SELF-EMPLOYMENT OUT OF DISSATISFACTION: AN INTERNATIONAL STUDY

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ABSTRACT

This paper studies differences in the rate of self-employment (business ownership) in more than twenty Western nations and Japan for the period 1974-1994, focusing in particular on the influences of dissatisfaction and uncertainty avoidance. We test two types of hypotheses, pertaining to the positive influence of various forms of dissatisfaction on the level of self-employment, and to differences between the importance of various push and pull factors in low and high uncertainty avoidance countries. The two types of hypotheses are related, as inhabitants of high-uncertainty avoidance cultures tend to express lower levels of satisfaction with life. Using a longitudinal dataset covering 12 European countries, and controlling for important economic factors, we find that dissatisfaction is a very important variable for explaining differences in self-employment levels. Dissatisfaction seems to be a factor promoting self-employment, not only at the level of the individual, but also at the level of societies. Hofstede's Uncertainty Avoidance Index is used to distinguish between low and high-uncertainty avoidance countries, and the factors influencing self-employment rates within these two clusters are investigated in a set of 23 countries. In the group of high-uncertainty avoidance countries a strong negative relationship between GDP per capita and the level of self-employment is found, in low-uncertainty avoidance countries the profits associated with being self-employed are a significant factor. These findings, which support the hypotheses, suggest that in high-uncertainty avoidance countries self-employment is often caused by a lack of prosperity (a push factor); in low-uncertainty avoiding countries the pull factor of expected profits is more important.

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1: INTRODUCTION

Why are some people self-employed, while others prefer to become an employee rather than a business owner? Why does the proportion of self-employed differ significantly between countries? The first of these two questions is addressed in an expanding literature, but the second has so far been largely neglected. Yet this question seems highly relevant, as stimulating individuals to set up shop is seen by many governments as an important means for fighting unemployment and promoting a healthy and dynamic economy (Geroski and Jacquemin 1985; Van Praag and Van Ophem 1995; OECD 1998). Such policies should be based not only on insights in the factors causing individuals to become self-employed, but also on the factors which make individuals, in the aggregate, more or less inclined to become self-employed in one country than in another. In other words, it seems unlikely that one particular approach will work in many different countries, for two reasons. In the first place circumstances differ, making for instance alternative employment options much more attractive in one country than in another. In the second place, inhabitants of different countries may be motivated by different factors, or differentially by one particular factor. Both differences in circumstances and motivational differences have to be taken into account.

In this paper we try to explain differences in the level of self-employment between 23 OECD

countries (Western countries and Japan), with a focus on motivational differences and controlling for differences in (economic) circumstances. Self-employment as defined here includes both the owners of enterprises that are not legally incorporated and the owner/managers of incorporated businesses. However it excludes unpaid family workers and wage-and-salary-workers who operate a side-business as a secondary activity.The rate of self employment at the level of a country in this study is defined as the percentage of the nonagricultural labor force that is a business owner in the above sense.

In explaining differences in self-employment rates we distinguish between 'pull' factors and 'push' factors (Stanworth and Curran 1973). Pull factors make self-employment more attractive. An example is the opportunity to appropriate high profits. Push factors make wage-employment less attractive (for instance low wages or lack of autonomy), or even impossible (for instance unemployment). In this case an individual is 'pushed' into self-employment by a lack of (attractive) alternatives.

In section 2 of the paper we first look at the factors which have been suggested to influence the willingness to be self-employed at the level of the individual actor, and consider the question whether these factors can be aggregated to the level of national economies. Two kinds of hypotheses are developed. Firstly, we formulate hypotheses predicting the effect of various factors, including an aggregated psychological characteristic, on the rate of self-employment in a country. Secondly, we predict differences in the way in which non-psychological factors (such as profit potentials) impact on the level of self-employment in countries with different cultural characteristics. Differences in self-employment levels are not only influenced by differences in individual propensities, but also by the economic structure of the country. Therefore we also identify indicators of economic development and economic structures which have to be controlled for when studying motivators of self-employment at the level of national economies.

A major handicap in the analysis of international differences in self-employment is a lack of data. When studying the propensity to choose for self-employment at the level of the individual, psychological variables are particularly important (Brockhaus and Horwitz 1985). The equivalent variables at the level of societies are aggregates of these psychological tendencies, or metrics of national cultural characteristics. However, whereas research at the level of individuals can make use of large samples, research at the level of societies is severely restricted. The number of countries for which aggregates of relevant psychological variables or metrics of cultural characteristics are available is small. As for the first, we use in this paper time-series of aggregate levels of dissatisfaction in twelve European countries (Eurobarometer Trends 1994). As for the second, we use the cultural indices developed by Hofstede (1980; 1991), which exist for fifty countries and three regions. However, no time-series of Hofstede's indices are available, making it impossible to directly analyze the relation between cultural changes and changes in the level of self-employment.

