime and gets caught. They call this “dynamic deterrence” and show empirically that it has a very large impact.

A major difficulty in estimating this relationship is obtaining an adequate dataset. A dataset that both tracks individuals’ criminal records and labor market outcomes, among other individual characteristics is hard to find. Both Grogger (1995) and Kling (2003) construct their data by combining California criminal court records with the California unemployment insurance data into a single panel. There are several drawbacks of their dataset. One is that it only includes individuals with criminal records and is thus far from a random sample of the population. The other is that Grogger (1995) only has limited information on sentencing records, i.e.

sentence length are not recorded, and Kling (2003) data has sentencing length in criminal records but has only federal offenses. Furthermore, the data on individual backgrounds are somewhat scarce and only include age and race.

There are several U.S. survey datasets that track individuals randomly sampled from the general youth population and have information on criminal and labor market activities: the Philadelphia Youth Cohort Study, the National Youth Survey (NYS) and the National Longitudinal Survey of Youth (NLSY). The advantages of these are that their sample is representative of the general population and they contain rich background information such as schooling, parental background, etc. But their drawbacks are that they only contain young individuals, and only limited information on the sentencing outcome of crimes.

We try to do better in this dimension by using a unique dataset which we construct from the Danish National Register. It is a comprehensive panel dataset that was constructed by combining data from the Danish Income Register, the Danish Labor Market Register and the Danish Criminal Register. The dataset includes monthly labor market outcomes such as unemployment, public assistance and annual wages as well as detailed criminal records which include the date of crime, the date of arrest, the final verdict date and the sentence. That is, we also know the date of the start and end of each jail spell. The combined panel consists of a randomly chosen 10% of the entire Danish population. This is in contrast to the data used by Grogger (1995) and Kling (2003) that only have data on criminals and do not have complete sentencing data.

Another aspect of our dataset that is unique is that we have detailed monthly data on whether the individual was unemployed, or on public assistance. Individuals

on public assistance are those who, for some reasons, receive government assistance without looking for work. This roughly corresponds to “welfare” payments in the U.S. There have been some extensive discussions about the effect of the generous welfare system in Europe on employment, retirement, labor mobility and other labor market issues. But to our knowledge, there has not been any empirical work on how the welfare system is related to criminal behavior. A generous welfare system can have potentially different effects on criminal behavior. Immediately after their release from jail, criminals may have a hard time in finding jobs. A generous welfare system could provide them with a temporary haven where they could stay, abstaining from crime, until their stigma has worn off. They can then start searching for jobs. This could help criminals find good jobs and thus increase labor market attachment, which may keep them away from further criminal activities. On the other hand, since individuals with past arrests who may have a hard time in finding jobs always can obtain income from welfare, they may have less incentive to stay away from crimes. That is, following Imai and Krishna (2004), labor market may provide less informal deterrence against crime. This could make public assistance a breeding ground for crime.

Overall, our results indicate that individuals with past arrest records tend to be unemployed less and instead be on public assistance more. That is, individuals with past arrests are substituting from unemployment to welfare. Also, it looks like past arrests have a relatively long lasting effect on the individuals’ becoming nonemployed, which includes unemployment and public assistance. This could be because, unlike in the U.S., individuals who have past criminal records and are stigmatized can easily go on public assistance, where they can get by without finding

work.

The results we obtain using the Danish dataset are as follows. First, even though the age arrest profile of Denmark is very different from that of the U.S., it is quite similar to that of the U.S. after the age of 18. Second, our results are similar to that of Grogger (1995) that - when we control for fixed effects and other exogenous covariates such as age, and arrests in other periods, lagged arrests - only have a temporary effect on the current labor market outcome. We also find that immediately after the arrest, individuals tend to go to social assistance instead of being unemployed and looking for a job. The unemployment rate increases only 4 or 5 quarters later, when the rate of social assistance decreases. That is, individuals, after being arrested, first seek social assistance as a temporary haven until their stigma of arrest is sufficiently depreciated, and only then start looking for jobs.

These results, however, do not mean that lagged arrests only have a temporary effect on labor market outcome. Because the exercise above controls for arrests in other periods, the coefficients only tell us the effect of past arrests of an individual who stopped getting arrested afterwards. The fixed effects regressions that capture the overall effect of past arrests on current labor market outcomes indicate that even after 12 years, past arrests still increase unemployment and social assistance significantly. Together, our results imply that the effect of past arrests on the labor market outcomes are temporary and wear off when individuals stay away from crime. But overall they have long lasting negative effects in the labor market because of the vicious circle between crime and unemployment.

## **2. Data**

We constructed a comprehensive panel data of a representative sample of

the Danish population that includes detailed criminal records, demographic information, education, labor market experience which includes social assistance, and income. The entire sample is based on a 10% sample of the Danish population between the age of 15 and 66, and for the years 1980 to 1999. Each individual is followed as long as it is possible. To compensate for persons who turn 67, die, or migrate and thus disappear from the panel, additional data was randomly supplemented. The above panel of main subjects was augmented with the parents, children, and cohabitators of each individual year by year from 1980 to 1999. This gives a total sample of approximately 25% of the Danish population or approximately 1.25 million observations per year.

Data are collected from a number of sources on each individual. The sources are: IDA (Integrated Database for Labor Market Research), CRAM, SHSS, The Income Tax Register and the Criminal Register. IDA provides detailed annual information on demographic and socioeconomic status such as age, sex, years of schooling, types of schooling, occupation, etc. CRAM provides unemployment records on a weekly basis as well as membership of unemployment funds (U-Fund). SHSS provides information on the take up of public transfer and training programs, social assistance, early age pension and participation in active labor market programs. The Income Tax Register provides annual information on public transfers and subsidies, gross income, labor and capital income, and taxes paid. From these data, we compute the disposable income for each individual in our dataset.

The Criminal Register provides data related to criminal activities recorded by the authorities. The data consists of all cases filed against individuals in the entire sample, both primary as well as secondary cases. The information on cases includes

whether the case went to court and the subsequent verdict, including whether the charges were withdrawn or not, or whether the case was dismissed in court or not. It also has information regarding incarcerations: type and place of prison and the actual time spent in jail.

Overall, the crime rate in Denmark is much lower than that in the U.S. But if we compare the arrest rate of individuals after the age of 18, there is not much difference between Denmark and the U.S. In fact, the age arrest profiles are quite similar between the two countries after the age of 18. Hence, the adult crimes are in principle an issue of similar seriousness in Denmark and the U.S. And unlike the U.S., whose arrest crime rates have dramatically decreased during the 1990's, those of Denmark have not decreased significantly.

In Figure 1, we plot the male age arrest profile. Each line depicts the age arrest profile of a cohort born in a certain year. The cohorts have strikingly similar shapes with arrests peaking around the age of 18. The lines for older cohorts seem to lie below those for younger ones, suggesting that changes in crime rates cannot be attributed just to changes in the age composition of the population. In Figure 2, we plot the male age arrest profile of the U.S. The U.S. figure is taken from Imai and Krishna (2004), and is based on the Philadelphia Birth Cohort Study, which is a panel data of the random sample of the representative youth population in Philadelphia who were born around 1958. In the U.S., the average arrest per year exceeds 0.4 from age 15 to 17, then, abruptly decreases at the age of 18 to about 0.2. Then, it stays around 0.13. In contrast, in Denmark, the average number of arrests per year increases quickly until around age 18 or 19, where arrest rate is around 0.13. Then slowly decreases afterwards. That is, the arrest rate after the age of 18 is

actually quite comparable to that of the U.S. Since this U.S. sample is that of Philadelphia, which has a higher crime rate than the U.S. average, the actual U.S. average age arrest profile is likely to be somewhat below the age arrest profile shown in Figure 2. Of course, since the definitions of arrests and the clearance rates are different, one cannot draw any definitive conclusions about the differences between criminal behaviors in Denmark and the U.S. But one could say that the most of the differences in the arrest rate between both countries come from juvenile offenses. Figure 3 shows the age arrest participation rate across cohorts as in Figure 1. It depicts the fraction of individuals who were arrested at least once in a given year. It has a similar shape to the age arrest profile, and is about 50% less than the age arrest profiles. This indicates that on average, for individuals who are arrested, arrests occur about 1.5 times a year. This is consistent with most crimes being committed by relatively few repeat offenders. Again, the lines for older cohorts tend to lie below those for younger ones.

