Self-employment in OECD Countries

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A large proportion of the labor force would like to be their own bosses. Self-employment presents an opportunity for the individual to set his or her own schedule, they can work when they like, they have to answer to nobody and ultimately perhaps it is a way to become rich. Unfortunately on the downside, if the business fails it may take with it their job, their savings, their home if as often happens it is used as security on a loan, and perhaps even their marriage because of the stresses and strains involved in making ends meet.. If we have learnt anything from portfolio theory it is that an individual should diversify their portfolio and not to pool their resources into a single risky activity. Governments on the other hand frequently see self-employment as a route out of poverty and disadvantage and for this reason offer aid and assistance for small businesses. The justification for these actions are usually that this will help promote invention and innovation and thus create new jobs; new firms may also raise the degree of competition in the product market bringing gains to consumers; greater self-employment may also go along with increased self-reliance and well being. Unfortunately economists have little evidence on whether these hypothetical benefits exist in practice. Even the widely held view, best expressed in Birch (1979), that small firms disproportionately are the creators of jobs has been challenged by Davis, Haltiwanger and Schuh (1996) who have undertaken the most careful empirical analysis of the job creation process to date[1]. They argue persuasively that "conventional wisdom about the job creating powers of small businesses rests on statistical fallacies and misleading interpretations of the data" (1996, p.57). Indeed, they go on to conclude the following.

> "It is true that small businesses create jobs in disproportionate numbers. That is gross job creation rates are substantially higher for smaller plants and firms. But because gross job

[1] As Davis et al (1996, p.170, footnote 17) point out, studies of Canadian employers by Picot, Baldwin and Dupuy (1994), of Dutch manufacturing by Huigen, Kleijweg and van Leeuwen (1991), of Australian manufacturing establishments by Borland and Home (1994) and of German manufacturing firms by Wagner (1995) also find that standard measurement procedures exaggerate the relative growth performance of small firms.

> destruction rates are also substantially higher for smaller plants and firms, they destroy jobs in disproportionate numbers. We found no strong systematic relationship between employer size and net job growth rates….Finally, and in contrast to the lack of a clear-cut relationship between employer size and job growth,…(we found)..clear evidence that large employers offer greater job durability" (1996, p.170).

Despite the lack of clear and convincing evidence (I learnt that phrase from the Starr report!) of the benefits of having a larger small business sector and/or having a higher proportion of the workforce self-employed, as noted above, many governments around the world provide subsidies to individuals set-up and to remain in business. In Britain and France, for example, government programs provide transfer payments to the unemployed while they attempt to start businesses.[2] In the U.S. similar programs are being started for unemployment insurance and welfare recipients. Many countries, including the UK and the United States, have government programs to provide loans to small businesses, and even exempt small businesses from certain regulations and taxes. Furthermore, many states and municipalities in the U.S. have had programs to encourage minority and female-owned small businesses[3]. Entrepreneurship has even become a subject of study at many universities, often encouraged, and frequently even funded by government, although I haven't a clue what they could possibly teach. In the week of writing the Judge Institute of Management Studies at the University of Cambridge in the UK was advertising for the Margaret Thatcher Professorship of Enterprise Studies[4]. Don't rush out to get application forms though because the salary is only £42,857 per annum or about $US70,000. Remember that the cost of living in the UK is high. It's probably not enough money to encourage Bill Gates or Richard Branson to apply!

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[2] See Bendick and Egan (1987).

[3] For a discussion of the existence of discrimination in the market for business loans see Blanchflower, Levine and Zimmerman (1998). The existence of these programs that offer preferential treatment to minorities and women is the subject of a series of challenges in the US courts. This paper is also being presented at this conference.

Probably the greatest interest in entrepreneurship springs from a belief that small businesses are essential to the growth of a capitalist economy. While the view that small businesses are responsible for a disproportionate share of job creation and innovation is disputed[5], this view is a common one. It is often argued that many of the problems of Eastern Europe come from the lack of entrepreneurs. Academics have been interested in self-employment as a safety valve where the unemployed and victims of discrimination could find jobs [6]. Interest in self-employment has also been prompted by the belief that they face a different set of economic incentives, and thus could be used to test various theories [7].

The simplest kind of entrepreneurship is self-employment. There is recent survey evidence to suggest that, in the industrialized countries, many individuals who are currently employees would prefer to be self-employed. Although it cannot be definitive, this evidence suggests that there may be restrictions on the supply of entrepreneurs. The International Social Survey Programme[8] of 1989 asked random samples of individuals from eleven countries the question:

"Suppose you were working and could choose between different kinds of jobs.
Which of the following would you choose? I would choose ...
(i) Being an employee
(ii) Being self-employed
(iii) Can't choose."

As can be seen from Table 1, large numbers of people gave answer (ii) and thus stated that they would wish to be self-employed. This answer was given by, for example, a remarkable 63% of

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4 In the advertisement enterprise studies is defined to include "technology and knowledge transfer, economics of the firm, general management, financial appraisal and investment, risk management, marketing, and distribution as well as the study of the macroeconomic., legal and political climate in which entrepreneurship may be encouraged or inhibited" (Economist, p.92, September 5th 1998)

5 See Brown et. al. (1990) for a critical appraisal of these schemes.

6 See Light (1972), Moore (1983) or Sowell (1981).

7 See Wolpin (1977), Moore (1983) and Lazear and Moore (1984).

8 For information on the International Social Survey Programme data series see the Data Appendix.

Americans (out of 1453 asked), 48% of Britons (out of 1297), and 49% of Germans (out of 1575). Answers are similar when the sample is restricted to employees only. These numbers can be compared with an actual proportion of workers that are self-employed in these countries of approximately 15%.

The data raise a puzzle: why do not more of these individuals follow their apparent desire to run a business? This paper explores the factors that may be important in determining who becomes and remains an entrepreneur. The paper uses data for a number of countries drawn from a variety of sources. The main source of data is the Eurobarometer Surveys conducted by EUROSTAT which provides information on member countries of the European union. These data are supplemented with cross-country data from the International Social Survey Programme series as well as the General Social Surveys for the United States and the Surveys of Consumer Finances in Canada. In the first section of the paper we discuss previous research findings. Section 2 describes measurement of a self-employment rate and the important role the agricultural sector plays in any analysis of the determinants of self-employment. It initially models the determinants of the self-employment rate using a panel of 23 countries for the period 1966-1996 and then performs a similar analysis of the determinants of self-employment at the level of the individual using a time-series of cross-sections for the period 1975-1996 for 19 countries. Section 3 examines whether the self-employed are more satisfied with their job than are individuals who are not their own boss. Section 4 examines whether self-employment enhances labor marker flexibility, Section 5 contains our conclusions.

1. Previous research

After years of comparative neglect, research on the economics of entrepreneurship—especially upon self-employment—is beginning to expand. Microeconometric work includes Fuchs (1982)

Borjas and Bronars (1989), Evans and Jovanovic (1989), Evans and Leighton (1989), Fairlie (1998), Fairlie and Meyer (1996, 1998), Reardon (1998) for the United States, Rees and Shah (1986), Pickles and O'Farrell (1987), Blanchflower and Oswald (1990, 1998a); Blanchflower and Freeman (1994), Meager (1992), Taylor (1996), and Robson (1998a, 1998b) for the UK; DeWit and van Winden (1990) for the Netherlands; Alba-Ramirez (1994) for Spain; Bernhardt (1994), Schuetz (1998), Arai (1997), Lentz and Laband (1990) and Kuhn and Schuetz (1998) for Canada; Laferrere and McEntee (1995) for France; Blanchflower and Meyer (1994) and Kidd (1993) for Australia and Foti and Vivarelli (1994) for Italy. There are also several theoretical papers including Kihlstrom and Laffonte (1979), Kanbur (1982), Croate and Tennyson (1992), and Holmes and Schmitz (1990) plus a few papers that draw comparisons across countries i.e. Schuetze (1998) – Canada and the USA, Blanchflower and Meyer (1994) – Australia and the USA; ; Alba-Ramirez (1994) for Spain and the United States and Acs and Evans (1994) for many countries.

One possible impediment to entrepreneurship is lack of capital. In recent work using US micro data, Evans and Leighton (1989) and Evans and Jovanovic (1989) have argued formally that entrepreneurs face liquidity constraints. The authors use the National Longitudinal Survey of Young Men for 1966-1981 and the Current Population Surveys for 1968-1987. The key test shows that, all else remaining equal, people with greater family assets are more likely to switch to self-employment from employment. This asset variable enters probit equations significantly and with a quadratic form. Although Evans and his collaborators draw the conclusion that capital and liquidity constraints bind, this claim is open to the objection that other interpretations of their correlation are feasible. One possibility, for example, is that inherently acquisitive individuals both start their own businesses and forego leisure to build up family assets. In this

case, there would be a correlation between family assets and movement into self-employment even if capital constraints did not exist. A second possibility is that the correlation between family assets and the movement to self-employment arises because children tend to inherit family firms. Blanchflower and Oswald (1998a) find that the probability of self-employment depends positively upon whether the individual ever received an inheritance or gift. This emerges from British data, the National Child Development Study; a birth cohort of children born in March 1958 who have been followed for the whole of their lives. Second, when directly questioned in interview surveys, potential entrepreneurs say that raising capital is their principal problem. Third, the self-employed report higher levels of job and life satisfaction than employees. Fourth, psychological test scores play only a small role. Earlier work by Holtz-Eakin, Joulfaian and Rosen (1994a, 1994b) drew similar conclusions using different methods on US data. The work of Black et al (1996) for the UK discovers an apparently powerful role for house prices (through its impact on equity withdrawal) in affecting the supply of small new firms. Cowling and Mitchell (1997) find a similar result. Again this is suggestive of capital constraints. Finally, Lindh and Ohlsson (1994) adopts the Blanchflower-Oswald procedure and provide complementary evidence for Sweden. Bernhardt (1994) in a study for Canada using data from the 1981 Social Change in Canada Project also found evidence that capital constraints appear to bind. Using the 1991 French Household Survey of Financial Assets, Laferrere and McEntee (1995) examined the determinants of self-employment using data on intergenerational transfers of wealth, education, informal human capital and a range of demographic variables. They also find evidence of the importance played by the family in the decision to enter self-employment. Intergenerational transfers of wealth, familial transfers of human capital and the structure of the family were found to be determining factors in the decision to move from wage

work into entrepreneurship.

There has been relatively little work on how institutional factors influence self-employment. Such work that has been conducted includes examining the role of minimum wage legislation (Blau, 1987), immigration policy (Borjas and Bronars, 1989) and retirement policies (Quinn, 1980). Studies by Long (1982) and Blau (1987) and more recently by Schuetze (1998) have considered the role of taxes. In an interesting study pooling individual level data for the US and Canada from the Current Population Study and the Survey of Consumer Finances respectively Schuetze (1998) finds that increase in income taxes have large and positive effects on the male self-employment rate. He found that a 30 percent increase in taxes generated a rise of 0.9 to 2 percentage points rise in the male self-employment rate in Canada compared with a rise of 0.8 to 1.4 percentage point rise in the US over 1994 levels.

A number of other studies have also considered the cyclical aspects of self-employment and in particular how movements of self-employment are correlated with movements in unemployment. Meager (1992) provides a useful summary of much of this work. Evans and Leighton found that white men who are unemployed are nearly twice as likely as wage workers to enter self-employment. Bogenhold and Staber (1991) also find evidence that unemployment and self-employment are positively correlated. In Blanchflower and Oswald (1990) we found a strong negative relationship between regional unemployment and self-employment for the period 1983-1989 in the UK using a pooled cross-section time-series data set[9]. In Blanchflower and Oswald (1998a) we confirmed this result, finding that the log of the county unemployment rate entered negatively in a cross-section self-employment probits for young people age 23 in 1981

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[9] Self-employment as a percentage of civilian employment and the OECD standardised unemployment rate in the UK over the years 1983-1989 were as follows (Source: OECD Economic Outlook).