The way we deal with these restrictions is described in section 3. Basically, the analysis is split

up into two parts, in order to make best use of the available scarce data. First we do a longitudinal analysis using the Eurobarometer Trends data. This analysis focuses on the influence of aggregated dissatisfaction on self-employment levels. After that, we look at two clusters of countries separately, analyzing the differential impact of various pull and push factors in countries characterized by high and low uncertainty avoidance. Section 3 also gives details on the datasets used to test our hypotheses, dependent and independent variables and controls, and statistical methods.

The results of the analysis are presented and discussed in section 4. Conclusions follow in section 5.

2: FACTORS INFLUENCING THE LEVEL OF SELF-EMPLOYMENT

Most of the studies in the entrepreneurship literature focus on factors which cause individuals to opt for self-employment. However, we may not automatically assume that relationships identified at the individual level will also be true at the level of societies. Relationships found at the individual level may also be valid at the societal level, but this is not necessarily the case. In this paper we are particularly interested in two variables: dissatisfaction and uncertainty avoidance. We will first consider their influence at the individual level and subsequently formulate and test hypotheses at the aggregate level.

In studies of entrepreneurship one encounters various specific types of *dissatisfaction*. Brockhaus (1980, 1982) states that dissatisfaction with previous work experience is closely related to the "entrepreneurial decision"**.** He finds self-employed to be relatively strongly dissatisfied with the (previous) work itself, with supervision and with opportunities for promotion (but more satisfied with actual pay). Shapero and Sokol (1982, p. 79) assert: "Research data show that individuals are much more likely to take action upon negative information rather than positive, and the data on company formations support that conclusion". In their final model both pull and push factors contribute to the start-up of a business, but negative "displacements" such as forceful emigration, being fired and being bored or angered predominate.

This all fits with what psychology tells us about motivation. In particular individuals with a high sense of self-efficacy are activated by self-dissatisfaction, i.e., when they do not attain their goals. This spurs efforts to bring outcomes in line with their value standards (Bandura and Cervone 1983). Consequently, it is no surprise that dissatisfaction is one of the most important predictors of job mobility (Mobley, 1982; Lee, 1988; Dailey and Kirk, 1992). Dissatisfaction as a motive at the micro level has also time and again been confirmed in other survey studies concerning start-ups. See, for instance, Huisman and De Ridder (1984), who report that frustrations with previous wage-employment, unemployment, and personal crises are among the most-cited motives of a large sample

of entrepreneurs in eleven different countries. More recently, Van Uxem and Bais (1996) found that about 50% of almost 2000 new Dutch entrepreneurs mentioned dissatisfaction with their previous job among their motives to start for themselves, although some pull factors were mentioned even more frequently. So at the level of the individual, it is highly probable that various kinds of dissatisfaction are associated with a stronger propensity to become self-employed.

In this study we will use two indicators of dissatisfaction: dissatisfaction with life and dissatisfaction with the way in which democracy works. *Dissatisfaction with life* (as reported in the data source used in this study, Eurobarometer Trends 1994) is a very general concept, and may be caused by many different factors, like those mentioned by Huisman and De Ridder (1984). This kind of dissatisfaction may be caused by personal factors as well as factors in the environment of the individual. Based on the literature described above, we expect life-dissatisfaction to be positively related with self-employment. *Dissatisfaction with the way democracy works* (also taken from the Eurobarometer Trends 1994), refers to the self-expressed degree of dissatisfaction of an individual with his or her life or with the way democracy in his or her country works. Dissatisfaction with the way democracy in one's country works is a more outward-directed kind of dissatisfaction than life-dissatisfaction. Although this kind of dissatisfaction may be assumed to be related to the actual quality of the democracy in a particular country, we assume that at the same time it conveys more general information about the level of satisfaction of an individual with his or her environment, including the work environment. If this is the case, a positive relationship between dissatisfaction with democracy and self-employment is also to be expected. Both kinds of dissatisfaction may be seen as a very general push factors: the more dissatisfied one is with his or her present life or environment, the lower the opportunity costs of shifting to self-employment.