Figure 4 depicts the age arrest participation profile of the U.S. Again, the age participation profile of the U.S. is more than twice as high as that of Denmark before the age of 18, but is quite similar afterwards. Figure 5 shows the age nonemployment profile, and Figure 6 and 7 the age median and mean labor income profiles. Furthermore, Figure 8 depicts the age wage profile. These are all similar to the profiles of the U.S. and other OECD countries. It is interesting to notice that the mean wage profile trends upwards after the age of 60. This is likely to be due to a selection effect with the most productive seniors delaying retirement. As in the U.S., data, after age 19, both arrest rates and nonemployment rates decline with age, while wages and disposable income increase with age. It is not clear why the arrest rate

increases rapidly till age 19, even though the nonemployment rate decreases with age and the wage rate as well as disposable income increase with age.

Figure 9 plots the nonemployment rate before and after the arrest for male individuals from age 18 to 30. Figure 10 plots the same for individuals from age 18 to 66. We define an individual to be not employed if he is either unemployed or on social assistance (welfare). Notice the high rate of nonemployment for individuals who are in jail for 2 to 6 months, or from 6 months to 2 years. Almost 70 percent of them are not employed, before and after the arrest. The temporary drop in nonemployment around the months of jail for individuals in jail either for 2 to 6 months or for 6 months to 2 years is entirely due to the fact that he may be in jail, which is classified as not in nonemployment. The nonemployment rate for individuals in jail for 0 to 2 months actually declines after the jail term. The rate for individuals who are in jail longer stays roughly constant.

Next we adjust the nonemployment rate for the aggregate business cycle effect by dividing the nonemployment rate by the aggregate unemployment rate. Figure 11 plots the business cycle adjusted nonemployment rate for the males from age 18 to 30 and Figure 12 plots those for males from age 18 to 66. Notice that in both cases, the unemployment adjusted nonemployment rate slowly increases over time after the arrest. Note the difference between this pattern and that of the non adjusted nonemployment rate in Figure 10. What could explain this difference? A possible interpretation is arrests and jail term tend to occur when the unemployment rate is relatively high. In the months subsequent to the start of jail, unemployment tends to fall from this peak (which raises the adjusted nonemployment rate), which is responsible for the increase in adjusted nonemployment rate in the months after jail

seen in Figure 11.

Next, we look at the unemployment rate before and after jail. Figure 13 plots the unemployment rates before and after jail for various jail terms for individuals from age 18 to 30 and Figure 14 plots the same for age 18 to 66. First, we see that there are no significant differences between the unemployment rates for different length of arrests. Actually, if anything, the unemployment rate of males from age 18 to 30 after being in jail for 6 months to 2 years seems to be lower than those of others. Furthermore, we can see that the after jail unemployment rate is decreasing over time for all jail categories. These aspects are in sharp contrast to nonemployment rates, where an individual is nonemployed if he is either unemployed or on social assistance (welfare). This would imply two things. First, individuals who have longer jail sentences do not have higher unemployment rates than others, but more of them are on social assistance (welfare). Second, over time, there seems to be a substitution away from unemployment to social assistance.

### 3. Estimation Results

We now estimate the following distributed lag model, which is closely related to that of Grogger (1995).

$$Y_{it} = \sum_{j=1}^m X_{i,t-j} \beta_j + z_{it} \delta + \mu_i + \varepsilon_{it}$$

where  $Y_{it}$  is either the unemployment rate (the fraction of time unemployed) or social assistance rate (the fraction of time on social assistance) of individual  $i$  in quarter  $t$ ,  $X_{i,s}$  is the indicator which equals one if the individual was incarcerated in quarter  $s$  and zero otherwise,  $z_{it}$  is the vector of control variables such as age and individual backgrounds, and  $\mu_i$  is the individual fixed effects term. We estimate the

above model using OLS and fixed effects estimation.

The results are in Tables 1 to 3. First, what we see is that in all cases, the OLS estimate of the effect of past arrests on current labor market outcomes such as unemployment rate, nonemployment rate and social assistance rate is almost always positive and significant, with the coefficients being quite large. In fact, they are much larger than the OLS estimates obtained by Grogger (1995). This is likely to be due to the fact that the sample in Grogger (1995) only includes those who have or will have criminal records within the sample period, whereas our sample is the representative population in Denmark. It makes sense that the criminally inclined are less affected by past arrests than the general population. Furthermore, overall the coefficients of the effect of past jail on current social assistance are about twice as large as those of past jail on current unemployment. Hence, individuals with past jail terms are much more likely to be on welfare than to be unemployed. Of course, this does not imply causality from past incarceration to unemployment or social assistance. But we can say that either, possibly due to stigma in the labor market, past incarceration records make individuals seek welfare instead of looking for jobs and getting employed, or that individuals who are more likely to commit crimes are also more likely to stay on welfare.

Next, we turn our attention to the fixed effects results. As in Grogger (1995), the fixed effects coefficients are much smaller than those of the OLS, which indicates the importance of the latter interpretation, which emphasizes individual heterogeneities. Furthermore, we can see that the effect of past incarceration on current nonemployment is similar to that in Grogger (1995). That is, we find some significantly positive coefficients of past incarceration on the current

nonemployment rate up to lag 6. We also find that the effect of past incarceration on the social assistance rate is positively significant only up to a 4 quarter lag. The coefficients for higher lags then turn negative. On the other hand, the coefficients of the effect of past incarcerations on the unemployment rate is negative for the first 3 to 4 lags, then become positive for higher lags, where some of them are significant. That is, individuals who come out of jail first go to social assistance for 3 to 4 quarters, and then start to become unemployed. A possible interpretation is that when individuals come out of prison, they use social assistance as a haven, where they receive income from government without looking for jobs so that they can wait until their stigma of incarceration is sufficiently depreciated. Only then, they start looking for jobs by becoming unemployed.

We need to bear in mind that the above estimates of the effect of lagged incarcerations on the labor market outcomes control for the incarcerations in other periods. That is, it is the effect of past incarcerations when the individual stops committing any crimes afterwards. But it is likely that many individuals with past incarceration records, after experiencing temporary difficulties in labor market, would commit crimes again and get arrested, which may lead to a vicious circle where incarceration and deterioration of the labor market conditions reinforce each other over time. In what follows, we try to get an idea of the extent of the vicious circle by focusing on the unconditional effect of past incarceration on the current labor market outcome. To do so, we estimated the following equations.

$$Y_{it} = I_n \beta_n + z_{it} \delta + \mu_i + \varepsilon_{it}$$

where  $I_n$  is zero if the individual has never been incarcerated up till  $n$  years ago. We

set  $n$  to be zero, 1,...,12 years. By running the 13 regressions separately, we estimate the unconditional effect of all past incarcerations, incarcerations that occurred one year ago or earlier, two years ago or earlier, and three years ago and earlier, and so forth. The coefficients of past arrests are depicted in Table 4. Here, we can see that the effect of past incarcerations on current nonemployment is significantly positive even for incarcerations that occurred 12 years ago or earlier. A possible interpretation for the difference between this result and the results obtained earlier is that there is a vicious cycle of incarceration and the declining labor market outcome, where incarcerations resulting from the criminal behavior and temporary decline in labor market outcome reinforce each other over time to form a downward spiral. Furthermore, we also can see that the coefficients for the effect of arrest records many years ago on social assistance are larger than those on unemployment.