	1983	1984	1985	1986	1987	1988	1989
Unemployment rate (%)	12.4	11.7	11.2	11.2	10.3	8.6	7.2

and for the same people aged 33 in 1991. Taylor (1996) confirmed this result using data from the British Household Panel Study of 1991, showing that the probability of being self-employed rises when expected self-employment earnings increase relative to employee earnings, i.e. when unemployment is low. Acs and Evans (1994) found evidence from an analysis of a panel of countries that the unemployment rate entered negatively in a fixed effect and random effects formulation. However, Schuetze (1998) found that, for the US and Canada that the elasticity of the male self-employment rate with respect to the unemployment rate was considerably smaller than he found for the effect from taxes discussed above. The elasticity of self-employment associated with the unemployment rate is about 0.1 in both countries using 1994 figures. A decrease of 5 percentage points in the unemployment rate in the US (about the same decline occurred from 1983-1989) leads to about a 1 percentage point decrease in self-employment. It does seem then that there is some disagreement in the literature on whether high unemployment acts to discourage self-employment because of the lack of available opportunities or encourage it because of the lack of viable alternatives..

There is, however, a good deal of agreement in the literature on the micro-economic correlates of self-employment (see Aronson, 1991) on this. It should be pointed out that most of this work is based on US data and, as we shall see below, the results do not necessarily carry through elsewhere. Subject to that caveat it appears that self-employment rises with age, is higher amongst men than women and higher among whites than blacks. Increases in educational attainment are generally found to lead to increases in the probability of being self-employed. The more children in the family the higher likelihood of (male) self-employment. Workers in agriculture and construction are also especially likely to be self-employed.

Self-employment rate (%)	9.6	11.4	11.5	11.5	12.4	12.6	13.3

2. The determinants of self-employment

It is not a simple matter to determine whether an individual is actually self-employed or not. It is certainly not a simple task to do so in a consistent way across countries. Some of the individuals who report being self-employed are *unpaid family workers*. This is considerably more prevalent in the agricultural sector than it is in non-agriculture – the unweighted average over the sixteen countries for which I have data in 1996 is 19.6% in agriculture and 7.3% in the non-agricultural sector and 11.6% overall. There is also considerable variation by country – overall 33.6% of the self-employed in Japan are unpaid family workers compared with 1.7% in the USA; 12.9% in Germany; 14.0% in Italy and 3.7% in Canada[10]. The extent to which individuals report being unpaid family workers is likely to be a function of both the tax regime and the welfare system prevailing within a country. It does not seem to be appropriate to simply throw away these individuals from any analysis; not least because there are other ways of remunerating the self-employed than via a wage. An example would be that an individual's expenses can be charged to the business and/or the value of the business may increase over time even though no salary is being paid. In my experience this is more of a problem in Europe than it is in North America. Earnings data for the self-employed seem to convey some information in the US. In the UK, for example, earnings of the self-employed are low and frequently zero or negative.

There is a further issue which needs to be confronted – how to deal with the incorporated self-employed. In the USA they are usually treated as employees (see Bregger, 1996). In Europe, and as far as I am aware in most of the rest of the OECD, they are included in the self-employment count. In a paper like this it is difficult to reconcile these differences. The approach

we take in this paper to overcome these definitional problems is as follows.

1. Analyze a series of micro-data files that have been collected across several countries with similar sample design, definitions and questions.
2. Pool data across countries and through time and include a group of country and year fixed effects in an attempt to control for the nuances of the economic and legislative environment within which the self-employed operate.
3. Work with the official data published by the OECD who have made considerable efforts over the years to make these estimates as comparable as possible across countries (see Annex 4A, OECD, 1992).

There is also considerable disagreement on how *the* self-employment rate should be measured. As we show below differences in results across papers are on occasions to be explained by differences in what is included in the denominator of the self-employment rate as well as on the sample restriction rules used. The problem is twofold. First, there is a good deal of disagreement in the literature whether the self-employed to be examined should include individuals working in both agriculture and non-agriculture. Second, there are three main ways of measuring the denominator

a) employees,

b) the labor force (employees plus unemployed),

c) the population and sometimes restricted further to just include the population between the ages of 16 and 65.

In this section we consider what if any differences arise in modeling self-employment as a result of such differences in definition and sample selection.. Table 2 reports data on the change

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[10] The proportion of the self-employed that are unpaid family workers in the remaining countries in 1996 was Australia 6.1%; Denmark 10.6%; Finland 4.6%; Iceland 2.3%; Ireland 5.1%; Netherlands 9.6%; Norway 10.3%; Portugal 5.8%; Spain 14.3%; Sweden 3.4%.

in the proportion of all workers who were self-employed for the years 1966, 1976, 1986 and 1996 in our sample of 23 countries (Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Turkey, UK, USA). Data are taken from various issues of the OECD Economic Outlook, The first point to note is how much variation there is in the trend in self-employment across countries. In 1996 the highest proportions were found in Turkey (58%) and Greece (46%) and the lowest in Luxembourg (7.5%) and the USA. (8.4%). If we compare the two end years we observe that over the last 30 years this rate fell in all countries except Iceland, New Zealand, Portugal and the UK. Table 3 reports further estimates where the self-employed are expressed as a percentage of the labor force. Over the same sample period now only New Zealand, Portugal and the UK had increases. In Table 4, which uses population aged 16-65 as the denominator, once again it is only the four countries identified in Table 2 that have experienced increases over the thirty year period under consideration

Table 5 shows that the proportion of total self-employment that is in agriculture has declined dramatically; indeed it has more than halved in Belgium, Canada, Finland, Germany, Iceland, Italy, Spain, Sweden and the United Kingdom. In 1995 the proportion of the self-employed working in agriculture was especially low in the United Kingdom (8.3%) and high Austria (45.4%), Ireland (44.3%) and Turkey (73.5%). Table 6, which presents the proportion of non-agricultural work that is accounted for by the self-employed, once again the table shows considerable diversity in experience across countries. However, now there are several additional countries where there has been an upward trend between 1966 and 1996 (Australia, Canada, Finland, Iceland, Ireland, Portugal, Sweden, New Zealand and the United Kingdom) than was found in Tables 2-4, which examined both the agriculture and non-agricultural sectors combined.

Clearly there are broad similarities between the trends in self-employment identified in Table 2-5. Overall, the predominant trend in self-employment is downward; the main exceptions are New Zealand, Portugal and the UK where there have been substantial increases in the self-employment rate, however measured. The upward trend is most noticeable in the non-agricultural sector.

The next issue we examine is what are the determinants of self-employment and to what extent do they vary across countries? We do so in Table 7 by estimating five self-employment equations using the time-series data reported in Tables 2-6. Total observations are 626 for the years 1966-1996; using a lagged dependent variable reduces the sample size to 600. The data set is an unbalanced panel. As we move across the columns the definition of self-employment is varied[11]. Included in each of the regressions is a lagged dependent variable, a time trend (1966=zero), the percentage of total employment in agriculture, 21 country dummies (excluded category is Austria) the natural logarithm of the unemployment rate and a full set of interactions between the country dummies and the log of the unemployment rate. The main conclusions are as follows

1) In all five equations the trend in self-employment is positive and significant.
2) As might be expected, the higher the percentage of workers in agriculture, the higher the various self-employment rates. The variable is insignificant in the agricultural sample in the last column of the table.
3) The unemployment rate enters significantly with a negative coefficient when entered on its own without any interaction terms when the dependent variable is defined only as in column

[11] Definitions of the dependent variables in Table 7 are as follows -- column 1=self employment/total employment; column 2=self employment/labor force; column 3= self employment/ population aged 16-64; column 4=(self-employed/all workers) –in the non-agricultural sector; column 5 =(self-employed/all workers) in the agricultural sector.

3 (results not reported) but is insignificant in the other used in Table 7. The significance of the various interaction terms suggests there is considerable variation across countries in the influence of unemployment, both in terms of the direction and magnitude of any effect. If we look at the first column where self-employment is expressed as a proportion of total employment, the unemployment rate enters negatively in Austria, which is the excluded category [12]. There is an even larger negative effect in Japan. Most of the other coefficients are positive, although in a number of cases the t-statistic is low suggesting that the effect of the unemployment rate is not significantly different from that of Austria (i.e. Denmark, Luxembourg, Portugal, Canada, France, Netherlands, Germany, USA). Even though most of the other interaction terms have significant t-statistics, implying that the effect of unemployment in that country is significantly higher than it is in Austria, only in Iceland and Italy (t=2.3 and 6.0 respectively) does the unemployment effect turn positive. There is evidence of even stronger negative unemployment effects when the sample is restricted to agriculture in the final column. Some experiments were done with lags on the unemployment rate in all five columns and the results were similar.

Any labor economist worth his salt is not going to limit him or herself to time-series data, so in the time honored fashion I move on to modeling self-employment using micro data. I make use of a data file I have constructed at the level of the individual for 19 countries[13] and just under 575,000 people. Data are taken from various Eurobarometer Surveys conducted by the European Commission for the years 1975-1996 and merged this with data drawn from the United States from the General Social Surveys (for details of both of these survey series see the Data

[12] The t-statistics reported on the unemployment and country interaction terms test whether the coefficient is significantly different from the excluded category Austria whose coefficient is that on the unemployment rate (-.0190).

Appendix). The Eurobarometer Surveys cover member countries in all years as well as potential members even before they join – hence information is available on Norway for a few years even though the Norwegians actually voted not to join the EU. A considerable amount of preliminary data work had to be conducted to put these 45 separate surveys on a comparable basis. The numbers of observations by country and the years for which data are available are as follows

Country	*N*	*Years*
Austria	3887	1995-96
Belgium	45863	1975-96
Denmark	48481	1975-96
East Germany	16347	1990-96
Finland	4392	1995-96
France	46599	1975-96
Great Britain	44338	1975-96
Greece	35988	1981-96
Ireland	45010	1975-96
Italy	50942	1975-96
Luxembourg	21029	1975-96
Netherlands	48556	1975-96
Northern Ireland	13734	1975-96
Norway	7960	1991-95
Portugal	30958	1985-96
Spain	27340	1985-96
Sweden	4084	1995-96
USA	30117	1975-96
West Germany	46131	1975-96
Total	571756	

We also report results for Canada using a time series of cross sections of the Surveys of Consumer Finances for the years 1984-1995 (for details see the Data Appendix).

We now look at a series of probit equations in Table 8a that model the probability that an individual is self-employed in their main job. The numbers of controls are limited because of the need for comparability over time and countries – they include age, education, gender, household size and the number of children under the age of 15 in the household. I have also mapped onto

[13] The countries are Austria, Belgium, Denmark, East Germany, Finland, France, Great Britain, Greece, Ireland, Italy, Luxembourg,

the data file the gender-specific country unemployment rate for each year. I am unable to distinguish agricultural and non-agricultural employment in my data files currently. As we move across the columns the definition of the dependent variable is changed from a 1 if self-employed and a zero if an employee in column 1. Column 2 a zero also includes the unemployed and in column 3 those out of the labor force are added with the sample restricted to those individuals between the ages of 16 and 65. Eighteen country dummies and the log of the unemployment rate plus a full set of interactions between the country dummies and the unemployment rate also included. Robust standard errors are estimated with an adjustment to allow for the so-called Moulton problem (Moulton, 1986, 1987, 1990) because unemployment rates relate to groups that have common components in their residuals; without such an adjustment standard errors would be biased downwards. For a discussion of this procedure see p.238 of Stata Release 5 User's Guide (1997) and Rogers (1993).

The probability of being self-employed rises with age, is higher for men than women and is higher the larger is household size. Interestingly the least educated (age left school < age 15) and the most educated (age left school >=22 years) have the highest probabilities of being self-employed. The time trend in all cases has a significant U-shape minimizing towards the end of the 1980s. When entered on its own without the country interactions the log of the unemployment rate is significantly positive in the first two columns and zero in the third (results not reported). The inclusion of the interaction terms in all three cases significantly improves the overall fit. Hence specifications with interactions are the ones reported. The coefficient on the unemployment rate refers to the US, which is not significantly different from zero in all three specifications. In column 1 significant negative effects are found in Austria, Denmark and

Netherlands, Northern Ireland, Norway, Portugal, Spain, Sweden, West Germany and the United States.

Finland (based on a t-test of whether the overall effect for the country is significantly different from zero). On the other hand significant positive effects are found in Belgium, the United Kingdom, Germany, Norway and Sweden. No evidence of any effect from unemployment was found in France, Netherlands, Luxembourg, Greece, Spain and Portugal, These results are little changed as the measurement of the dependent variable is altered as we move across the columns. It will be interesting to see how these results change when the age and gender specific unemployment rates are used.