What exists at a micro level may also exist at a macro level: do countries where people are in general less satisfied with their life and with the society they live in have a higher self-employment rate than other countries? We will use aggregated dissatisfaction data to test for the relationship between the average dissatisfaction level within a society and the rate of self-employment in that society, assuming that the positive relationship holds here, too. Some first evidence is presented in figure 1. Also see Wildeman et al. (1999).

Insert Figure 1 about here

However, this relationship will have to be scrutinised while controlling for other influences. Hence Hypothesis 1:

Hypothesis 1: Higher levels of dissatisfaction in a country are associated with higher rates of self-employment.

Uncertainty avoidance refers to the extent to which members of a culture feel threatened by uncertain or unknown situations (Hofstede 1991). Two of the three indicators of uncertainty avoidance used by Hofstede are rule orientation and employment stability. In strong uncertainty avoidance countries people have a stronger emotional needs for rules and procedures, and have a tendency to stay longer in a job at a particular organization. Uncertainty avoidance also correlates negatively with need for achievement (Hofstede 1980: 153ff). This suggests that in a strong uncertainty avoidance culture the step from wage-employment or unemployment into self-employment will be made less readily than in weak uncertainty avoidance countries. In the entrepreneurship literature the hypothesis is often made that countries or individuals that are characterized by a weak "uncertainty avoidance", would be more prone to entrepreneurship and related phenomena (McGrath et al 1992; Shane 1993). However, uncertainty avoidance as defined by Hofstede is a phenomenon at the societal level, which cannot be equated with individual-level phenomena such as risk-taking propensity.

Life-dissatisfaction may be seen as a situational factor: people may be dissatisfied because they dislike their job, because of problems in their private life, because of misfortunes, etc. At the aggregate level many of these factors average out, but still there are significant and relatively stable differences in the average levels of self-reported life-dissatisfaction (Eurobarometer Trends 1994). This suggests that life-dissatisfaction is not only influenced by individual situational factors, but also by the culture of a country. As a matter of fact, we find a strong correlation in the data used for this study between the average level of life-dissatisfaction in twelve European countries over the period 1974-1994 and the score of countries on Hofstede's Uncertainty Avoidance Index (r=.718, significant at the 1% level). In some cultures people consistently report lower life-satisfaction than in other cultures.

Consequently, when we cluster countries based on their level of uncertainty avoidance, this can to a certain extent be seen as a cross-sectional extension of our earlier longitudinal analysis of the influence of dissatisfaction on self-employment. However, since no time-series of uncertainty avoidance levels exist, hypotheses pertaining to a direct effect between uncertainty avoidance and self-employment cannot be tested with the data available. What we can do is study differences between the impacts of various pull and push factors between strong and a weak uncertainty avoidance country clusters. If we find such differences to be in conformity with our hyptheses we will have indirect evidence of the importance of uncertainty avoidance for self-employment rates.

A first factor we will consider are positive *earning differentials* between self-employment and wage-employment. Potential profits are one obvious reason to set up shop or to shift from wage-employment to self-employment. Individuals may be hypothesized to compare expected profits and wages when weighing the attractiveness of self-employment versus wage-employment. This income choice model of self-employment dates back as far as at least Frank Knight (1921). More recent theoretical attention for a relationship between earning differentials and the allocation of talent across business ownership and wage-employment can be found in Murphy et al. (1991). Furthermore

Acemoglu (1995) provides a theoretical model of the impact of both pecuniary and non-pecuniary reward structures on occupational choices.The potential of high profits as a pull factor for entering self-employment finds some empirical support in Evans and Leighton (1990) and Foti and Vivarelli (1994). For partly conflicting evidence see Santarelli and Sterlachini (1994).

On the other hand self-employment is inherently risky and "there is a positive profitability that entrepreneurial activity will result in failure" (Iyigun and Owen, 1998, p. 455). An individual must weigh the prospect of potential high profits with the risk and uncertainty associated with self-employment, and this may be a cause for international differences in the impact of earning differentials on the rate of self-employment. Some empirical evidence of the differential importance which wage earners striving for self-employment attach to income security (and for its influence on their decision tot start part-time or full-time) is found in current work by EIM (1999).

Whereas we expect a positive relationship between earning differentials and self-employment to exist in any society, it may thus be expected to be stronger in societies characterized by weak uncertainty avoidance, since here the relative weight of the risk and uncertainty associated with self-employment will be smaller. Hence, hypotheses 2 and 3:

Hypothesis 2: Higher positive earning differentials between self-employment and wage-employment in a country are associated with higher rates of self-employment.