### **3. Concluding Remarks**

We have constructed a unique panel dataset of representative Danish males of ages 15 to 65. The dataset both includes detailed criminal records and labor market outcome including employment, unemployment and social assistance (welfare) as well as schooling and other individual characteristics. Using the panel dataset, we drew several age profiles and then conducted several regressions that estimate the relationship of past arrests on current labor market outcome.

We find that the age crime profile of Denmark is quite different from that of the U.S. before the age of 18, although afterwards they are quite similar. When we look at other important age profiles, such as age employment profile, age income profile, etc., they seem to be similar to that of the U.S. Recently there have been several macro studies that analyze criminal behavior using standard macro models

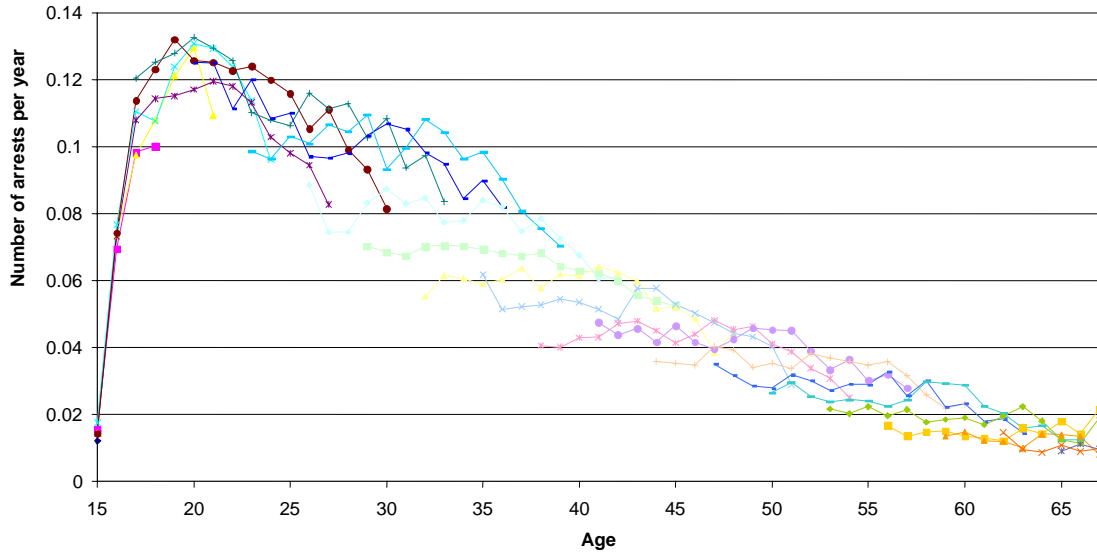
assuming intertemporal utility maximizing individuals. Examples are: Imrohoroglu, Merlo and Rupert (2004), Burdett, Lagos and Wright (2003). The important variables in their model that explain criminal behavior are wage or labor income, unemployment. Since the age wage profile or the age labor income profiles are quite similar between the U.S. and Denmark, we suspect that such macro models may not be able to explain the difference in age arrest profiles. We believe that more work needs to be done to explain the cross-country difference in age arrest profiles.

Our estimation results imply that for individuals with past incarcerations, social assistance works as a temporary haven where, if they stay away from crimes, they can wait until their stigma has sufficiently depreciated, and then they start looking for jobs. Furthermore, our fixed effects estimates imply that for individuals who stop committing crimes and getting arrested, the effect of past arrests are temporary. But most individuals with past arrests keep on committing crimes. If their criminal record leaves them with a little chance of gainful employment they could become trapped in the vicious circle where past arrests result in declining labor market conditions which in turn result in more crime and arrests. Much more work is needed on this aspect of criminal behavior. In particular, our results imply that because of the vicious circle effects, even after controlling for the unobserved heterogeneities by using the fixed effects estimator, past incarcerations are still endogenous. To further control for such endogeneities, we need to either find appropriate instruments, or estimate a more structural model.

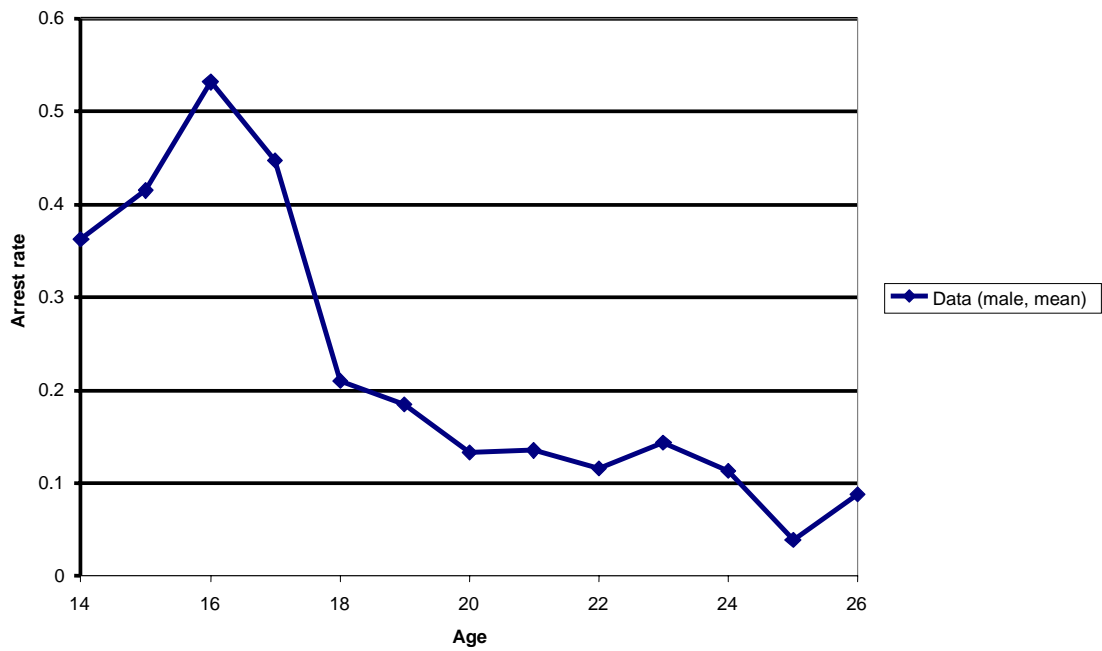
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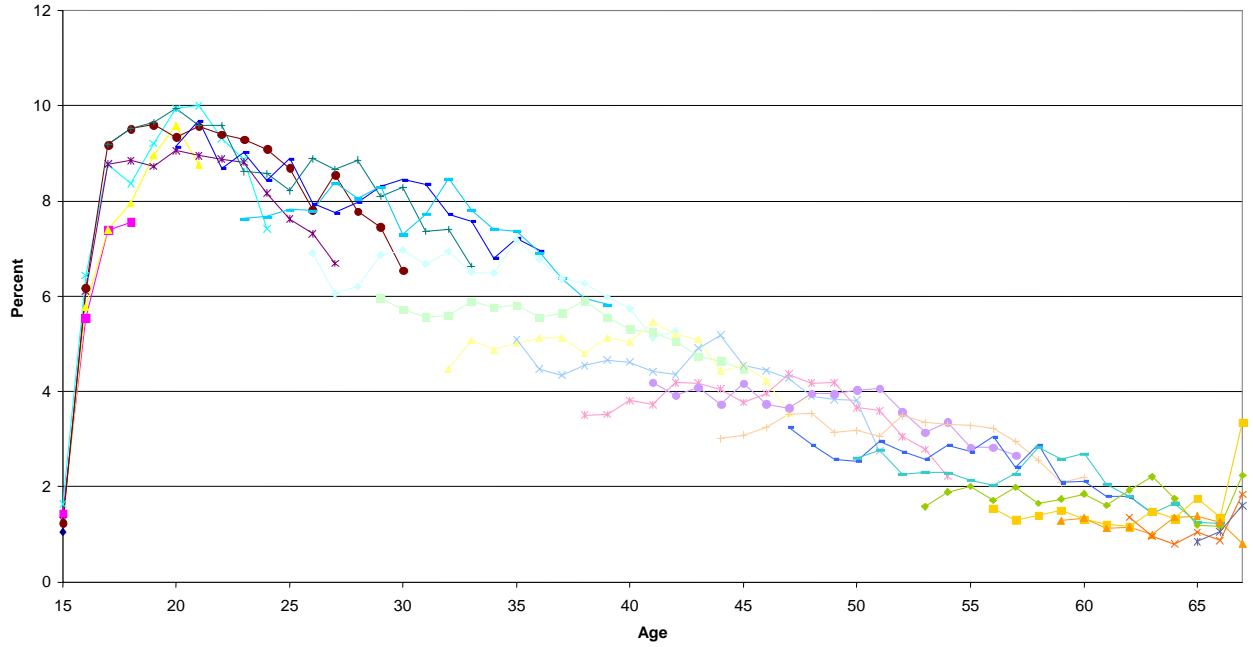
**Figure 1: Cohort Diagram**  
**Average Arrest Profile 1985-1999, Males**