In Table 8b we estimate similar equations to those estimated in Table 8a, with the dependent variables defined in the same way, but now for Canada. I decided that I ought to put in the extra time to get some results for Canada given that CILN was paying for the Conference! The data used are the Canadian Surveys of Consumer Finances (CSCF) which contain information on nearly a million individuals over the period 1981-1995 but excluding 1983 where there is no survey available. The Canadian data are analyzed separately because of differences in the availability of some variables and because of the sheer size of the data file. Numbers of observations by year are as follows.

1981	69259
1982	69183
1984	64415
1985	63525
1986	56451
1987	74822
1988	63968
1989	69038
1990	75723
1991	69956
1992	64216
1993	63964
1994	65060
1995	56482
Total	926062

Included as controls are age, gender, five schooling dummies, 5 family structure variables (because household size isn't available), number of children <18, job tenure 9 province dummies and the log of the age and gender specific unemployment rates. There are three age categories (15-24; 25-55 and 55-64) available separately by gender by 9 years making 84 observations in all. Adjustments to the standard errors are made in the same way as described above. In all three specifications of the dependent variable the unemployment rate enters significantly *negative*. This stands in direct contrast to the results of Schuetze (1998) who obtained a *positive* coefficient using the same data. In private correspondence we have been trying to reconcile these two contrasting results – the discussion is ongoing. It appears that the difference is not attributable to the fact that Schuetze a) analyzed only men b) included tax rate variables c) included different controls such as marital status which are potentially endogenous to labor market experience d) used province unemployment rates. We currently believe that the difference probably arises because Schuetze examined only non-agricultural employment and all sectors are examined here. As can be seen from Tables 5 and 6 self-employment in the two sectors moved very differently over the period in question. We are still working on resolving this question.

In order to get a clearer picture of how the determinants of self-employment vary across country I estimated a series of equations for each country. Results are reported in Table 9. I exclude the unemployment rates as there are only two unemployment observations per year—one each for males and females. (In a later version of the paper I will re-estimate these equations with age and gender specific unemployment rates. These data have been provided to us by the OECD but have not yet been computer coded). I group Austria, Finland, Norway and Sweden together as there are only two years of data available for each of these countries and include three country dummies. Analogously I combined East and West Germany and Great Britain and Northern

Ireland. To examine the role of education two dummy variables to identify the highest and lowest education categories were included. With only a couple of exceptions both the age and male variables are significantly positive. The results for the time trend, household size and the number of children are much more mixed across countries. Interestingly the findings in Table 8a are broadly confirmed; self-employment is highest for individuals at the tails of the education distribution. Individuals with the least education have the highest probability of being self-employed; the main exception is the UK where the reverse is the case. This is consistent with the recent findings of Reardon (1998) for the USA.

To conclude this section it appears that there is little consistent evidence that self-employment is correlated with unemployment consistently across countries. On balance there is probably more evidence in support of a negative effect but there is evidence of positive effects in a number of countries. Second, there is also a good deal of variation in the determinants of self-employment. Common to most countries is the fact that self-employment is dominantly male and more prevalent among older age groups than it is among the young (see Blanchflower and Oswald, 1998c for more on this). There is some evidence that self-employment is more prevalent among groups at the two ends of the education distribution and especially so for the least educated.

3. Job satisfaction

In this section I examine how satisfied the self-employed are with their jobs in comparison with employees. Questions about job satisfaction are difficult to interpret due to the subjective nature of the variable and the problem of making interpersonal comparisons (Freeman, 1978). Still, the econometric literature based upon satisfaction data has yielded interesting and consistent results across data sets that show links between satisfaction and economic and

demographic variables. The small economics literature on this issue includes Hamermesh (1977), Borjas (1979), Freeman (1978), Meng (1990), Clark and Oswald (1992, 1996), Clark (1996) and Blanchflower and Freeman (1996). Comparisons of responses to satisfaction questions across countries are fraught with even greater dangers, and we are aware of only one study making satisfaction comparisons across countries (Blanchflower and Freeman (1994) who compare job satisfaction in 10 countries). People in one country may "scale" responses differently than those in another. For instance, Americans may be relatively optimistic, with an "everything will work out" mentality that leads people with the same true satisfaction (on some objective scale) to respond more positively to a "Are you satisfied with your job?" question than the potentially more reserved British. Subject to these caveats it is not without interest to compare the satisfaction of the self-employed with that of employees.

In two earlier jointly authored papers paper I found that the self-employed reported being more satisfied with their jobs than was the case for employees. In Blanchflower and Oswald (1998a) we examined data for the UK from the National Child Development Study of 1981 for a sample of 23-year and found that the self-employed were more satisfied with their jobs[14]. Approximately 46% of the self-employed said that they were in the top category of very satisfied, whereas the figure was 29% for employees. Ordered probit equations which also included controls for union membership, marital status, gender, disabled status, region, highest educational qualification, part-time, ever unemployed in the previous 5 years, a dummy for problems with arithmetic, months of experience, and job tenure confirmed this result. As an experiment into the effects of access to capital, we split the data into two sub-samples – those

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[14] The question asked was "*Taking everything into consideration, how satisfied or dissatisfied are you with your job as a whole*" (Q19j, p.9: NCDS4 questionnaire).
The responses were coded into five categories -- very dissatisfied, dissatisfied, neither, satisfied, and very satisfied.

who had received no inheritance (the capital constrained) and those people who had received an kind of inheritance or gift – that we suggested might be considered to be less capital constrained. There is some evidence that the self-employment dummy variable had a smaller impact in the group who inherited; the dummy even goes negative. Such evidence, we argued, might be taken to be consistent with the idea that those with capital—through an inheritance—are more able to enter the self-employment sector and drive down the rents available there. In Blanchflower and Freeman (1997) we estimated a series of job satisfaction equations across 11 countries using data from the International Social Survey Programme of 1989 (for details see the Data Appendix) and found that the self-employed had higher levels of job satisfaction than employees in an equation where the countries were pooled[15]. Job satisfaction was especially low in Hungary. Table 10 reports levels of job satisfaction using these same data for the self-employed and employees and confirms the finding that the self-employed report higher levels of satisfaction than do employees in every country except Hungary. Table 11 reports the results of estimating an ordered logit with a full set of country dummies (Blanchflower and Freeman (1997) only included a Hungary dummy). The higher level of job satisfaction of the self-employed is confirmed. When separate equations by country were estimated (results not reported) the coefficient on self-employment is significantly positive in all countries except Ireland and Hungary where it is insignificantly different from zero.

New data on job satisfaction has recently become available for the 15 member countries of the European Union from one of the special supplements to the Eurobarometer Survey #44.2 (available through ICPSR as survey #6722) that was collected between November 1995 and

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[15] The question asked was "How satisfied are you in your main job?" (Q21 ISSP 1989 questionnaire)
The responses were coded into seven categories -- completely dissatisfied, very dissatisfied, fairly dissatisfied, neither, fairly satisfied, very satisfied and completely satisfied.

1996. The survey included a series of questions on working conditions that included a question on job satisfaction[16]. The weighted responses by country are tabulated in Table 14 separately for employees and the self-employed. Despite the rather small sample sizes for the self-employed once again it appears to be true that the self-employed have higher levels of job satisfaction than those who are not their own boss. The only exception to this appears to be Greece. The survey is rich in information on other aspects of the job which can be included in a job satisfaction in an attempt to distinguish the source of this higher level of satisfaction. In Table 15 we once again estimate ordered logit equations of job satisfaction and include controls for industry, occupation, age and its square and gender in column 1 and confirm the finding that the self-employed have significantly higher levels of satisfaction than employees (t=7.8). In column 2 we add further controls for commuting time, job tenure, shift working, establishment size, and public sector and find the same self-employment result (t=4.6). Reading from column 2, job satisfaction is U-shaped in age; lower for those who work shifts, who work alone or are employed in agriculture or live in Greece. Job satisfaction is higher for legislators/managers; for those in public sector jobs, with longer job tenure, with shorter commuting time to their place of work and who live in Denmark. When column 1 is re-estimated separately for each country, the coefficient on the self-employment dummy is positive in every case. It has a t-statistic above 2 for 6 countries (Belgium, Germany, Italy, Luxembourg, Netherlands and Sweden), between 1.8 and 2 for a further three countries (Ireland, Great Britain and Finland) and 1.5 for Denmark. It is insignificantly different from zero in Greece, Spain, France, Portugal and Austria.

Data on job satisfaction is also available for the United States in the General Social

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[16] The question asked was *"on the whole, are you very satisfied, fairly satisfied, very satisfied or not at all satisfied with your main paid job?* (Q36).

Surveys for the years 1972-1996[17]. In Table 16 the results of estimating two ordered logit job satisfaction equations are reported with the sample pooled over 21 years of data (this is not a panel of individuals but a rolling cross-section). Included as controls, are age and its square, gender, race, hours of work, years of schooling plus a time trend in addition to a dummy for self-employment. We seem to have established a fact that appears to be consistent across countries—the self-employed consistently report being more satisfied with their work than employees and this result is now confirmed with a long time run of data for the United States. Indeed, this result is robust to the inclusion of (qualitative) controls for the level of income and its change in column 2 which leaves the size and significance of the self-employment variable largely unchanged[18].

I conclude this section with a simple statement. The self-employed are more satisfied with their jobs than are individuals who are not their own boss.

4. Labor Market Flexibility and Macro-economic Performance

Over the last couple of decades many countries – and especially the United Kingdom and New Zealand – implemented reforms focused directly on the labor market. Such reforms were expected to improve the workings of the economy by changing the labour market: industrial relations laws that weakened union power; measures to enhance self-employment; privatization of government-run or owned businesses; reduction in the value of unemployment benefits and other social receipts relative to wages; new training initiatives; tax breaks to increase use of private pensions; lower marginal taxes on individuals; elimination of wage councils that set minimum wages. In the price-theorists' ideal world, these changes were intended to reduce

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17 There were no surveys in 1979, 1981, 1992 or 1995.

18 For further discussion on the use and construction of these variables see Blanchflower and Oswald (1998b) who use them in a series of happiness equations based upon the same data set.

market rigidities, increase mobility, and raise incentives. They were intended to create the micro-institutional base for a more effective market economy with higher productivity, lower unemployment, improved living standards, and possibly a higher permanent rate of economic growth as well. Unfortunately there is relatively little empirical evidence available to support these contentions and especially so in the case of entrepreneurship and self-employment[19]. Indeed, relatively little is known about the macro-economic correlates of self-employment.

Table 15 examines the relationship between the growth in real GDP, and changes in the self-employment rate, using time series data on 23 countries for the period 1966-1996 (the countries are: Australia, Austria, Belgium, Canada, Denmark, Eire, Finland, France, Germany, Greece, Iceland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Turkey, UK and the USA). The regressions should be thought of as a Cobb-Douglas production function, where the change in the numbers of employees over the previous period is included to distinguish the labor input. Capital is assumed to grow linearly and as the model is estimated in changes the effect of capital will be in the constant. Also included in the regressions are a set of country dummies plus a lagged dependent variable. The three columns experiment with different measures of the change in self-employment over the preceding period where the number of self-employed is expressed as a percentage of all workers in column 1; of the labor force in column 2 and the population age 16-64 in column 3. Increases in the proportion of self-employment appear to produce *lower* not higher GDP; this result is significant in columns 1 and 2 but not in 3. These results presume a particular direction of causation – from self-employment to growth and not the reverse, which is clearly a possibility—and are meant to be illustrative. Clearly more work is warranted on this question, but it certainly does not appear that more is

[19] For a discussion of the relative lack of success of the Thatcher labor market reforms in transforming the UK economy see Blanchflower and

better in this instance, contrary to the assertions of some.