Hypothesis 3: In countries characterized by weak uncertainty avoidance the relationship between earning differentials and self-employment rates will be stronger than in countries characterized by strong uncertainty avoidance.

The relationship between *unemployment* and the propensity of an individual to enter self-employment is less straightforward. Unemployment (or the threat of it) primarily acts as a push factor for self-employment (Evans and Leighton, 1990; Acs et al.,1994; Foti and Vivarelli, 1994; Audretsch and Thurik, 1998). Since the opportunity costs for unemployed persons to become self-employed are relatively low, they will make their choice for self-employment sooner (although probably only a minor proportion of the unemployed will actually become self-employed; also see Meager, 1992, for an analysis of self-employment inflows). On the other hand, high unemployment may be connected with an economic depression, which makes prospects for setting up a new business very bleak and may cause disillusionment (Storey 1991). However, it is hard to say beyond which critical level of unemployment this discouragement effect will be strong enough to reverse the sign of the unemployment variable. In fact, unemployed may all the same choose for self-employment, albeit in the form of 'marginal entrepreneurship'. Therefore we expect a positive relationship between unemployment and self-employment at the level of a country:

Hypothesis 4: Higher unemployment levels within a country are associated with higher self-employment levels.

Just as uncertainty avoidance was expected to dampen the effect of the pull factor earning differentials, it will presumably also dampen the effect of the push factor unemployment. Shifting from unemployment into self-employment always is a leap in the dark, which will presumably be more ligthly taken in weak uncertainty avoidance countries:

Hypothesis 5: In countries characterized by weak uncertainty avoidance the relationship between unemployment levels and self-employment rates will be stronger than in countries characterized by strong uncertainty avoidance.

Finally, we will consider the relationship between self-employment rates and the *level of prosperity*. It has been observed in various studies that the self-employment rate tends to decrease as economies become more developed (Kuznetz, 1966; Schultz, 1990; Bregger 1996). A low level of prosperity usually coincides with a low wage level, implying little pressure to increase efficiency or the average scale of enterprise. Small firms in crafts and retail trade are therefore dominant in such an economy. A major route for ambitious wage-earners to increase their income, then, is to set up shop and become an entrepreneur. Economic development subsequently leads to a rise in wages, which stimulates enterprises to work more efficiently and to reap economies of scale and scope (Chandler, 1990). An additional effect of rising wage levels is of course an increased attraction of wage-employment, or put otherwise a higher opportunity cost of self-employment (Lucas, 1978). Iyigun and Owen (1998) also argue that fewer individuals are willing to risk becoming an entrepreneur as the “safe” professional earnings rise with economic development.

This trend towards lower rates of self-employment may weaken, or even be reversed at a later stage of economic development, when services become more important and a new rise in self-employment may occur. The advent of information technology, the availability of capital and the differentiation of markets (niches) lead to the occurrence of diseconomies of scale. An increased emphasis on subcontracting may strengthen this process (Blau 1987; Acs et al., 1994; Bais et al., 1995; Carree et al., 1999). This may partly explain the present resurgence of self-employment in some of the most highly developed economies. However, we expect this resurgence to be connected to changes in sector structures and technologies in use (which are not included in this study) rather than with the level of prosperity as such (Blau 1987). Therefore we expect an overall negative relationship between prosperity and self-employment rates:

Hypothesis 6: Higher levels of prosperity in a country will be associated with lower rates of self-employment.

Van Praag (1996, p. 110) has shown that "more risk-averse individuals are significantly less inclined to start as an entrepreneur than others". For the risk-averse the pull of good jobs may be particularly attractive, or put otherwise, for them the opportunity costs of becoming a business owner will weigh relatively heavily in their occupational choices. At the level of a society strong uncertainty avoidance may thus lead to a larger shift to wage employment when job opportunities improve, than weak uncertainty avoidance. Thus we expect a differential impact of the level of prosperity in weak and in strong uncertainty avoidance countries:

Hypothesis 7: In countries characterized by strong uncertainty avoidance the negative relationship between the level of prosperity and the self-employment rate will be stronger than in countries characterized by weak uncertainty avoidance.

An overview of the direct and indirect influences on the rate of self-employment, as embodied in our seven hypotheses, is presented in Figure 2.