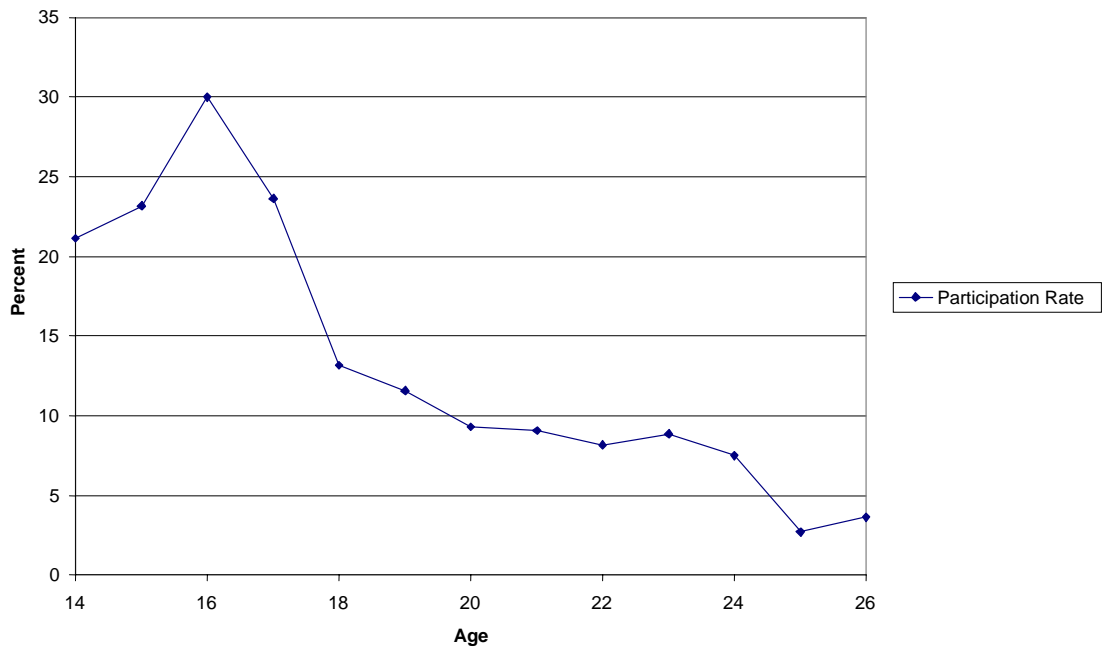
**Figure 2: Age Arrest Profile: U.S.**



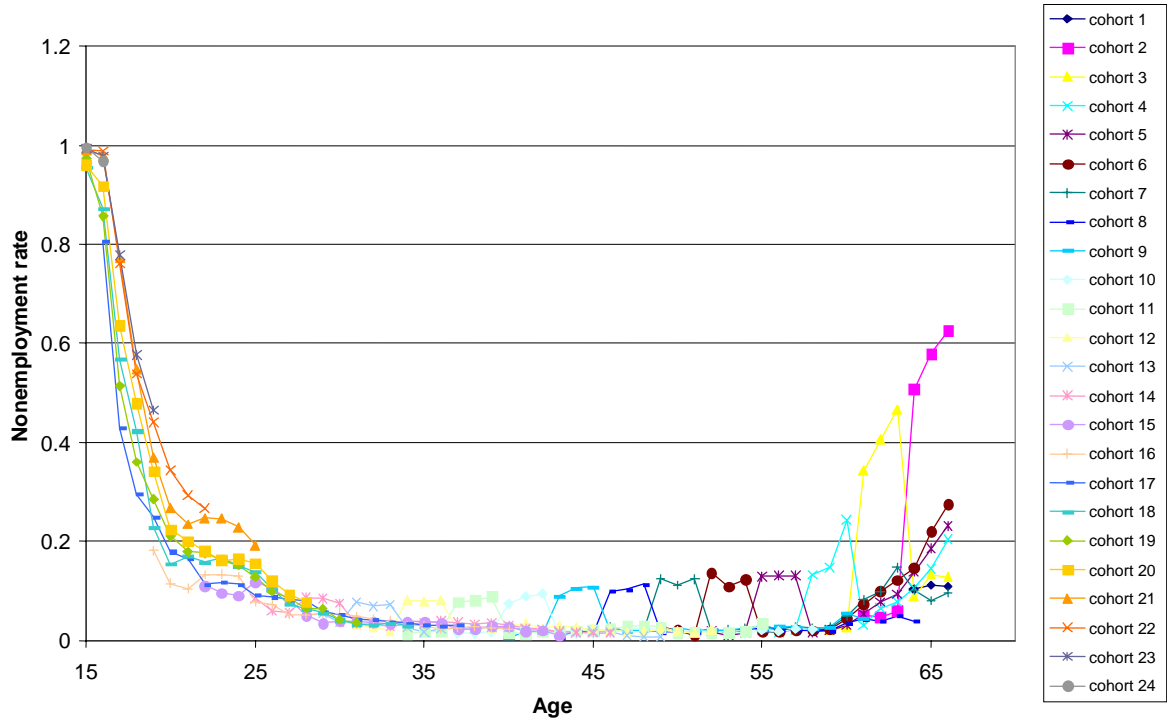
**Figure 3: Cohort Diagram**  
**Age Crime Participation Rate Profile 1985-1999, Males**