There seems to be a widely held belief that the self-employed are inherently more flexible and adaptable than are employees. Clearly their earnings tend to be more cyclically volatile than that of employees: small firms are continuously dying as others are being born. There is another aspect of flexibility that does not seem to have been considered – are the self-employed more or less mobile geographically than are employees? The most recent sweep of the International Social Survey Programme (ISSP) conducted in 1995 asked respondents in 23 countries the following questions

"if you could improve your work or living conditions, how willing or unwilling would you be to

- *move to another neighbourhood (or village); Q2a*
- *move to another town or city within this (county): Q2b*
- *move to another region: Q2c*
- *move outside your country? Q2d*

Possible responses were "very willing, fairly willing, neither willing nor unwilling, fairly willing and very unwilling"

Table 16 reports four ordered logit equations relating to each of these questions. The dependent variable is set to 1 if very unwilling and so on, hence a positive coefficient can be interpreted as indicating that the individual is more willing to move. The sample is restricted to 13 OECD countries (Austria, Canada, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Spain, Sweden, the UK and the USA). Information is also available on 7 ex-Communist countries (Hungary, Czech Republic, Slovenia, Bulgaria, Russia, Latvia and Slovakia) plus the Philippines but these were countries were dropped. There is some evidence that males are more willing to move regions and country than are females – but there is no difference between the sexes by town or neighborhood. Being prepared to move is negatively correlated with age and

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Freeman (1994).

years spent living in the current location and positively correlated with education, whether or not an individual had lived abroad and for how long. The unemployed seem to be *more* mobile than the other labor market groups. The self-employed appear to be *less* prepared to move neighborhood, town or region than are employees. This presumably arises because of the presence of a customer base for the self-employed along with business and personal contacts.

One possible interpretation of the coefficients on the country dummies reported in Table 16 would be as a flexibility index – well I would think that way wouldn't I given my past work! This seemed an intriguing possibility, so in Part A of Table 17 I simply ranked the countries by the coefficient on the country dummy from the separate regressions in Table 16, for the sub-sample of OECD countries. Columns 1-3 relate to responses to questions on whether the individual was willing to move neighborhood, town or region respectively. The next to last column is the sum of the ranks in the first three columns and the next column is a rank ordering derived from these sums. I exclude from these calculations the information on whether an individual is prepared to move to another country as this is not strictly relevant to the task in hand. Americans are the most willing to move within their country followed closely by the Dutch, whose labour marker has performed remarkably well over the last decade or so[20]. The Irish are the least mobile followed closely by the Italians and the Japanese. The last column is the proportion of the total population that is self-employed in 1996, taken from column 4 of Table 4. The results here are intended to simply be suggestive but it should be noted that countries with a low proportion of self-employment appear to the *most* flexible, confirming our earlier results. In an attempt to validate these results I re-estimated the equations in Table 16 but

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[20] The Dutch economy has had strong growth in employment over the last decade or so and unemployment perfomance has also been strong. It's (standardized) unemployment rate in 1996 was well below that of other European countries at 6.3% (Source: OECD Economic Outlook, June 1998). This compares with 9.7% in Belgium, 6.9% in Denmark, 15.3% in Finland, 11.6% in Ireland, 8.2% in the UK, 8.9% in Germany, 12.4% in France and 12.0% in Italy.

now with the full sample of countries which includes seven ex-communist countries and the Philippines (sample size now just under 24,000). The results are reported in Part B of Table 17. The results are slightly different from those reported in Part A for the OECD countries; the main difference is that now the US is ranked first, as the most flexible country, on all three measures, and Canada, Germany and the Netherlands all rank equal second. Latvia and Russia are the least flexible followed by Hungary. The highest ranked ex-Communist country is Slovakia which ranks eleventh. Our only developing country, the Philippines is in the middle of the pack ranking fourteenth. One of the considerable advantages of this measure of flexibility is that it seems to match closely most people's priors. It certainly matches them more closely than have our earlier attempts to generate a wage flexibility index across countries by comparing how individual's wages are influenced by their local area unemployment rate[21]

5. Conclusions

The main conclusions are as follows.

1. The overall trend in self-employment, at the economy level in the years since 1966, has been down in most countries. The main exceptions to this are Portugal, New Zealand and the United Kingdom where the trend has been upward.

2. In all countries the proportion of agricultural employment accounted for by self-employment has fallen since 1970.

3. The proportion of non-agricultural employment accounted for by self-employment has declined in some countries (Austria, Belgium, Japan, Luxembourg, Netherlands, Norway, Spain and the USA) but increased in others (Australia, Canada, Finland, Iceland, Ireland, New Zealand, Portugal, Sweden and the United Kingdom).

4. For most countries there is a negative relationship between the self-employment rate (variously defined) and the unemployment rate. From the time series regressions there is evidence of positive effects only in Iceland and Italy. The effects are more strongly negative in the agricultural sector. There is more evidence of positive unemployment effects in the

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21 There is now a large literature that estimates wage curves across countries. Interestingly most of the estimates of the so-called unemployment elasticity of pay which crowd closely around –0.1. That is a doubling of unemployment lowers wages by 10% almost everywhere. For a discussion see Blanchflower and Oswald (1994, 1996).

individual level equations.

5. The probability of being self-employed is higher among men than women and rises with age. The least educated have the highest probability of being self-employed, however, evidence is found that the most highly educated also have relatively high probabilities.

6. The self-employed have higher levels of job satisfaction than employees.

7. I could find no evidence that increases in the self-employment rate increased the real growth rate of the economy; in fact there was even evidence of the opposite.

8. The self-employed are less willing to move from their neighborhoods, towns and regions than are employees, presumably because off the pull of their customers.

9. I developed a flexibility index based on information provided by individuals in 1995. According to this index the US economy was the most flexible, followed by Canada, Germany and the Netherlands. Latvia, Russia and Hungary were found to be the least flexible countries. Of the OECD countries examined Austria and Ireland were ranked lowest.

Table 1. Suppose you were working and could choose between different kinds of jobs. Which of the following would you choose? “Being an employee or being self-employed?” - % reporting self-employed.

	All individuals		Employees	
	%	N	%	N
Austria	60.2	1779	55.5	724
Great Britain	47.7	1183	43.1	600
Hungary	38.0	894	41.1	560
Ireland	50.9	944	49.9	379
Israel	48.5	910	44.2	477
Italy	65.2	969	61.0	387
Netherlands	38.5	1489	33.2	379
Northern Ireland	51.5	705	46.7	266
Norway	26.0	1589	21.6	970
USA	62.9	1283	59.0	693
West Germany	49.0	1207	46.8	474

Source: International Social Survey Programme, 1989

Table 2. Self-employment as a % of all employment

	1966	1976	1986	1996
Australia	15.9	15.2	16.8	15.1
Austria	27.8[a]	19.2	14.8	13.7[i]
Belgium	21.9	16.7	18.1	18.4[d]
Canada	14.8	9.7	9.7	11.3
Denmark	22.5[b]	16.8	11.6	9.5
Finland	29.6	20.2	14.9	14.5
France	25.1	17.8	15.8	11.6[c]
Germany	19.1	13.6	11.5	10.6
Greece	n/a	52.4[e]	50.7	46.1[c]
Iceland	18.0	15.1	13.5	18.2
Ireland	34.4	28.3	23.4	20.9
Italy	37.4	24.1	29.9	28.9
Japan	38.0	29.4	24.9	17.7
Luxembourg	22.4	15.4	11.3	7.6[c]
Netherlands	18.5	12.7	11.3	12.5
New Zealand	14.0	14.1	17.9	20.4
Norway	22.5	14.8	12.7	8.7
Portugal	25.9	35.2	31.3	28.7
Spain	36.8[g]	31.5	30.0	25.0
Sweden	13.1[g]	8.2	6.5	11.0
Turkey	n/a	n/a	58.5[f]	58.3
UK	6.7	8.0	11.5	13.6
USA	12.7	9.3	8.9	8.4

Notes a= 1969; b=1967; c=1995; d=1992; e=1977; f=1988; g=1968; h=1979; i=1994
Source: OECD Labour Force Statistics (various).

Table 3. Self-employment as a % of total labor force

	1966	1976	1986	1996
Australia	15.4	14.3	15.3	13.7
Austria	27.2[a]	18.9	14.4	13.2[i]
Belgium	20.9	15.6	15.6	16.2[d]
Canada	14.0	9.0	8.8	10.2
Denmark	21.7[b]	15.6	10.8	8.7
Finland	28.6	19.1	13.9	11.9
France	24.0	16.6	13.8	9.7
Germany	18.7	12.8	10.4	9.5
Greece	n/a	51.5e	47.0	41.5[c]
Iceland	18.0	15.0	13.4	17.5
Ireland	32.6	25.4	19.1	18.3
Italy	34.5	21.9	25.8	24.7
Japan	37.5	28.8	24.2	17.1
Luxembourg	22.4	15.3	11.1	7.4[c]
Netherlands	17.8	11.7	10.0	11.6
New Zealand	13.9	13.9	17.0	19.1
Norway	21.6	18.3[h]	17.0	8.2
Portugal	24.1	32.3	28.2	26.3
Spain	36.1	29.1	23.0	18.8
Sweden	12.8[b]	8.1	6.4	10.1
Turkey	n/a	n/a	52.2[f]	53.6
UK	6.6	6.6	10.1	12.4
USA	11.7	8.4	8.2	7.9

Notes a= 1969; b=1967; c=1995; d=1992; e=1977; f=1988; g=1968; h=1979; i=1994; j=1993
Source: OECD Labour Force Statistics (various)

Table 4. Self-employment as a % of population 18-64

	1966	1976	1986	1996
Australia	10.5	10.0	10.9	10.3
Austria	18.2[a]	12.0	9.5	9.4[i]
Belgium	13.2	9.6	9.6	10.3[d]
Canada	8.9	6.1	6.6	7.6
Denmark	16.3[b]	12.0	8.9	6.9
Finland	21.3	14.4	10.8	8.8
France	16.1	11.3	9.0	6.5
Germany	13.1	8.7	7.1	6.7[c]
Greece	n/a	28.8[e]	27.8	25.0[c]
Iceland	12.4	11.0	10.8	14.8
Ireland	21.9	15.8	11.7	11.7
Italy	20.7	17.9	15.6	14.7[i]
Japan	27.0	20.3	17.5	13.5[c]
Luxembourg	13.6	9.9	7.2	5.8[c]
Netherlands	10.5	6.7	5.8	8.2
New Zealand	9.0	9.1	12.9	14.4
Norway	13.7	10.5	9.7	6.5
Portugal	14.8	22.1	19.6	19.1
Spain	22.3	17.5	13.0	11.6
Sweden	9.3[b]	6.4	5.2	7.6
Turkey	n/a	n/a	32.4[f]	30.6
UK	4.8	5.5	7.5	9.3
USA	7.8	5.8	6.1	6.1

Notes a= 1969; b=1967; c=1995; d=1992; e=1977; f=1988; g=1968; h=1979; i=1994
Source: OECD Labour Force Statistics (various).

Table 5. Agricultural Self-employment as a % of total self-employment

	1970	1995
Australia	36.4	20.1
Austria	62.3	45.4[i]
Belgium	23.3	11.2[d]
Canada	44.4	19.5
Denmark	42.5	23.6
Finland	79.2	37.6
France	49.9	30.0
Germany	44.5	17.4
Greece	60.6[e]	42.1
Iceland	55.6	24.2
Ireland	75.0	44.3
Italy	41.2	16.4
Japan	47.1	27.3
Luxembourg	43.5	26.1
Netherlands	33.0	17.0
New Zealand	55.0[h]	27.6
Norway	62.2	37.2
Portugal	61.4	34.6
Spain	58.5	24.3
Sweden	47.7	17.9
Turkey		73.5
UK	16.7	8.3
USA	29.1	15.8

Notes d=1992; e=1 977; h=1979; i=1994
Source: OECD Labour Force Statistics (various).

Table 6. Self-employment as a % of all non agricultural employment.