Insert Figure 2 about here

When testing for the relationships expressed in the above hypotheses, we will have to control for factors which are known to influence self-employment rates, but which are outside the scope of interest in the present study. We will include two controls: the participation of women in the labour force, and the density of the population.

Female labour share. In most Western countries, working women show substantially lower self-employment rates than working men. Under the assumption of constant female/male self-employment differentials over time, a growing participation of women in the labour market automatically implies a decreasing share of self-employment in the labour force (Acs et al., 1994).

Population density. Every region needs a minimum supply of facilities regarding trade and craft for their population to survive in these areas. Therefore, thinly populated areas with many dispersed small villages will often have many small retail outlets and workshops. Conversely, urban areas will give rise to economies of scale, through which small-sized entrepreneurship in trade and craft comes under pressure (Bais, Van der Hoeven and Verhoeven, 1995). Consequently, population density may be expected to have a negative effect on the rate of self-employment in a country.

3: METHODS

Data

The dependent variable in this study is the level of self-employment within a country at a certain point in time. This variable is operationalized as the number of self-employed divided by the total labour force of a country, for all the even years in the period 1974-1994. The 23 countries covered by this study are 18 European countries plus the USA, Japan, Canada, Australia, and New Zealand (see Table 1 for a list, with the corresponding abbreviations that we will use in this paper).

Insert Table 1 about here

The economic indicators used as independent variables or control variables in this study are labor income quota, unemployment, per capita income, female labor share and population density. The *labor income quotum* or *share* of a country is defined as the share of labor income (including the compensation of self-employed for their labor contribution) in the net national income. Labor income shares are a pragmatic proxy for earning differentials between wage-employment and self-employment. The higher the labor income quotum, the smaller the share of the national income made up by profits, and hence the less attractive it is to become self-employed. *Unemployment* is expressed as a percentage of the total labor force of a country in a given year. *Per capita income* or *GDP* is measured in constant prices of 1990. Furthermore, purchasing power parities per US $ in 1990 are used to make the monetary units comparable between countries.The f*emale labor share* is operationalized as the percentage of women in the total labor force. *Population density*, finally, is expressed as the number of people per square kilometer in a country.

These data were collected by combining several sources. The main sources are: OECD, Main Economic Indicators; OECD, Labour force statistics 1974-1994; and OECD, National Accounts 1960-1994, Detailed Tables. However, many data such as self-employment, unemployment, and labour force were incomplete. We have completed these data by using ratios derived from data of the Eurostat Labour Force Survey. Furthermore, we made a unified dataset of self-employment, which was necessary as in the OECD statistics the definitions self-employment were not fully compatible between countries. In some countries, self-employed are defined as individuals owning a business that is not legally incorporated. In other countries, owner/managers of an incorporated business who gain profits as well as a salary, are also considered to be self-employed. Australia, Canada, Denmark, France, Ireland, the Netherlands, New Zealand, Norway, Portugal, Spain, and USA use the narrow definition, while the other countries apply the broader characterisation. For the countries not following the broader definition, we made an estimation of the number of owner/managers by using information

derived from statistical bureaus in these countries. Besides this difference, in some countries unpaid family workers are included in data of self-employed as well. These were eliminated from the data. This work has resulted in a unified dataset of self-employment (COMPENDIA98 meaning COMparative ENtrepreneurship Data for International Analysis), which includes the owners of both the incorporated and the unincorporated businesses but excludes the unpaid family workers.

The data on dissatisfaction were collected from the Eurobarometer Trends (1994), and are available for twelve European countries. However, for one country (Greece) data are available since 1980, and for two countries (Portugal and Spain) only since 1984. For some years data were missing, for example, 1974. Instead, we took the average of 1973 and 1975. Furthermore, in many years dissatisfaction was measured twice, in which case we took the average of the two measurements. Data for 1994 were missing as well, and instead we took the last measurement of 1993. A similar action was done for the year 1980 for Greece, and the year 1984 for Spain and Portugal: as these were missing, we took the first measurement of the next year. Thus, we collected time series for the even years between 1974 and 1994. *Dissatisfaction with life* was operationalized as the percentage of respondents indicating to be 'not at all satisfied with life'. *Dissatisfaction with democracy* as the percentage indicating to be 'not at all satisfied with the way democracy works'. The *uncertainty avoidance* index was taken from Hofstede (1980). Unfortunately, for Iceland and Luxemburg no uncertainty avoidance data are available, but for the latter country estimates were used. These estimates were provided by the Institute for Training in Intercultural Management (ITIM) in The Hague, and are based on extensive data from training sessions. In the analyses of country clusters based on uncertainty avoidance Iceland is excluded.