**Figure 4: Age Crime Participation Rate: U.S.**



**Figure 5: Age Nonemployment Rate Profiles for Men**



**Figure 6: Age Median Labor Income Profiles for Men**

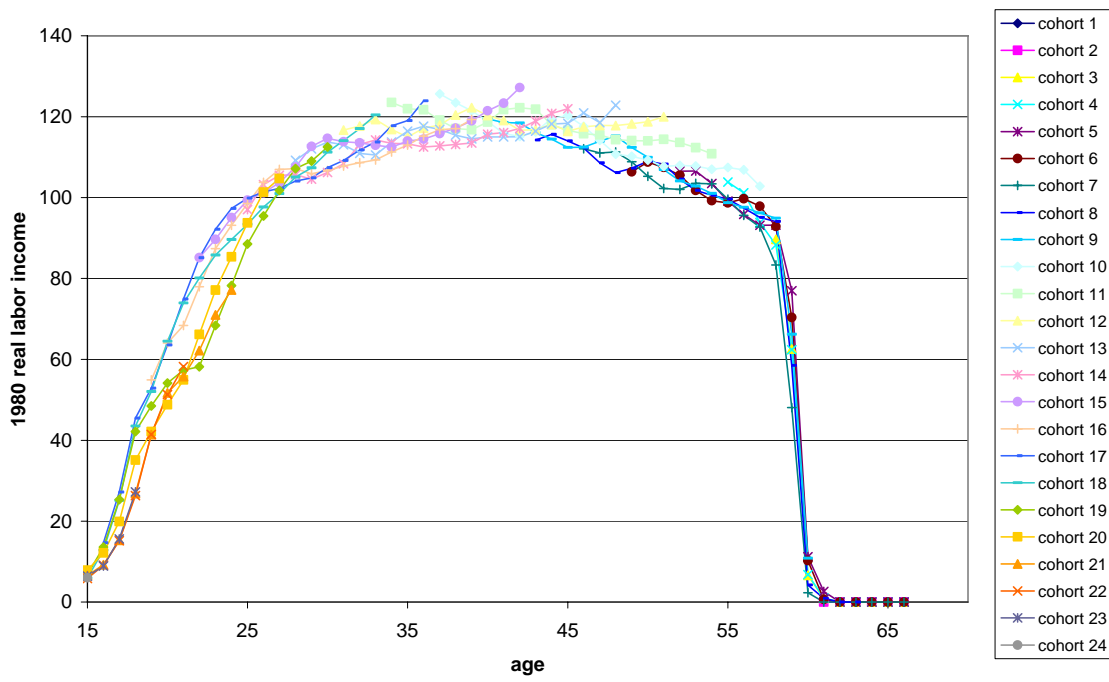


Figure 7: Denmark: Age Mean Labor Income Profiles for Men

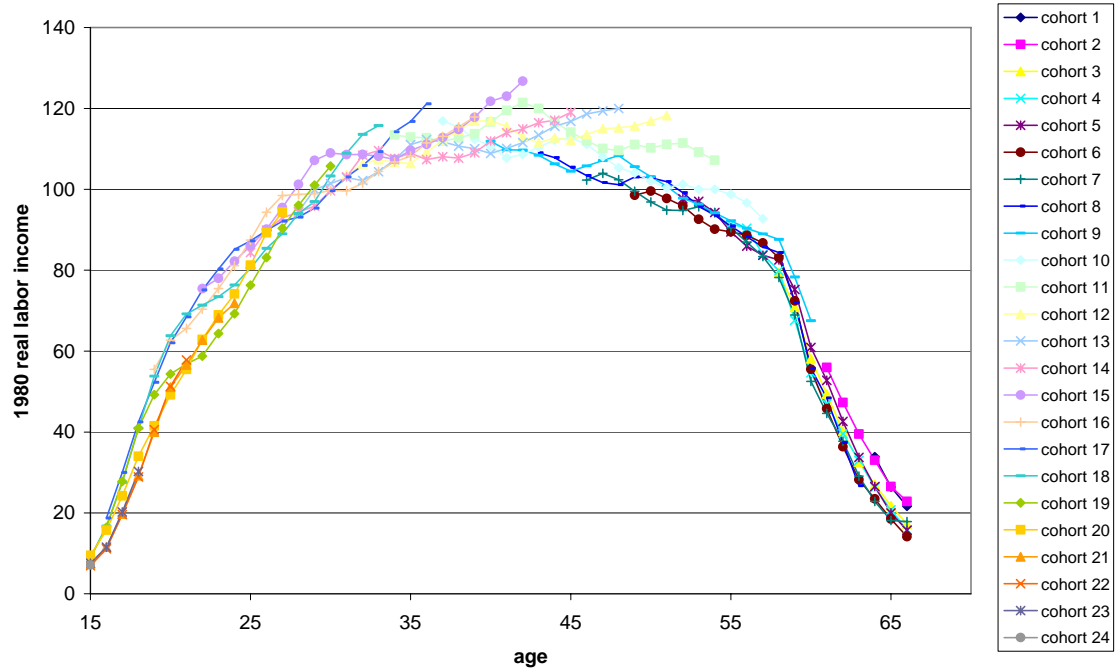


Figure 8: Denmark: Age Mean Wage Profiles of Men