	1966	1976	1986	1996
Australia	9.8	10.1	11.8	11.3
Austria	11.5[a]	8.7	7.4[i]	7.4
Belgium	14.8	12.3	13.8	14.4[d]
Canada	8.3	6.2	6.9	8.9
Denmark	12.9[b]	10.4	7.7	7.2
Finland	7.6	7.4	6.6	9.1
France	12.5	9.8	9.5	7.8
Germany	10.0	8.1	7.7	8.3
Greece	-	23.6[e]	24.6	25.1[c]
Iceland	9.0	7.7	8.6	13.2
Ireland	9.6	10.2	10.4	11.7
Italy	20.8	14.1	20.5	20.8
Japan	18.3	17.1	15.8	12.0
Luxembourg	11.8	9.0	7.6	5.4[c]
Netherlands	11.6	8.2	7.6	9.6
New Zealand	-	-	12.1	14.5
Norway	8.7	7.6	7.1	5.4
Portugal	13.1	12.5	14.5	17.3
Spain	18.2	16.8	18.4	17.4
Sweden	7.0[b]	4.4	4.1	8.5
Turkey	-	-	21.9[f]	22.8
UK	5.3	6.6	9.6	11.3
USA	8.6	6.8	7.1	6.8

Notes a= 1969; b=1967; c=1995; d=1992; e=1977; f=1988; g=1968; h=1979; i=1994
Source: OECD Labour Force Statistics (various).

Table 7. Self-employment regressions, 1966-1996.

	Self		Self1		Self2		Self3		Self4	
$Self_{t-1}$	.3606	(11.88)	.7435	(33.66)	.3188	(9.79)	.5742	(17.05)	.8177	(36.46)
% Agriculture	.4469	(16.32)	.1334	(8.56)	.2251	(9.95)	.1025	(4.42)	-.0130	(0.33)
Time	.0008	(5.05)	.0002	(2.42)	.0004	(3.40)	.0006	(4.26)	-.0011	(4.08)
Belgium	.0449	(4.34)	.0116	(2.05)	.0153	(1.81)	.0335	(3.41)	-.0076	(0.48)
Denmark	.0104	(1.21)	.0032	(0.67)	.0121	(1.74)	.0128	(1.58)	-.0063	(0.46)
Finland	-.0491	(5.57)	-.0142	(2.91)	-.0115	(1.64)	-.0325	(3.84)	-.0099	(0.75)
Greece	.0942	(6.35)	.0528	(5.96)	.0484	(4.30)	.0629	(4.43)	.0198	(0.95)
Ireland	-.0395	(2.61)	.0000	(0.00)	.0152	(1.22)	-.0422	(2.94)	-.0176	(0.76)
Luxembourg	-.0141	(1.87)	-.0068	(1.59)	-.0202	(3.33)	-.0056	(0.81)	-.0036	(0.32)
Norway	-.0138	(1.83)	-.0042	(0.99)	-.0112	(1.86)	-.0052	(0.74)	-.0063	10.56)
Portugal	.0213	(1.36)	.0631	(7.31)	.1637	(12.72)	.0111	(10.76)	.1141	(4.77)
Spain	.0157	(1.74)	.0142	(2.83)	.0144	(1.99)	.0280	(3.15)	-.0324	(2.35)
Canada	-.0026	(0.13)	-.0106	(0.99)	-.0192	(1.23)	-.0011	(0.06)	-.0176	(0.61)
Japan	- .0761	(8.62)	.0323	(6.33)	.0691	(9.36)	.0535	(6.23)	.0095	(0.77)
Australia	-.0067	(0.70)	-.0021	(0.39)	-.0116	(1.52)	.0063	(0.71)	-.0492	(3.00)
New Zealand	- .0126	(0.67)	.0049	(0.47)	.0009	(0.06)	-.0112	(0.63)	.0451	(1.58)
France	.0187	(1.99)	.0048	(0.93)	.0124	(1.63)	.0196	(2.20)	-.0182	(1.23)
Iceland	-.0256	(3.76)	-.0049	(1.28)	-.0100	(1.88)	-.0016	(0.26)	-.0551	(4.47)
Italy	-.0742	(3.98)	-.0220	(2.16)	-.0299	(1.91)	-.0234	(1.33)	-.0804	(2.81)
Netherlands	.0224	(2.40)	.0066	(1.29)	-.0057	(0.75)	.0217	(2.48)	-.0211	(1.41)
Sweden	-.0378	(4.13)	-.0146	(2.73)	-.0272	(3.81)	-.0166	(1.97)	-.0515	(3.48)
Turkey	-.0804	(0.90)	-.0420	(0.85)	-.0825	(1.15)	-.1052	(1.25)	-.0429	(0.31)
Germany	.0000	(0.00)	-.0020	(0.47)	-.0057	(0.90)	.0041	(0.55)	-.0063	(0.53)
UK	-.0212	(1.84)	-.0097	(1.46)	-.0277	(3.00)	-.0034	(0.32)	-.1121	(4.82)
USA	-.0049	(0.26)	-.0091	(0.87)	-.0179	(1.17)	.0023	(0.13)	-.0384	(1.31)
Unemployment rate	-.0190	(3.00)	-.0058	(1.62)	-.0182	(3.57)	-.0106	(1.79)	.0124	(1.34)
Belgium*unemployment rate	.0164	(2.28)	.0055	(1.39)	.0118	(2.04)	.0096	(1.42)	-.0068	(0.63)
Denmark*unemployment rate	.0056	(0.81)	-.0001	(0.04)	.0052	(0.93)	.0022	(0.34)	-.0295	(2.84)
Finland*unemployment rate	.0294	(4.17)	.0072	(1.86)	.0139	(2.47)	.0199	(2.96)	-.0102	(0.98)
Greece*unemployment rate	.0249	(2.93)	.0012	(0.27)	.0185	(2.71)	.0153	(1.91)	-.0045	(0.35)

Ireland*unemployment rate	.0322	(3.99)	.0044	(1.00)	.0040	(0.62)	.0262	(3.38)	-.0000	(0.00)
Lux*unemployment rate	.0085	(1.23)	.0021	(0.56)	.0109	(1.94)	.0040	(0.61)	-.0196	(1.88)
Norway*unemployment rate	.0077	(1.07)	.0001	(0.04)	.0096	(1.65)	.0040	(0.59)	-.0202	(1.87)
Portugal*unemployment rate	.0128	(1.26)	-.0226	(3.97)	-.0572	(7.11)	.0106	(1.15)	-.0661	(4.48)
Spain*unemployment rate	.0264	(4.01)	.0034	(0.95)	.0106	(2.03)	.0134	(2.18)	-.0069	(0.72)
Canada*unemployment rate	.0084	(0.81)	.0058	(1.02)	.0141	(1.68)	.0082	(0.84)	-.0356	(2.16)
Japan*unemployment rate	-.0205	(2.16)	-.0124	(2.37)	-.0223	(2.82)	-.0161	(1.80)	-.0014	(0.10)
Australia*unemployment rate	.0277	(3.78)	.0085	(2.04)	.0228	(3.89)	.0147	(2.14)	-.0002	(0.02)
NZ*unemployment rate	.0261	(2.34)	.0085	(1.37)	.0231	(2.57)	.0261	(2.45)	-.0488	(2.88)
France*unemployment rate	.0058	(0.82)	.0005	(0.15)	.0028	(0.49)	.0005	(0.08)	-.0049	(0.46)
Iceland*unemployment rate	.0351	(5.08)	.0119	(3.01)	.0322	(5.75)	.0206	(3.17)	-.0073	(0.74)
Italy*unemployment rate	.0813	(7.79)	.0252	(4.38)	.0392	(4.58)	.0469	(4.79)	.0092	(0.61)
Neths*unemployment rate	.0036	(0.51)	-.0000	(0.02)	.0087	(1.53)	-.0000	(0.00)	-.0148	(1.41)
Sweden*unemployment rate	.0291	(3.71)	.0098	(2.22)	.0214	(3.41)	.0163	(2.21)	.0057	(0.50)
Turkey*unemployment rate	.0977	(2.21)	.0478	(1.97)	.0766	(2.14)	.0827	(1.99)	.0303	(0.45)
Germany*unemployment rate	.0120	(1.80)	.0033	(0.91)	.0094	(1.75)	.0066	(1.06)	-.0208	(2.08)
UK*unemployment rate	.0312	(4.08)	.0107	(2.46)	.0263	(4.32)	.0171	(2.39)	.0181	(1.60)
USA*unemployment rate	.0140	(1.24)	.0065	(1.05)	.0156	(1.71)	.0080	(0.75)	-.0225	(1.32)
Constant	.0380	(3.75)	.0187	(3.04)	.0465	(5.90)	.0193	(2.05)	.1684	6.20)
N	600		600		591		600		600	
Adjusted R^2	.9860		.9949		.9706		.9686		.9842	
F	810.6		2259.7		372.5		354.1		716.2	

Notes: Self=self employment/total employment; Self1=self employment/labor force; Self2= self employment/ population; Self3=(self-employed/all workers) – non-agricultural; Self4=(self-employed/all workers) – agricultural. Unemployment rate is everywhere in natural logarithms. Excluded country is Austria.

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Table 8a. Micro self-employment equations, 1975-1996 (Ages 16-64)

	Self employed/ Employed+self-employed		Self employed/ Labour force		Self employed/ Population Age 16-64	
	(1)		(2)		(3)	
Age	.0055	(42.50)	.0053	(46.46)	.0016	(18.37)
Male	.0573	(7.66)	.0519	(7.57)	.1035	(19.20)
ALS 15	-.0416	(8.63)	-.0356	(7.84)	-.0150	(4.89)
ALS 16	-.0428	(8.06)	-.0332	(6.63)	-.0142	(4.19)
ALS 17	-.0422	(8.12)	-.0290	(5.80)	-.0086	(2.51)
ALS 18	-.0415	(8.66)	-.0286	(6.07)	-.0043	(1.28)
ALS 19	-.0370	(6.25)	-.0244	(4.26)	.0033	(0.85)
ALS 20	-.0389	(5.98)	-.0238	(3.80)	.0070	(1.52)
ALS 21	-.0335	(4.46)	-.0169	(2.35)	.0130	(2.36)
ALS >=22	-.0216	(3.65)	-.0066	(1.16)	.0242	(5.67)
Time	-.0092	(4.39)	-.0084	(4.40)	-.0070	(5.21)
$Time^2$	.0004	(3.97)	.0003	(3.86)	.0003	(4.96)
Household size	.0099	(6.76)	.0084	(6.42)	.0056	(6.36)
# children <15	-.0025	(2.01)	-.0000	(0.08)	.0009	(1.13)
France	.0638	(0.83)	-.0271	(0.49)	.0010	(0.02)
Belgium	-.1017	(1.90)	-.0915	(2.02)	-.0698	(1.83)
Netherlands	-.0700	(1.07)	-.0730	(1.26)	-.0585	(1.29)
West Germany	-.1329	(2.05)	-.1182	(2.07)	-.0918	(2.29)
Italy	.0610	(0.87)	.0675	(1.09)	.0661	(1.15)
Luxembourg	-.0046	(0.08)	-.0132	(0.26)	-.0365	(0.90)
Denmark	.2606	(2.31)	.2662	(2.50)	.0822	(1.15)
Ireland	-.0460	(0.55)	-.0400	(0.55)	-.0899	(1.76)
Great Britain	-.1256	(2.43)	-.1122	(2.53)	-.0654	(1.63)
Northern Ireland	-.1512	(3.08)	-.1316	(3.11)	-.0894	(2.72)
Greece	.2009	(2.05)	.1963	(2.18)	.2669	(3.04)
Spain	-.0166	(0.18)	-.0243	(0.32)	.0494	(0.56)
Portugal	.1261	(1.56)	.1246	(1.64)	.0512	(0.88)
East Germany	-.1705	(2.63)	-.1427	(2.45)	-.1109	(3.55)
Norway	-.1891	(4.72)	-.1676	(4.99)	-.0796	(1.49)
Finland	- .8398	(6.84)	.8591	(6.58)	-.1185	(5.73)
Sweden	-.1946	(13.33)	-.1738	(13.82)	-.1074	(3.61)
Austria	.8297	(2.52)	.8462	(1.84)	.9100	(6.25)
Unemployment rate	-.0104	(0.32)	-.0199	(0.69)	-.0186	(0.76)
France* unemployment rate	-.0056	(0.15)	.0330	(1.05)	.0103	(0.39)
Belgium* unemployment rate	.0904	(2.58)	.0799	(2.67)	.0551	(2.11)
Netherlands* unemployment rate	.0389	(1.02)	.0396	(1.15)	.0237	(0.84)
West Germany* unemployment rate	.1121	(2.13)	.1025	(2.17)	.0838	(2.43)
Italy* unemployment rate	.0376	(1.08)	.0313	(1.04)	.0073	(0.29)
Luxembourg* unemployment rate	.0123	(0.34)	.0227	(0.73)	.0148	(0.58)
Denmark* unemployment rate	-.1104	(2.33)	-.1069	(2.49)	-.0354	(1.14)