The eleven data points in the period 1974-1994 gave us 253 cases for 23 countries. In the analysis using dissatisfaction variables we had 119 instead of the theoretical maximum of 132 datapoints because of missing data (various years for Greece, Portugal and Spain). The correlation matrix for the 12 countries for which dissatisfaction data are available is in Table 2. The correlation matrix for 23 countries (without the two dissatisfaction variables) is presented in Table 3.

Insert Table 2 about here

Insert Table 3 about here

Analysis

We used regression analysis (ordinary least-squares) to test the hypotheses formulated in Section 2. We first regressed self-employment on the two metrics of dissatisfaction, unemployment, labor-income quota, GDP per capita, female labor share and population density. In order to assess the effect of

dissatisfaction we first regressed self-employment on the economic variables only. After that, we included life-dissatisfaction and dissatisfaction with democracy in two separate analyses, the reason for this being the strong positive correlation between the two kinds of dissatisfaction, the strongest between any pair of independent variables (see Table 2).

In clustering countries based on Hofstede's uncertainty avoidance index we used the K-means algorithm. In this algorithm the countries are assigned in turn to the nearest of the two cluster centers (which are initialised as the lowest and the highest score among the 22 countries). When all cases have been added, each cluster center is updated as the average score of the countries it contains. This process iterates until the solution converges. The countries in the weak-uncertainty avoidance group are DEN, FIN, GER, IRE, NET, SWE, GBR, NOR, SWI, USA, CAN, AUL, and NZL. The strong-uncertainty avoidance cluster was formed by AUT, BEL, FRA, GRE, ITA, LUX, POR, SPA, and JAP. As for Iceland no score on uncertainty avoidance was available, this country was in neither of the two clusters.

Uncertainty avoidance tends to be stronger in lower-income countries (Hofstede 1980: 330). In order to check whether the results found in the analysis of weak and strong uncertainty avoidance clusters should not rather be attributed to differences in wealth, we also we also clustered countries on GDP per capita. The K-means procedure clustered GRE, IRE, POR and SPA together as low-income countries, and all the other countries as high income countries. To those four countries we added Italy, on the observation that Italy is an outlier within the group of rich countries as far as the number of self-employed is concerned. This is not very difficult to understand, as Italy splits into two economies, the rich north and the poor south. The result is a country with an average-level GDP per capita with many self-employed. We also regressed self-employment on the independent variables within the two clusters thus formed.

In order to control for autocorrelation in the data dummy variables for all years except the most recent (1994) were entered into all regression equations. The coefficients on the dummy variables (not reported in the tables) reflect the estimated fixed effects relative to this most recent year.

In order to test for autocorrelation and multicollinearity Durbin-Watson statistics for every regression and tolerance levels for all the independent variables were inspected. The Durbin-Watson statistic varied between 2.837 and 1.851, suggesting no serial correlation. Tolerance levels were high for all variables in all regressions, except for GDP per capita in the regression on low-income countries (Table 5), for which a tolerance level of .086 was reported. These statistics indicate that multicollinearity was no problem in our analyses.

4: RESULTS

We will first discuss the results of the regressions with the twelve countries for which dissatisfaction data are available (see Table 4).

Insert Table 4 about here

Both kinds of dissatisfaction have a strong positive effect on the level of self-employment, as predicted by hypothesis 1. The R-square of the regression with dissatisfaction with democracy is somewhat higher than that of the regression with dissatisfaction with life. This may seem counter-intuitive, as life-dissatisfaction would be expected to be stronger linked to the step into self-employment than dissatisfaction with democracy. However, there is a much stronger negative correlation between life-dissatisfaction and GDP per capita than between dissatisfaction with democracy and GPD per capita (see Table 2). The effect is that the total explanatory power of all the independent variables in regression (3) is stronger than that of the independent variables in regression (2). We can also note that in this group of countries, and without controlling for the level of uncertainty avoidance, the predicted negative effect of labor income quota (a reversed metric of earning differentials) and the positive effect of unemployment are not borne out (hypotheses 2 and 4). The negative effect of wealth (GDP per capita), on the other hand, is strongly significant and corroborates hypothesis 6.

Turning now to the analysis of 23 countries, excluding dissatisfaction data (see Table 5), we can first draw some conclusions on the basis of the regression on all 23 countries (second column, regression number 1).