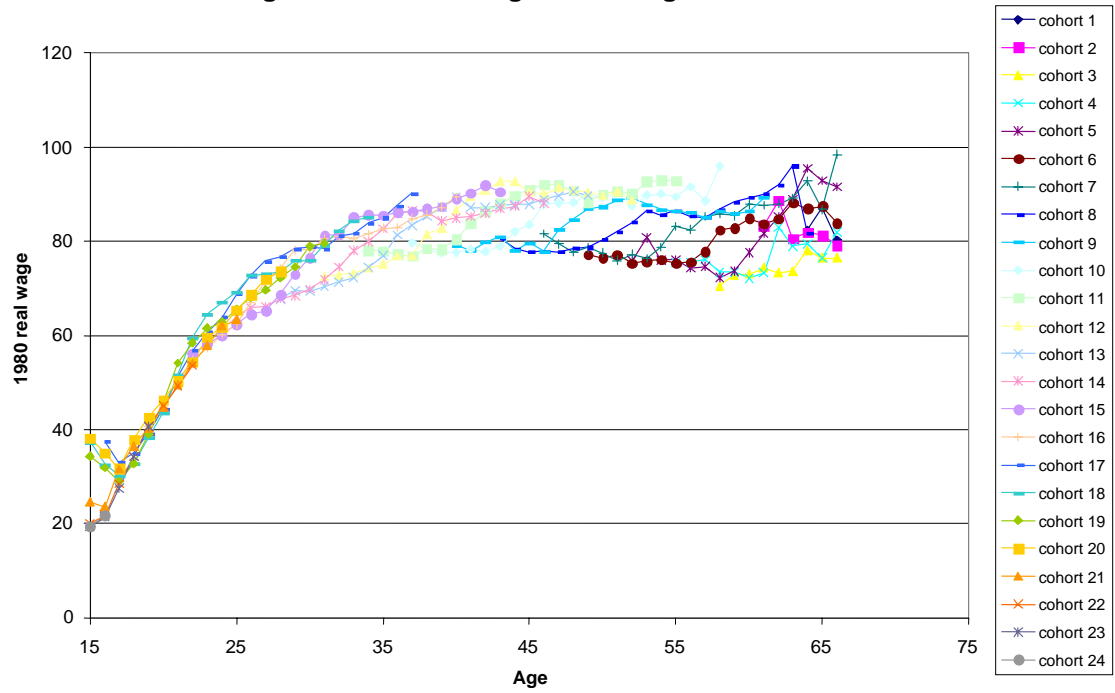


Figure 9: Nonemployment Rate from Age 18 to 30, Male

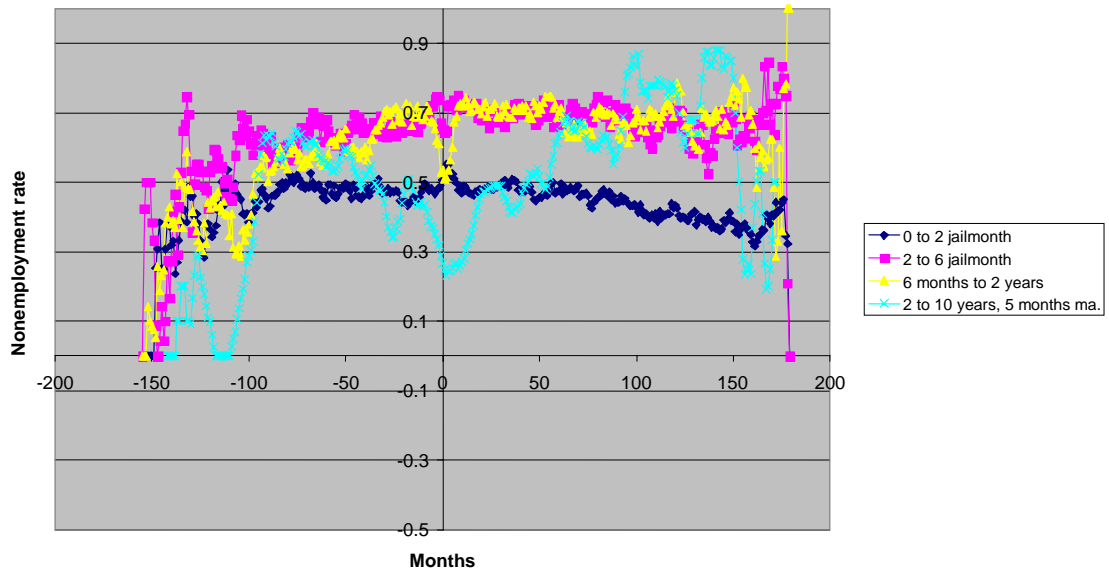
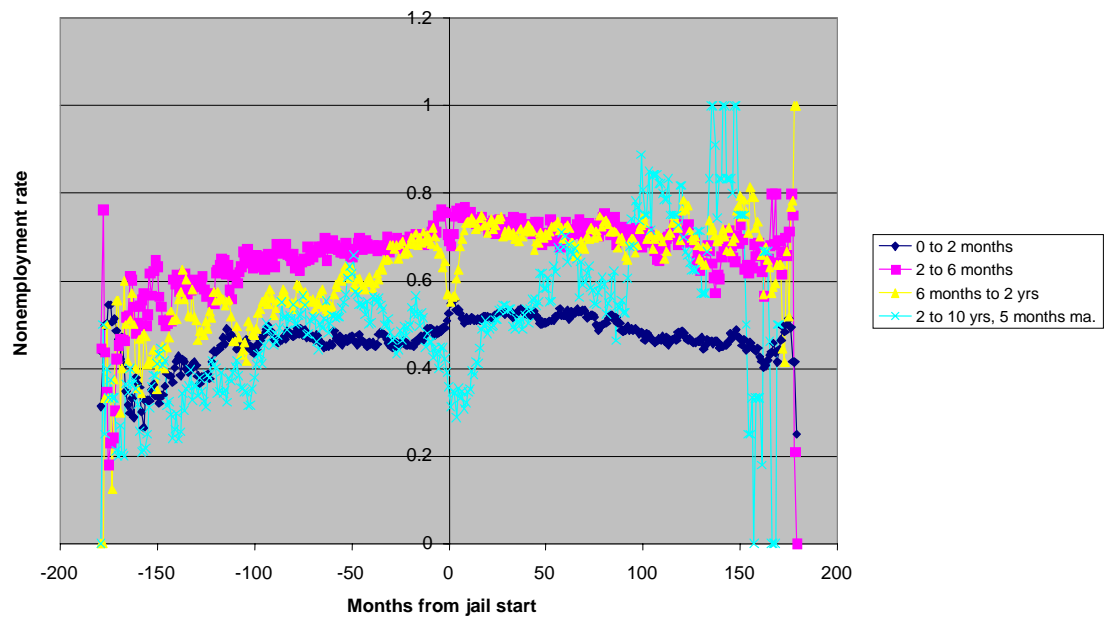
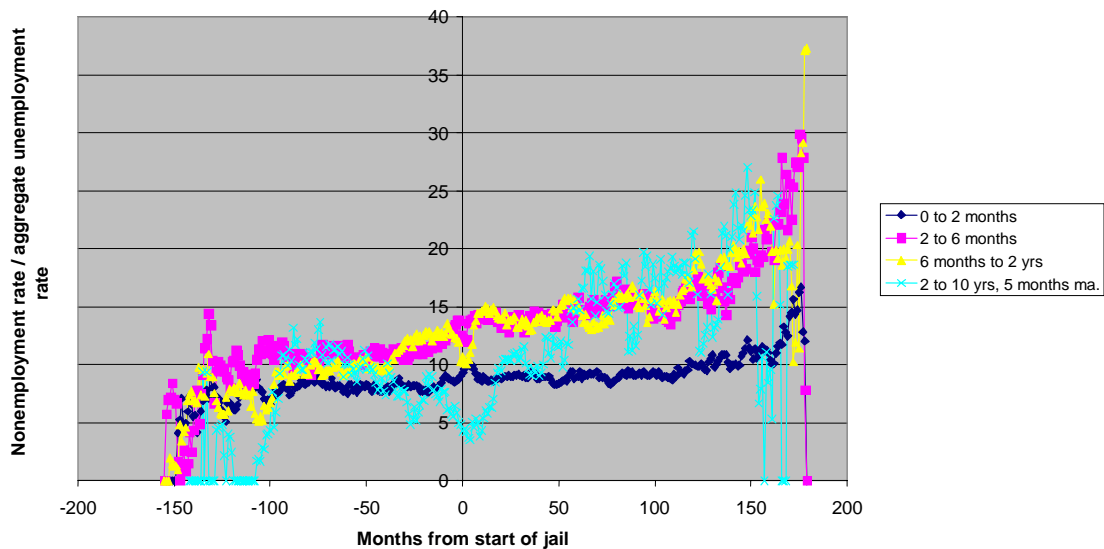


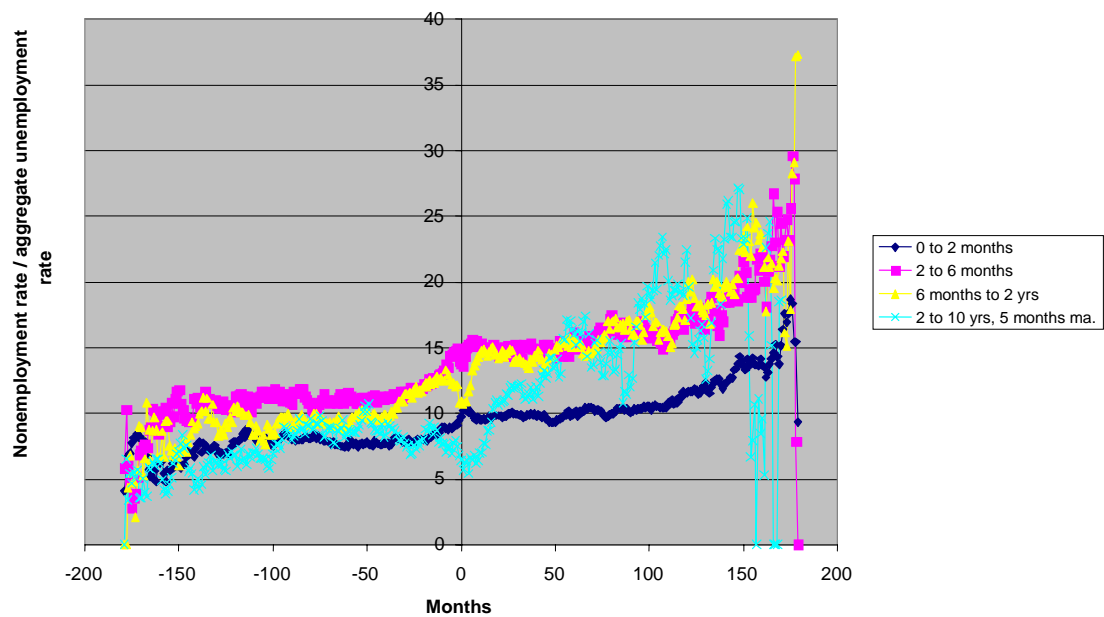
Figure 10: Nonemployment Rate Before and After Jail, from Age 18 to 66