Ireland* unemployment rate	.0780	(1.83)	.0658	(1.79)	.0785	(2.34)
Great Britain* unemployment rate	.0801	(2.26)	.0724	(2.35)	.0437	(1.66)
N. Ireland* unemployment rate	.1160	(2.89)	.0944	(2.76)	.0663	(2.36)
Greece* unemployment rate	.0460	(1.09)	.0396	(1.06)	-.0216	(0.75)
Spain* unemployment rate	.0496	(1.21)	.0498	(1.41)	.0088	(0.27)
Portugal* unemployment rate	-.0135	(0.32)	-.0150	(0.38)	.0038	(0.13)
East Germany* unemployment rate	.1275	(2.19)	.0850	(1.74)	.1183	(3.03)
Norway* unemployment rate	.3811	(4.79)	.3425	(5.04)	.0659	(1.44)
Finland* unemployment rate	-1.1833	(6.67)	-1.0446	(6.43)	.7290	(5.88)
Sweden* unemployment rate	.9530	(12.74)	.8888	(13.09)	.1851	(3.66)
Austria* unemployment rate	-1.0091	(2.46)	-.6647	(1.77)	-1.7268	(6.22)
N	255147		283762		393924	
Chi^2	728576.0		1066748		700301.9	
Pseudo-R^2	.0940		.0931		.0767	
Log likelihood	-116576.3		-122221.2		-135730.2	

Notes; excluded categories; USA, age left school<=14 years. Unemployment rate is measured in natural logarithms. Sample consists of the self-employed plus employees (columns 1 & 2); the unemployed are also included in the zeroes in columns 3 & 4 and those who are Out of the Labour Force (OLF) are added in columns 5 & 6. Method of estimation is dprobit in STATA. Standard errors adjusted for common components in the residuals.

Source: Eurobarometer Surveys and General Social Survey, 1975-1996

Table 8b.. Micro self-employment equations, 1975-1996

	(1) Self employed/ Employed+self-employed		(2) Self employed/ Labour force		(3) Self employed/ Population	
Age	.0022	(21.41)	.0027	(38.04)	.0017	(31.77)
Male	.0546	(21.96)	.0514	(22.19)	.0461	(20.16)
Husband/wife only	.0185	(7.50)	.0202	(10.53)	.0123	(12.23)
Husband/wife/1 child	.0031	(1.18)	.0079	(3.92)	.0078	(7.07)
Husband/wife/other	-.0007	(0.23)	.0008	(0.34)	.0015	(1.01)
Lone parent/1 child	-.0011	(0.40)	-.0021	(0.87)	.0003	(0.22)
All other families	.0120	(3.48)	.0100	(3.25)	.0060	(3.15)
# children <18	.0146	(14.55)	.0132	(16.87)	.0091	(17.28)
Time	.0010	(3.26)	.0009	(3.12)	.0006	(2.53)
9-10 years schooling	-.0198	(12.88)	-.0137	(10.58)	-.0024	(2.96)
11-12 years schooling	-.0521	(27.12)	-.0363	(23.13)	-.0126	(11.66)
Secondary school no certificate	-.0501	(19.78)	-.0368	(17.79)	-.0159	(9.71)
Secondary school graduate	-.0557	(31.83)	-.0401	(27.17)	-.0152	(11.39)
Degree and higher	-.0549	(22.79)	-.0382	(19.26)	-.0135	(7.00)
Job tenure	.0044	(4.02)	-.0084	(12.29)	-.0140	(22.23)
Log unemployment rate	-.0120	(2.70)	-.0161	(4.24)	-.0171	(5.05)
Province dummies (9)	Yes		Yes		Yes	
N	577718		653870		925741	
Chi^2	29200.0		31535.7		52528.2	
Pseudo R^2	.0756		.0785		.1179	
Log likelihood	-178524.29		-185204.1		-196504.6	

Notes: excluded categories <=8 years schooling, unattached individual. Standard errors adjusted for common components in the residuals.

Source Canadian Surveys of Consumer Finances, 1981-1995.

Table 9. Self-employment regressions by country (Ages 16-64).
(Dependent variable: 1=self-employed; zero =employee).

	Low Education	High Education	Age	Male	H'hold size	# children	Time	N
All countries	.05	.01	+	+	+	-	+	262714
USA	.02*	.02	+	+	0	0	+	18574
France	.05	.01*	+	+	+	-	0	21982
Belgium	-.01*	.04	+	-	-	-	-	20705
Netherlands	-.01*	.03	+	+	+	0	0	19573
Germany	.02	.04	+	+	+	-	+	30151
Italy	.10	.00*	+	+	0	-	+	21725
Luxembourg	.08	-.03	+	0	+	0	+	9181
Denmark	.05	-.03	+	+	+	0	+	26002
Ireland	.00*	.04	+	+	-	-	-	18910
United Kingdom	-.05	.11	+	+	-	+	+	28199
Greece	.19	.00*	+	+	+	-	-	15399
Spain	.02	.02*	+	+	0	0	+	9947
Portugal	.09	.03	+	+	+	0	+	14316
Norway, Austria, Finland & Sweden	.03*	-.01*	+	+	+	-	n/a	8050
Canada	.05	-.02	+	+	n/a	+	+	577911

Notes; method of estimation dprobit. Equation for Austria, Sweden, Norway and Finland contains no time trend as data available only for 1995/6. Regressions for Canada also include 10 province dummies and five family status variables (see Table 8a). Low education defined as age left school <=14 years. High education defined as age left school >=22 years in all countries except Canada where they are defined as <=8 years of schooling and at least a degree. *= insignificantly different from zero at the 5% level on a 2-tailed test.

Source: Eurobarometer Surveys, Surveys of Consumer Finances (Canada, 1981-1995) and General Social Survey (USA).

Table 10. Job Satisfaction, 1989.

	Other*	Fairly Satisfied	Very Satisfied	Completely Satisfied	N
a) Employees					
West Germany	17	43	32	8	578
UK	16	47	27	10	856
USA	13	39	35	13	694
Austria	15	40	29	16	721
Hungary	23	64	6	6	524
Netherlands	16	46	29	9	603
Italy	20	50	16	14	402
Ireland	10	39	34	17	375
Norway	15	44	28	13	982
Israel	15	50	25	10	559
All	16	46	27	12	6296
b) Self-employed					
West Germany	4	22	57	17	67
UK	5	41	27	27	133
USA	8	25	36	31	96
Austria	9	34	31	25	86
Hungary	31	51	11	6	35
Netherlands	5	40	38	17	42
Italy	17	40	20	23	174
Ireland	6	45	26	23	95
Norway	18	36	25	21	66
Israel	10	46	28	16	114
All	11	38	29	22	908

Notes: * “Other” includes “neither”, “fairly dissatisfied”, “very dissatisfied” and “completely dissatisfied”.
Sample restricted to workers only; all estimates are weighted.
Source: International Social Survey Programme, 1989

Table 11. Job Satisfaction Ordered Logit, 1989

	(1)	
Austria	.2017	(2.02)
Great Britain	-.1623	(1.56)
Hungary	-.9503	(8.92)
Ireland	.3963	(3.48)
Italy	-.3932-	(3.24)
Netherlands	-.0535	(0.51)
Northern Ireland	.0659	(0.51)
Norway	.0503	(0.53)
USA	.2203	(2.02)
Self-employed	.4673	(5.49)
Age	.0187	(9.05)
Male	-.1996	(4.08)
Union member	-.1788	(3.49)
cut1	-4.7354	
cut2	-3.7690	
cut3	-2.4286	
cut4	-1.2552	
cut5	.93334	
cut6	2.5106	
N	6053	
Chi^2	370.6	
Pseudo R^2	.0217	
Log Likelihood	8358.9	

Notes: excluded category West Germany. Sample consists of the employed only.
(Source: International Social Survey Programme, 1989)

Table 12. Job Satisfaction, 1995-1996

	Not at all Satisfied	Not very satisfied	Fairly satisfied	Very satisfied	N
a) Employees.					
Belgium	0.97	5.97	51.58	41.48	775
Denmark	1.83	3.70	45.42	49.06	919
West Germany	4.68	10.97	52.40	31.95	889
Greece	6.37	25.22	55.59	12.82	526
Italy	5.12	18.31	56.95	19.62	727
Spain	4.04	16.76	56.65	22.55	757
France	4.69	13.81	61.01	20.49	862
Ireland	1.13	4.82	39.33	54.72	775
Luxembourg	2.41	5.75	56.62	35.22	418
Netherlands	1.42	7.24	46.92	44.41	962
Portugal	3.30	13.54	62.27	20.89	696
Great Britain	4.69	9.28	49.07	36.96	925
East Germany	2.05	8.57	56.61	32.77	927
Finland	1.55	5.18	62.75	30.52	903
Sweden	2.48	5.71	54.74	37.07	967
Austria	1.49	9.29	46.51	42.71	937
Euro 15	4.04	11.75	54.04	30.17	12965
b) self-employed					
Belgium	0.39	4.56	40.92	54.13	233
Denmark	0.00	0.00	39.34	60.66	73
West Germany	1.69	10.81	38.90	48.60	135
Greece	13.09	33.64	43.55	9.73	476
Italy	1.76	6.81	52.81	38.62	301
Spain	3.02	13.65	57.55	25.78	239
France	8.03	11.80	51.96	28.21	126
Ireland	0.41	1.72	31.36	66.51	229
Luxembourg	1.49	1.92	34.23	62.36	71
Netherlands	1.13	0.79	39.48	58.60	101
Portugal	1.86	12.49	62.97	22.69	299
Great Britain	2.60	4.13	47.40	45.87	137
East Germany	2.02	8.17	48.50	41.31	119
Finland	2.24	10.10	55.81	31.84	150
Sweden	0.00	2.58	34.25	63.17	88
Austria	1.64	8.56	37.65	52.15	128
Euro 15	3.27	10.14	48.32	38.27	2905

Notes: sample consists of the employed. All estimates are weighted.
Source: Eurobarometer #44.2. Working conditions in the European Union, November 1995-January 1996.

Table 13. Job Satisfaction Ordered Logit, 1995-1996

	(1)		(2)	
Austria	.0088	(0.10)	-.0281	(0.28)
Denmark	.2828	(3.18)	.1843	(1.80)
East Germany	-.3441	(3.96)	-.2989	(3.06)
Finland	-.4394	(5.06)	-.4447	(4.47)
France	-.9502	(10.75)	-.9583	(9.48)
Great Britain	-.2580	(2.95)	-.2653	(2.58)
Greece	-1.8844	(21.03)	-1.8449	(18.25)
Ireland	.5312	(5.96)	.4728	(4.54)
Italy	-.8848	(10.07)	-.8980	(8.98)
Luxembourg	-.2120	(1.97)	-.2861	(2.39)
Netherlands	.0318	(0.37)	.0149	(0.15)
Portugal	-.9250	(10.33)	-.9746	(9.65)
Spain	-.9148	(10.25)	-.8044	(7.89)
Sweden	-.2194	(2.53)	-.2564	(2.60)
West Germany	-.3609	(4.11)	-.3647	(3.76)
Self-employed	.3663	(7.82)	.3003	(4.61)
Age	-.0139	(1.63)	-.0193	(1.89)
Age^2	.0002	(2.20)	.0002	(2.04)
Male	-.0177	(0.51)	.0047	(0.12)
16-19 years schooling	.0834	(1.87)	.1112	(2.26)
>=20 years schooling	.1473	(2.86)	.1994	(3.47)
Mining and quarrying/Manufacturing	.0971	(0.66)	.0375	(0.22)
Electricity, gas and water supply	.4375	(2.24)	.2184	(1.01)
Construction	.1142	(0.74)	.0000	(0.00)
Wholesale and retail trade, repairs	.1829	(1.24)	.0665	(0.39)
Hotels and restaurants	.1049	(0.64)	-.0163	(0.08)
Transportation and communication	.2096	(1.34)	.1321	(0.74)
Financial intermediation	.1373	(0.82)	.0015	(0.00)
Real estate and business activities	.2500	(1.56)	.1403	(0.77)
Public administration	.4142	(2.75)	.2869	(1.66)
Other services	.3276	(2.24)	.2246	(1.35)
Professionals	-.0556	(0.72)	-.0693	(0.81)
Technicians	-.1323	(1.80)	-.1286	(1.60)
Clerks	-.2418	(3.38)	-.2778	(3.55)
Service and sales workers	-.3076	(4.31)	-.3309	(4.17)
Agricultural and fishery workers...	-.7937	(4.81)	-1.0178	(5.40)
Craft and related trades workers	-.4314	(6.13)	-.4560	(5.85)
Plant and machine operators	-.6275	(7.26)	-.5924	(6.26)
Elementary occupations	-.6880	(9.18)	-.7001	(8.30)
Armed forces	-.2595	(1.34)	-.1234	(0.59)
Commuting time			-.0024	(4.64)
Job tenure			.0075	(3.22)
Works irregular hours, but not in a shift			-.1975	(4.27)
2 shifts			-.2759	(3.79)