Insert Table 5 about here

Again, we find no overall effect of labor income quota and unemployment, meaning that hypotheses 2 and 4 have to be rejected. Just like in the previous regressions, there is a strong negative effect of GDP per capita, supporting hypothesis 6. If we compare the regressions within the strong and weak uncertainty avoidance clusters (regressions 2 and 3, respectively), we find again no effect of unemployment. Consequently hypothesis 5, predicting a differential impact of unemployment in weak and in strong uncertainty avoidance countries, has to be rejected. Apparently the level of uncertainty avoidance has no effect on the aggregate tendency to shift to self-employment, or the effect on the willingness to set up shop is nullified by the decrease of business opportunities in times of high unemployment (Hamilton 1989; Meager 1992).

Labor income quota have no effect in strong uncertainty avoidance countries, and a negative effect in weak uncertainty avoidance countries. Thus the differential impact of earning differentials

predicted by hypothesis 3 is supported. Earning differentials between wage-employment and self-employment do have a stronger effect in a culture characterized by weak uncertainty avoidance.

Wealth (GDP per capita) has no effect in weak uncertainty avoidance countries, and a strong negative effect in strong uncertainty avoidance countries, supporting hypothesis 7. This suggests that in strong uncertainty avoidance countries there are more "entrepreneurs-out-of-necessity", who close shop and/or shift to wage-employment as soon as the level of prosperity and the associated economic development of their country allows them to do so.

Inspection of the differences between low and high-income countries (regressions 4 and 5) confirms the relevance of the uncertainty-avoidance dimension. The differential effect of labor income quota is not found in these analyses, and the effect of GDP per capita is less significant in the group of low-income countries than in the strong uncertainty-avoidance countries. This suggests that these effects are indeed associated more with the level of uncertainty avoidance rather than the level of prosperity. Interestingly, the group of low-income countries shows a significant negative effect of unemployment not found in the other analyses. This could be a sign that the "disillusionment threshold" is reached earlier in low-income countries than in richer countries. Given the small sample size (55), however, it seems unwise to draw a conclusion from this finding.

Of the control variables, female labor share has a strong negative effect on the level of self-employment in all the regressions, as expected. The effect of population density is negative in most of the regressions (but not always significant). However, in the regressions on countries clustered on uncertainty avoidance and GDP per capita population density is significant in opposite directions in the two clusters (positive in the low-income and high uncertainty-avoidance clusters, negative in the high-income and low uncertainty-avoidance clusters). This finding is counter-intuitive, for one would expect that in the category of countries with a lower GDP per capita a higher population density would be associated with more economies of scale and thus a lower self-employment rate (Bais et al. 1995). In relatively prosperous countries population density could be associated with high birth rates of new firms, increasing the rate of self-employment. We have no explanation for this finding. The difference found for the two uncertainty avoidance clusters may be an effect of the correlation between uncertainty avoidance and wealth which is significantly negative for our set of countries (r=-.484, $p<.05$; using GDP per capita data for 1984).

5: CONCLUSION

The determinants of self-employment constitute a complex whole. But as far as national differences are concerned, one clear factor appears: dissatisfaction. Across nations, dissatisfaction with society and with life in general seems to be a distinguishing factor: countries with people who are less satisfied with

the society they live in and who have a lower overall life satisfaction, have a higher proportion of self-employed. However, the fact that nations with a higher average level of dissatisfaction have a higher proportion of self-employed should not be taken as a sign that the average self-employed is more dissatisfied than the average wage-employed. As a matter of fact, the opposite seems to be true. Blanchflower and Oswald (1996), on the basis of a longitudinal survey of individuals born in Great Britain between the 3rd and the 9th of March, 1958, conclude that the self-employed in the sample were significantly happier than those in wage-employment. The conclusion to be drawn is that if more people in a country feel dissatisfied with their life and with the way democracy works, this increases the chance that they will seek self-employment. Those who do so improve their life and job satisfaction over those who do not (Hofstede 1998).

The analysis within the clusters of weak and strong uncertainty avoiding countries reveals interesting differences in the significance of push and pull factors within different countries. In strong uncertainty avoidance countries a strong negative effect of wealth on the rate of self-employment was found. We interpret this finding as a sign that people in these countries see self-employment as a necessity rather than as a vocation. As soon as the economic situation permits them, they shift from self-employment to wage-employment. One could say that a lack of prosperity functions as a strong push factor in these countries. The fact that this relationship breaks down for weak uncertainty avoidance countries is not unexpected given the U-shaped relationship between self-employment and prosperity found by Carree et al. (1999). In weak uncertainty avoidance countries we also found a negative effect of the labor-income share absent in the group of strong uncertainty avoidance countries. This suggests that the pull factor of income differentials functions in these weak uncertainty avoidance countries, but not in strong uncertainty avoidance countries.