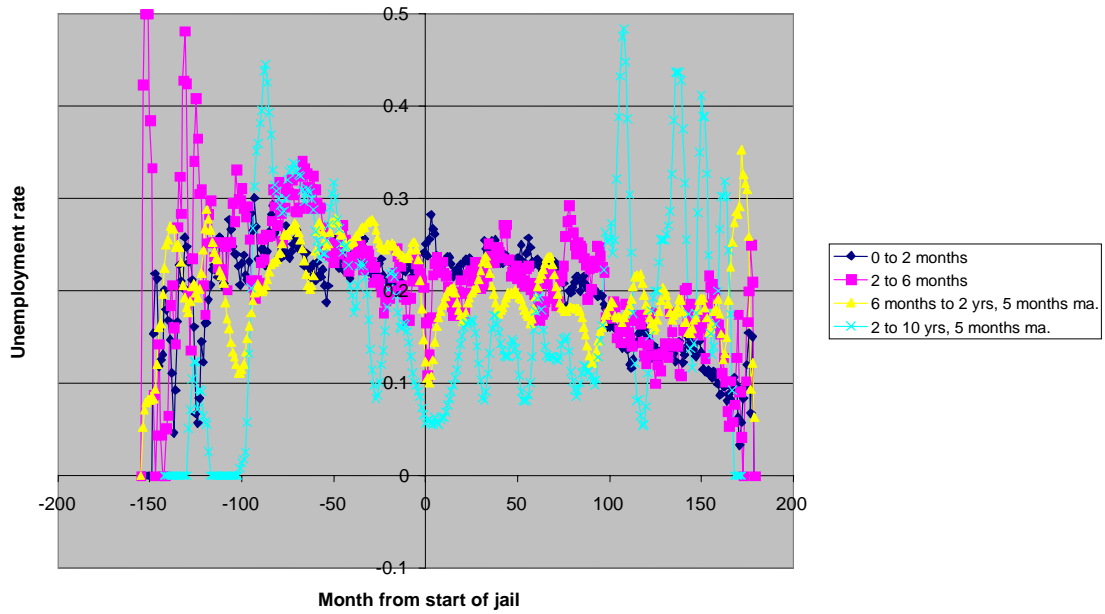
**Figure 11: Nonemployment Rate Before and After Jail Month, Male from Age 18 to 30**



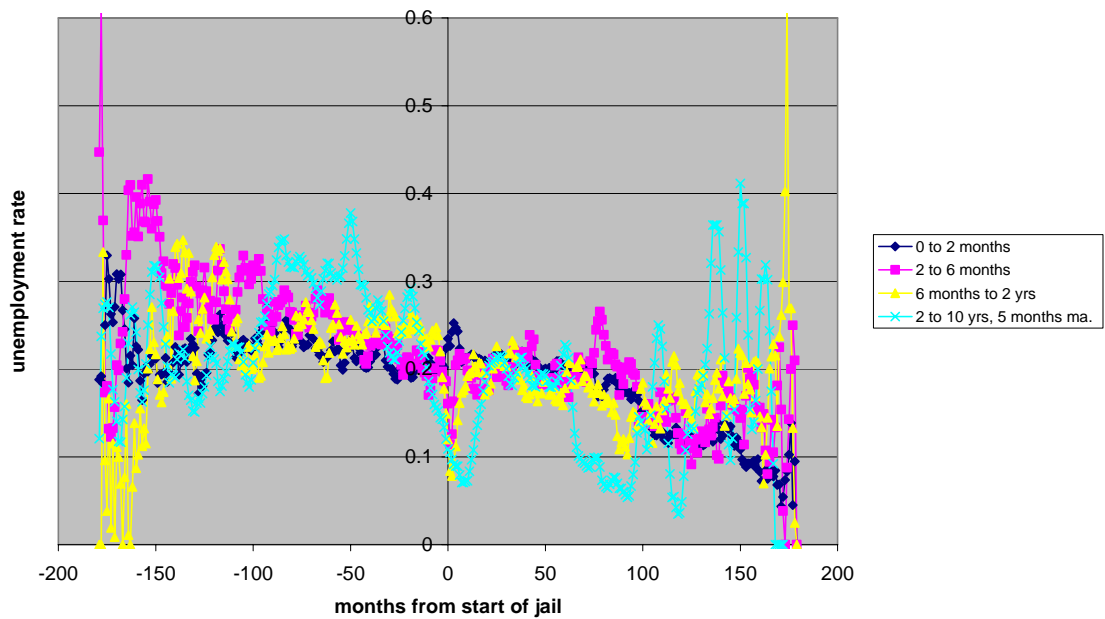
**Figure 12: Nonemployment Rate Before and After Jail Month, from Age 18 to 66**



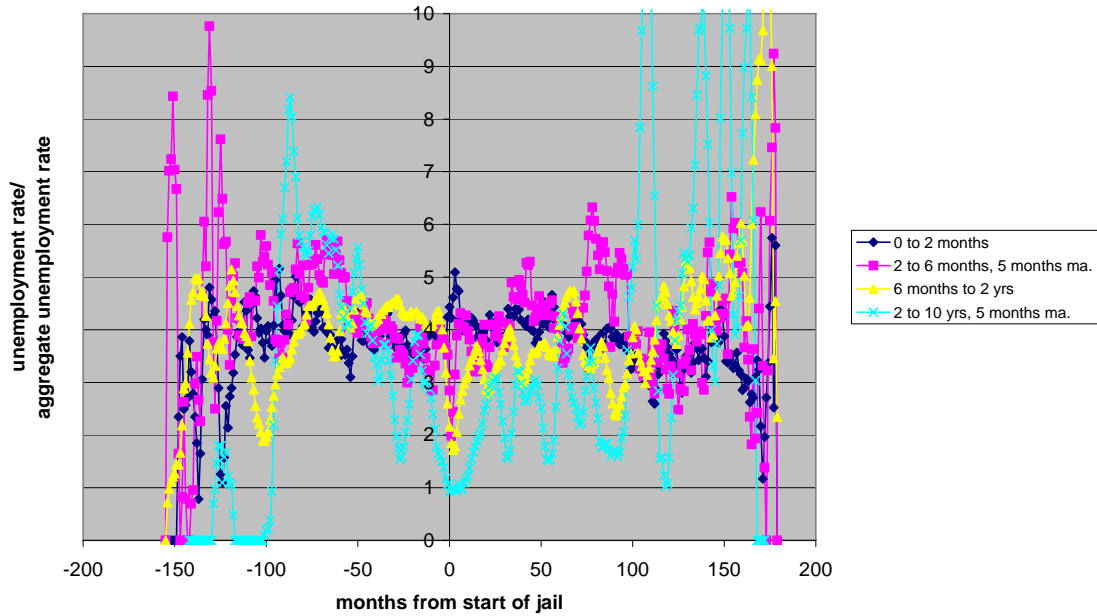
**Figure 13: Unemployment Rate Before and After Jail Month, from Age 18 to 30**