3 shifts		-.2412	(2.62)
Yes, 4 shifts		-.2724	(1.39)
Yes, 5 shifts and over		-.1149	(0.63)
DK shift type		-.2386	(1.00)
1 to 9 employees		.3805	(5.08)
10 to 49 employees		.3042	(3.57)
50 to 99 employees		.1987	(1.99)
100 to 499 employees		.1459	(1.59)
>=500		.1419	(1.67)
DK # employees		.1539	(1.46)
Public sector		.1298	(2.56)
cut1	-4.2469	-4.42320	
cut2	-2.6081	-2.7268	
cut3	.15071	.0982	
N	15870	13103	
Chi^2	1743.56	1511.30	
Pseudo R^2	0.0527	.0557	
Log Likelihood	-15662.0	-12814.0	

Notes: excluded categories – works alone; doesn't work shifts; Agriculture; Legislators/managers; Belgium; <=15yrs school. (Source: Eurobarometer #44.2. Working conditions in the EU, 1995-Jan 1996).

Table 14. Job Satisfaction Ordered Logit, USA, 1972-1996.

	(1)	(2)
Self-employed	.5106 (11.82)	.5234 (11.94)
Age	.0060 (0.91)	.0140 (2.08)
Age^2	.0002 (3.20)	.0002 (2.28)
Male	-.1363 (4.77)	.1803 (6.21)
Black	-.4029 (9.49)	-.3324 (7.72)
Other races	-.1633 (2.02)	-.1378 (1.67)
Years schooling	.0398 (7.87)	.0159 (2.97)
Log state unemployment rate	.0430 (0.76)	.1582 (2.75)
Time trend	-.0130 (6.23)	-.0107 (5.08)
Hours	.0090 (8.88)	.0067 (6.48)
Income below average		.1134 (1.42)
Income average		.4111 (5.30)
Income above average		.6184 (7.49)
Income far above average		.5607 (4.29)
Finances getting better		.3759 (11.64)
Finances getting worse		-.3222 (8.13)
State dummies	Yes	Yes
cut1	-1.4920	-1.5029
cut2	-.0511	-.0619
cut3	2.0192	2.0085
N	20077	19878
Chi^2	1222.1	1843.6
Pseudo R^2	.0285	.0434
Log Likelihood	-20832.4	-20296.8

Notes: excluded categories – white, income average, finances same as previous year.
Source: General Social Surveys, 1972-1996.

Table 15. Growth in real GDP regressions, 1966-1996

	(1)	(2)	(3)
$Self_t$-$Self_{t-1}$	-19.5624 (2.65)		
$Self1_t$-$Self1_{t-1}$		-29.3480 (2.51)	
$Self2_t$-$Self2_{t-1}$			-10.3710 (1.61)
GDP_{t-1}	.3206 (8.32)	.3332 (8.76)	.3440 (8.87)
$Empt_t$-$Empt_{t-1}$	-.0000 (0.79)	.0000 (.053)	.0000 (0.50)
N	618	609	609
R^2	.1922	.1913	.1828
F	5.88	5.44	5.84

All equations include 22 country dummies. T-statistics in parentheses.
Self-employment rates defined as in Table 7 above.
Dependent variable =real GDP growth rate.

Source real growth rates OECD Economic Outlook (various issues).

Table 16. Willingness to move, 1995

	Neighborhoods		Town		Region		Country	
Self-employed	-.1382	(2.65)	-.1280	(2.44)	-.0910	(1.74)	.0115	(0.21)
Unpaid family worker	-.3772	(2.13)	-.2157	(1.21)	-.2114	(1.16)	.0959	(0.47)
Unemployed	.2204	(3.02)	.2062	(2.85)	.1526	(2.10)	-.0578	(0.75)
Student	-.0117	(0.15)	.1666	(2.26)	.0926	(1.27)	.2471	(3.34)
Retired	-.0279	(0.46)	-.0188	(0.30)	-.0476	(0.76)	-.3204	(4.45)
Housewife	.0351	(0.67)	.0161	(0.30)	-.0083	(0.15)	-.2221	(3.85
Sick/disabled	.0126	(0.11)	.0039	(0.03)	-.0670	(0.58)	-.2511	(1.98)
Other	-.1038	(0.98)	-.0849	(0.80)	-.2074	(1.92)	-.0663	(0.57)
Male	.0439	(1.34)	.0597	(1.82)	.0866	(2.63)	.1181	(3.36)
Age	-.0274	(18.87)	-.0216	(14.94)	-.0188	(12.94)	-.0251	(15.71)
Years of schooling	.0413	(8.55)	.0462	(9.51)	.0553	(11.37)	.0820	(15.86)
Years living in this town	-.0154	(14.61)	-.0180	(16.83)	-.0159	(14.84)	-.0093	(7.83)
Lived abroad < 1 year	.1901	(2.97)	.3038	(4.75)	.3901	(6.12)	.8478	(13.07
Lived abroad 1-4 years	.2949	(4.83)	.2959	(4.84)	.3651	(5.98)	.8976	(14.20)
Lived abroad >=5 years	-.1291	(2.25)	-.0750	(1.30)	.1095	(1.89)	.9675	(16.17)
Austria	-.1644	(2.21)	-.2450	(3.26)	-.2294	(3.05)	-.1312	(1.61)
Canada	- .1262	(1.79)	.1171	(1.67)	-.1705	(2.39)	-.1419	(1.88)
Ireland	-1.0202	(12.82)	-.8429	(10.44)	-.8392	(10.34)	-.6972	(7.85)
Italy	-.9312	(12.04)	-.8849	(11.03)	-.7617	(9.67)	-.7452	(8.31)
Japan	- -1.0843	(14.95)	-.6910	(19.52)	-.5069	(6.98)	-.6216	(7.55)
Netherlands	-.0340	(0.53)	.2199	(3.45)	.1856	(2.92)	.3016	(4.48)
New Zealand	-.2035	(2.06)	-.2280	(2.31)	-.1040	(1.06)	-.0721	(0.70)
Norway	-.1320	(1.87)	-.0585	(0.83)	-.3813	(5.36)	-.2062	(2.66)
Spain	-.5436	(7.21)	-.1183	(1.56)	-.1151	(1.51)	.0914	(1.11)
Sweden	-.0742	(1.04)	-.2308	(3.20)	-.1217	(1.69)	.4183	(5.45)

United Kingdom	-.0780	(1.01)	.0655	(0.84)	.0175	(0.22)	.1385	(1.67)
USA	.2574	(3.62)	.3144	(4.40)	.1299	(1.82)	-.5993	(7.68)
_cut1	--2.9972		-2.239		1.5481		-.2938	
_cut2	--2.0204		-1.135		.4812		.6936	
_cut3	--1.4860		-.5990		.0950		1.321	
_cut4	.1022		1.028		1.4934		2.547	
N	14781		14600		14605			
Chi^2	3302.6		2987.1		2463.3			
Pseudo R^2	.0721		.0656		.0546			
Log likelihood ratio	-21251.5		-21288.5		-21309.4			

Notes: excluded categories are employees West & East Germany, never lived abroad. t-statistics in parentheses. Method of estimation is ordered logit.
Source: International Social Survey Programme, 1995

Table 17. Willingness to move flexibility index, 1995.

	Neighborhood	Town	Region	Rank sum	Final rank	Self-empt. Rate 1996
A) OECD Countries						
Austria	8	10	9	27	10	9.4
Canada	6	3	8	17	5	7.6
Germany	2	5	4	11	3	6.7
Ireland	12	12	13	37	13	11.7
Italy	11	13	12	36	12	14.7
Japan	13	11	11	35	11	13.5
Netherlands	3	2	1	6	2	8.2
New Zealand	9	8	5	22	7	14.4
Norway	7	6	10	23	8	6.5
Spain	10	7	6	23	8	11.6
Sweden	4	9	7	20	6	7.6
United Kingdom	5	4	3	12	4	9.3
USA	1	1	2	4	1	6.1

B) All countries in sample	Neighborhood	Town	Region	Rank Sum	Final rank
Austria	18	15	18	51	17
Canada	3	2	3	8	2
Czech Republic	16	13	16	45	15
Germany	5	3	5	8	2
Hungary	19	19	19	57	19
Ireland	17	17	17	51	17
Italy	10	8	10	28	10
Japan	15	18	15	48	16
Latvia	21	20	21	62	21
Netherlands	2	4	2	8	2
New Zealand	8	9	8	25	8
Norway	6	7	6	19	6
Philippines	14	16	14	44	14
Poland	12	12	12	36	12
Russia	20	21	20	61	20
Slovakia	11	10	11	32	11
Slovenia	13	14	13	40	13
Spain	7	11	7	25	8
Sweden	9	6	9	24	7
United Kingdom	4	5	4	13	5
USA	1	1	1	3	1

Notes

Source: International Social Survey Programme, 1995.

Data Appendix. Description of data files

1. Eurobarometer Survey Series, 1974-1996

These surveys are the products of a unique program of cross-national and cross-temporal social science research. The effort began in early 1970, when the Commission of the European Community sponsored simultaneous surveys of the publics of the European Community. These surveys were designed to measure public awareness of, and attitudes toward, the Common Market and other European Community institutions, in complementary fashion. These concerns have remained a central part of the European Community's research efforts—which were carried forward in the summer of 1971 with another six-nation survey that gave special attention to agricultural problems. These themes were of central interest again in a survey of the publics of the European Community countries—then nine in number—carried out in September 1973. After 1973, the surveys took on a somewhat broader scope in content as well as in geographical coverage, with measures of subjective satisfaction and the perceived quality of life becoming standard features of the European Community public opinion surveys. In 1974, the Commission of the European Community launched the Eurobarometer series of the surveys, designed to provide a regular monitoring of the social and political attitudes of the publics of the nine member-nations: France, Germany, the United Kingdom, Italy, the Netherlands, Belgium, Denmark, Ireland, and Luxembourg. These Eurobarometers are carried out in the spring and fall of each year.

In addition to obtaining regular readings of support for European integration and the perceived quality of life, each of the Eurobarometers has explored a variety of special topics. Also, attitudes toward the organization and role of the European Parliament have been explored in each Eurobarometer beginning with Barometer 7 in the spring of 1977. The Eurobarometer surveys have included Greece since Autumn 1980 (Number 14), Portugal and Spain since Autumn 1985 (Number 24), the former German Democratic Republic since Autumn 1990 (Number 34), Norway since the fall of 1991 (Number 36), Finland since the spring of 1993 (Number 39), and Sweden and Austria since the fall of 1994 (Number 42). Note that beginning with Eurobarometer 43 and Central and Eastern Eurobarometer 6, the archival survey titles in these ICPSR series no longer contain a hyphen separating "Euro" and "Barometer," in keeping with current usage. Other archives may follow different naming practices for this survey series.;

The complete list of Eurobarometer titles is attached.