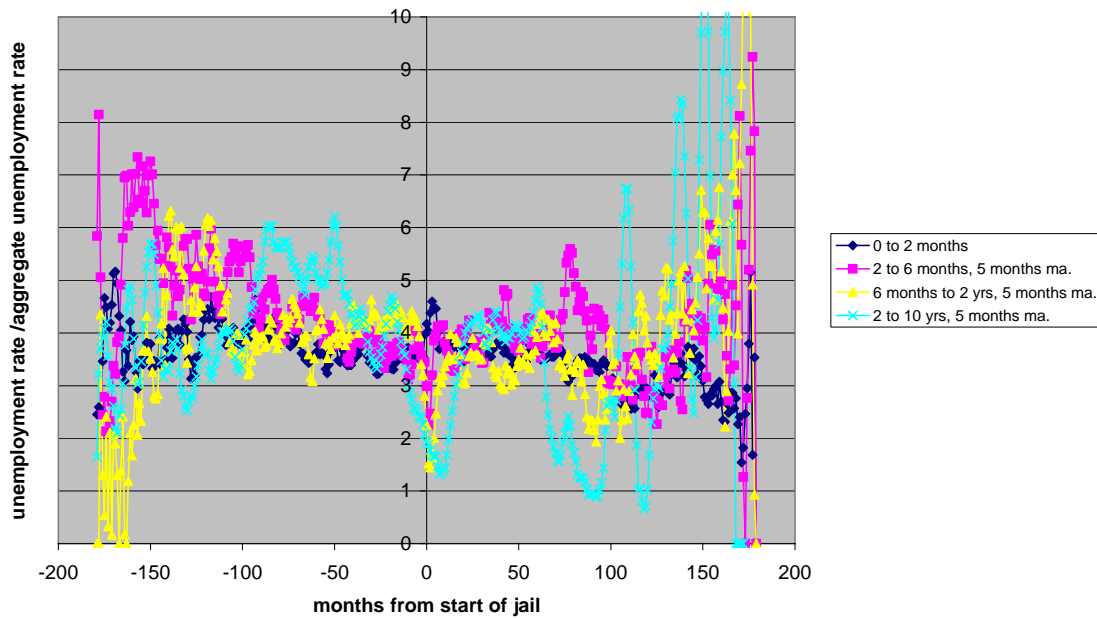
**Figure 14: Unemployment rate before and after jailmonth: from age 18 to 66**



**Figure 15: Unemployment rate before and after jailmonth  
, from age 18 to 30**



**Figure 16: Unemployment rate before and after jailmonth:  
from age 18 to 66**



## Tables

**Table 1: The Effect of Past Arrests on Unemployment.**

Lag arrests	OLS			FE		
	Estimate	Std. error	t-stat	Estimate	Std. error	t-stat
1	.0521	.0155	3.36	.0171	.0147	1.16
2	.0249	.0155	1.60	-.0004	.0147	-0.03
3	.0158	.0154	1.03	-.0168	.0147	-1.15
4	-.0329	.0157	-2.10	-.0624	.0149	-4.20
5	.0305	.0158	1.93	.0051	.0150	0.34
6	.0676	.0158	4.29	.0386	.0149	2.59
7	.0738	.0159	4.66	.0512	.0151	3.40
8	.0600	.0163	3.67	.0351	.0154	2.27
9	.0372	.0164	2.27	.0118	.0154	0.77
10	.0264	.0164	1.61	.0050	.0155	0.33
11	.0129	.0165	0.78	-.0113	.0156	-0.72
12	.0459	.0169	2.71	.0060	.0160	0.37

**Table 2: The Effect of Past Arrests on Nonemployment.**

Lag arrests	OLS			FE		
	Estimate	Std. error	t-stat	Estimate	Std. error	t-stat
1	.1585	.0189	8.41	.0429	.0167355	2.56
2	.1258	.0189	6.67	.0169	.0167674	1.01
3	.1308	.0187	7.00	.0202	.0166862	1.21
4	.0780	.0190	4.10	-.0278	.0168894	-1.64
5	.0988	.0192	5.14	.0108	.0170313	0.63
6	.1254	.0192	6.54	.0253	.0169293	1.49
7	.1397	.0193	7.25	.0442	.0171238	2.58
8	.1135	.0199	5.71	.0212	.0175424	1.21
9	.0673	.0199	3.38	-.0126	.0174831	-0.72
10	.0640	.0200	3.20	-.0047	.0175815	-0.26
11	.0587	.0201	2.93	-.0160	.0177821	-0.90
12	.0835	.0206	4.06	-.0022	.0181975	-0.12

**Table 3: The Effect of Past Arrests on Social Assistance.**

Lag arrests	OLS			FE		
	Estimate	Std. error	t-stat	Estimate	Std. error	t-stat
1	.1064	.0123	8.68	.0258	.0105	2.45
2	.1009	.0123	8.23	.0173	.0106	1.64
3	.1151	.0122	9.46	.0371	.0105	3.53
4	.1109	.0124	8.97	.0346	.0106	3.26
5	.0683	.0125	5.46	.0057	.0107	0.54
6	.0578	.0125	4.63	-.0133	.0107	-1.25
7	.0658	.0125	5.25	-.0071	.0108	-0.65
8	.0535	.0129	4.14	-.0139	.0110	-1.25
9	.0300	.0129	2.32	-.0244	.0110	-2.21
10	.0376	.0130	2.89	-.0097	.0111	-0.88
11	.0458	.0130	3.51	-.0048	.0111	-0.42
12	.0377	.0134	2.82	-.0081	.0115	-0.71

**Table 4: The Effect of Past Incarcerations on Current Labor Market**

Lag arrests	Unemployment			Nonemployment		
	Estimate	Std. error	t-stat	Estimate	Std. error	t-stat
0	.0158257	.0053391	2.96	.062036	.0063699	9.74
1	-.0037467	.0057714	-0.65	.0306151	.0068868	4.45
2	.0144299	.0046052	3.13	.0413188	.0054948	7.52
3	.0202169	.0041189	4.91	.038904	.0049147	7.92
4	.0214316	.0038599	5.55	.0344516	.0046059	7.48
5	.0270175	.0037208	7.26	.0384129	.0044399	8.65
6	.0244644	.0036192	6.76	.0398643	.0043185	9.23
7	.0163468	.003571	4.58	.0368817	.0042607	8.66
8	.014427	.0035593	4.05	.037183	.0042468	8.76
9	.0096467	.0035833	2.69	.0323344	.0042755	7.56
10	.0144944	.0035924	4.03	.0360305	.0042863	8.41
11	.0104622	.0035708	2.93	.0310788	.0042607	7.29
12	.0089216	.0035753	2.50	.0290961	.0042661	6.82
	Social Assistance					
0	.0462103	.0041936	11.02			
1	.0343619	.0045338	7.58			
2	.0268888	.0036178	7.43			
3	.0186871	.0032361	5.77			
4	.01302	.0030327	4.29			
5	.0113955	.0029236	3.90			
6	.0153999	.0028436	5.42			
7	.0205349	.0028054	7.32			
8	.022756	.0027961	8.14			
9	.0226876	.0028149	8.06			
10	.0215361	.0028221	7.63			
11	.0206166	.0028052	7.35			
12	.0201744	.0028087	7.18			