Complete List of Eurobarometers with European Commission and ICPSR Study Numbers

EC #	Description	ICPSR#
2	Problems facing the European Community, Oct/Nov 1974	6111
3	European men & women May 1975	7416
4	Consumer attitudes in Europe Oct/Nov 1975	7417
5	Revenues, satisfaction and poverty May 1976	7418
6	20 years of the common market oct/nov 1976	7511
7	Science and technology in the eec April 1977	7612
8	Men, women and work roles in Europe April 1978	7604
9	Employment and unemployment in Europe April 1978	7727
10	National Priorities and the Institutions of Europe, October-November 1978	7728
10a	Scientific Priorities in the European Community, October/November 1978	7807
11	Year of the Child in Europe, April 1979	7752
12	European Parliamentary Elections, October/November 1979	7778
13	Regional Development and Integration, April 1980	7957
14	Trust in the European Community, October 1980	7958
15	Membership in the European Community, April 1981	7959
16	Noise and Other Social Problems, October 1981	9022
17	Energy and the Future, April, 1982	9023
18	Ecological Issues, October 1982	9057
19	Gender Roles in the European Community, April 1983	8152
20	Aid to Developing Nations, October 1983	8234
21	Political Cleavages in the European Community, April 1984	8263
22	Energy Problems and the Atlantic Alliance, October 1984	8364
23	The European Currency Unit and Working Conditions, April 1985	8411
24	Entry of Spain and Portugal, October 1985	8513
25	Holiday Travel and Environmental Problems, April, 1986	8616
26	Energy Problems, November 1986	8680
27	Common Agricultural Policy and Cancer, March-May 1987	8715
28	Relations with Third World Countries and Energy Problems, November 1987	9082
29	Environmental Problems and Cancer, March-April 1988	9083
30	Immigrants and Out-groups in Western Europe, October-November 1988	9321
31	European Elections, 1989: Pre-election Survey, March-April 1989	9322
31A	European el;ections 1989, post-election survey June-July 1989	9360
32	The Single European Market, Drugs, Alcohol, and Cancer, November 1989	9519
33.0	The Single European Market: Eastern Europe, Spring 1990	9518
34	Perceptions of the EEC,Empt Patterns and Child Rearing, Oct/Nov, 1990	9576
34.1	Health Problems, Fall 1990	9577
34.2	European Youth, Fall 1990	9578
35.1	Foreign Relations, The CAP, and Environmental Concerns, Spring 1991	9697
35A	Working Conditions, Spring 1991	9696
36	Regional Identity and Perceptions of the Third World, Fall 1991	9771
37&.1	European Drug Prevention Program, March-May 1992	9956
37	Awareness of Maastricht and the Future of the EEC, March-April 1992	9847
37.1	Consumer Goods and Social Security, April-May, 1992	9957
37.2	Elderly Europeans, April-May 1992	9958

38	Court of Justice, Passive Smoking, and Consumer Issues, Sept-Oct 1992	6044
38.1	Consumer Protection and Perceptions of Science and Technology, Nov 1992	6045
39	European Community Policies and Family Life, March-April 1993	6195
39.1	Energy Policies, Biotechnology, and Genetic Engineering, May-June 1993	6196
39A	Health and Safety Issues, March-June 1993	6194
40	Poverty and Social Exclusion, October-November, 1993	6360
41	Trade Issues, Blood Donation, AIDS, and Smoking, March-June 1994	6422
41.1	Post-European Election, June-July 1994	6535
42	The First Year of the New European Union, November-December 1994	6518
43.1	International Trade and Radiation Protection, April-May 1995	6839
43.1b	Regional Development & Consumer and Environmental Issues, May-June 1995	6840
44	Cancer, Education Issues, and the Single European Currency, Oct-Nov 1995	6721
	Cumulative file 1973-1992	9361

Flash Eurobarometers

9	Maastricht, February 1992	6107
10	European Managers Survey, April 1992	6108
14	Maastricht, August 1992	6110
omb	Omnibus United Europe Jan 1992	6109

East Europe Eurobarometers

1	Public Opinion in Central and Eastern Europe, 1990	6104
2	Current Affairs and the Media, September - October 1991	6105
3	Political Disintegration, October - November, 1992	6106
4	Political and Economic Change, November 1993	6466
5	European Union, November 1994	6656
6	Economic and Political Trends, October-November 1995	6835

2. The International Social Survey Programme, 1985-1995

The ISSP is a continuing annual programme of cross-national collaboration on surveys covering topics important for social science research. It brings together pre-existing social science projects and coordinates research goals, thereby adding a cross-national, cross-cultural perspective to the individual national studies. Twenty-six countries are members of the ISSP.
It started late in 1983 when SCPR, London, secured funds from the Nuffield Foundation to hold meetings to further international collaboration between four existing surveys - the General Social Survey, conducted by NORC in the USA, the British Social Attitudes Survey, conducted by SCPR in Great Britain, the Allgemeine Bevölkerungsumfrage der Sozialwissenschaften, conducted by ZUMA in West Germany and the National Social Science Survey, conducted by ANU in Australia. Prior to this, NORC and ZUMA had been collaborating bilaterally since 1982 on a common set of questions.

The four founding members agreed to jointly develop modules dealing with important areas of social science field the modules as a fifteen-minute supplement to the regular national surveys (or a special survey if necessary) include an extensive common core of background variables make the data available to the social science community as soon as
possible.

Each research organisation funds all of its own costs. There are no central funds. The merging of the data into a cross-national data set is performed by the Zentralarchiv für Empirische Sozialforschung, University of Cologne. Since 1984, the ISSP has grown to 26 nations: the founding four - Australia, Germany, Great Britain and the United States - plus Austria, Bulgaria, Canada, Cyprus, the Czech Republic, France, Hungary, Israel, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, the Philippines, Poland, Portugal, Russia, the Slovakian Republic, Slovenia, Spain and Sweden.

The annual topics for the ISSP are developed over several years by a sub-committee and are pre-tested in various countries. The annual plenary meeting of the ISSP then adopts the final questionnaire. ISSP questions need to relevant to all countries and expressed in an equivalent manner in all languages. The questionnaire is originally drafted in British English and then translated into other languages.

The ISSP marks several new departures in the area of cross-national research. First, the collaboration between organisations is not ad hoc or intermittent, but routine and continual. Second, while necessarily more circumscribed than collaboration dedicated solely to cross-national research on a single topic, the ISSP makes cross-national research a basic part of the national research agenda of each participating country. Third, by combining a cross-time with a cross-national perspective, two powerful research designs are being used to study societal processes. At the time of writing (September 1998) data for the years 1985-1995 are currently available.

<u>ISSP Modules 1985-1999</u>
ISSP 1985 Role of Government I
ISSP 1986 Social Networks and Support Systems

ISSP 1987 Social Inequality I
ISSP 1988 Family and Changing Gender Roles I
ISSP 1989 Work Orientations I
ISSP 1990 Role of Government II
ISSP 1991 Religion I
ISSP 1992 Social Inequality II
ISSP 1993 Environment
ISSP 1994 Family and Changing Gender Roles II
ISSP 1995 National Identity
ISSP 1996 Role of Government III
ISSP 1997 Work Orientations II
ISSP 1998 Religion II
ISSP 1999 Social Inequality III

The following are currently ISSP member countries—an updated version is available at the ISSP world wide web site at http://www.issp.org – Australia, Austria, Bulgaria, Canada, Cyprus, CzechRepublic, France, Germany, Great Britain, Hungary, Ireland, Israel, Italy, Japan, Netherlands, NewZealand, Norway, Philippines, Poland, Portugal, Russia, Slovakian Republic, Slovenia, Spain, Sweden, USA.

3. The US General Social Surveys 1972-1996

The General Social Survey (GSS) is a regular, ongoing omnibus personal interview survey of U.S. households by the National Opinion Research Center with James A. Davis and Tom W. Smith as Principal Investigators. The first survey took place in 1972 and since then more than 37,000 respondents have answered more than 3,500 different questions. From Americans' racial attitudes to the number of guns owned by women to musical preferences over a lifetime, the General Social Survey measures the trends in American attitudes, experiences, practices, and concerns. Over the past 30 years, the GSS has noted a dramatic increase in support for racial equality and integration, as well as a steady increase in support for civil liberties. On a lighter note, the study has also found that the music we prefer as teenagers remains our favorite throughout our lives. The mission of the GSS is to make timely, high-quality, scientifically relevant data available to the social science research community. Since 1972 the GSS has conducted 22 independent cross-sectional surveys of the adult household population of the United States. These surveys have been widely distributed and extensively analyzed by social scientists around the world. To date, NORC has documented the publication of more than 4,500 articles using the data.

GSS Study Description
This study, begun in 1972, was supported in its first year by grants from the Russell Sage Foundation and the Science Foundation. NSF provided support for 1973 through 1991, with surveys in 1973-1978, 1980, 1982, 1983-1993,1994, 1996 and 1998. Supplemental support from 1984 through 1991 was provided by Andrew M. Greeley.. The National Data Program for the Social Sciences (General Social Survey) is both a data diffusion project and a program of social indicator research. Its data collection instrument, the General Social Survey (GSS), was fielded for the 22nd time 1998. Previously an annual survey, the GSS became biennial in 1994. The

questionnaire contains a standard core of demographic and attitudinal variables, plus certain topics of special interest selected for rotation (called "topical modules"). Items that appeared on national surveys between 1973 and 1975 are replicated. The exact wording of these questions is retained to facilitate time trend studies as well as replications of earlier findings. NORC also incorporates methodological experiments into each year of the GSS data collection. These have involved question wording, context effects, use of different types of response scales, as well as random probes and other assessments of validity and reliability. For the baseline items in the initial survey, some 150 social scientists reviewed drafts of the questionnaire, suggested revisions and additions, and expressed their preferences by vote. Topic and question selection is monitored annually by a Board of Overseers, composed of distinguished social scientists. Items include national spending priorities, drinking behavior, marijuana use, crime and punishment, race relations, quality of life, confidence in institutions, and membership in voluntary associations.

Since 1985, the GSS has taken part in the International Social Survey Program, a consortium of social scientists from 25 countries around the world. The ISSP asks an identical battery of questions in all countries; the U.S. version of questions is incorporated into the GSS. Since 1988, the GSS has also collected data on number of sex partners, frequency of intercourse, extramarital relationships, and sex with prostitutes.

The basic purposes of the GSS are to gather data on contemporary American society in order to monitor and explain trends and constants in attitudes, behaviors, and attributes; to examine the structure and functioning of society in general as well as the role played by relevant subgroups; to compare the United States to other societies in order to place American society in comparative perspective and develop cross-national models of human society; and to make high-quality data easily accessible to scholars, students, policy makers, and others, with minimal cost and waiting. Since 1972 the GSS has conducted 22 independent cross-sectional surveys of the adult household population of the United States. These surveys have been widely distributed and extensively analyzed by social scientists around the world. To date, NORC has documented the publication of more than 4,500 articles using the data. The GSS is the largest sociology project funded by NSF and has been described as a national resource. In use by sociologists it is second only to the Census.

The 1994 GSS was both the largest and most complex ever conducted, including a doubling of sample size and 11 different questionnaires. The 1998 survey is similar to the 1994 and 1996 GSS in design and sample size (3000 cases). The 1998 topical modules are on mental health, religion, national security, worker training and culture. The international module is on religion and work orientation.

Sample Type

National area probability sample of non-institutionalized adults. Black oversamples in 1982 and 1987. In 1993, there was a split-frame experiment in which half the cases were drawn from NORC's 1980 sampling frame and half from the new 1990 sampling frame.

Sample Size

About 1,500 for the first 19 surveys; became 3,000 when the survey became biennial in 1994.

Data Collection Method

In-person interview.

Average Length of Interview
About 90 minutes.
Response Rates
1975—76 percent
1976—75 percent
1977—77 percent
1978—74 percent
1980—76 percent
1982—78 percent
1983—79 percent
1984—79 percent
1985—79 percent
1986—76 percent
1987—75 percent
1988—77 percent
1989—78 percent
1990—74 percent
1991—78 percent
1992*
1993—82 percent
1994—78 percent
1996—76 percent
1998—76 percent

*While there was no 1992 GSS, there was a special survey in which respondents to the 1991 GSS were re-contacted by mail or telephone, with a response rate of 84 percent.
(Source: NORC web site at http://www.norc.uchicago.edu/gss/homepage.htm).

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