Our study has several limitations which should be borne in mind when interpreting the results. Firstly, one must be very prudent in extrapolating the conclusions found in this study to world-wide relationships. The results hold for Western countries (including Japan). It remains to be investigated whether the relationship still exists when other (e.g. developing) countries are included. Secondly, we have looked at a particular historical time period, and not all the relationships we have found may hold in future times. Thirdly, although we have included several control variables, we obviously did not control for all factors which may influence the level of self-employment. For instance, we did not take into account the sectoral composition of the economies of the countries included in the study, the age composition of the labor force, and the level of education (Blanchflower and Meyer 1994; Evans and Leighton 1989).

Our findings offer only limited guidance to politicians who would like to stimulate self-employment. However, one important finding is that an obvious pull factor like increasing the potential profits from self-employment by decreasing the labor-income quota may work in some countries, but not in others. This is a warning for politicians planning costly measures to make self-

employment more attractive. Sometimes it may be wise first to consider how the educational system may contribute to the development of entrepreneurial qualities of a country's population (Van der Kuip, 1998).

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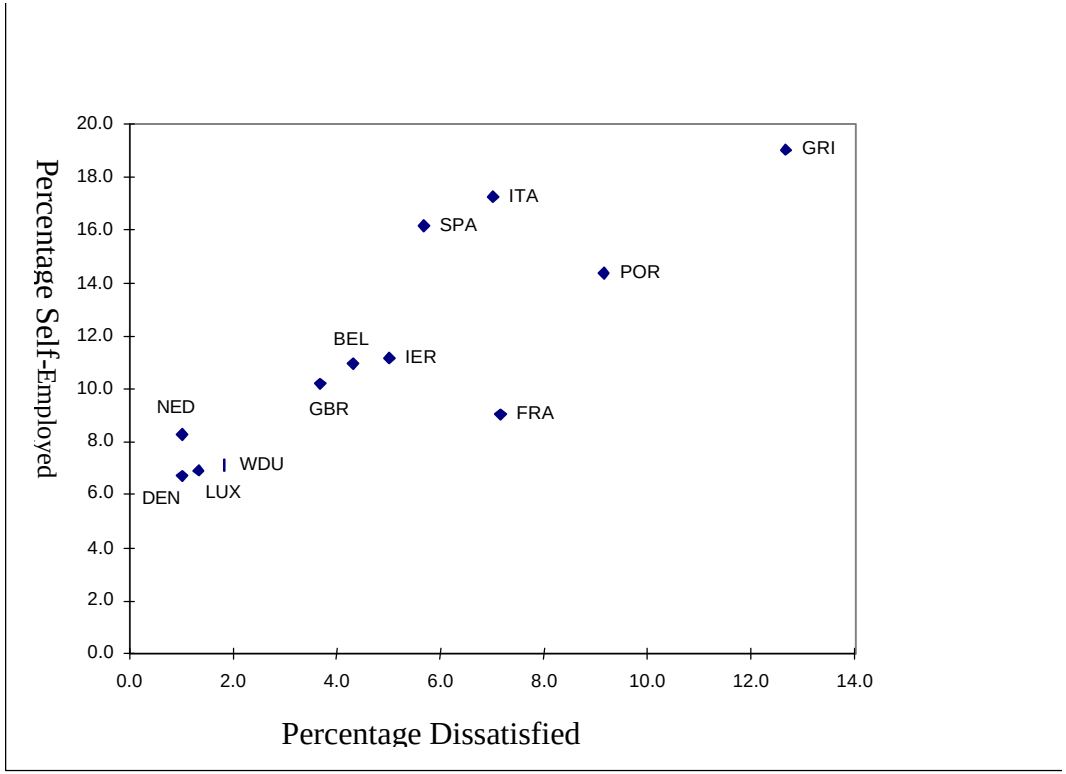
Figure 1: Self-employment rate versus percentage of the population that is not at all satisfied with life, in twelve European countries, averages 1984-1994



Source: Eurobarometer Trends 1974-1994 and Wildeman *et al.* (1999)

Table 1: Countries Included in the Study

Australia	AUL	France	FRA	Italy	ITA	Portugal	POR
Austria	AUT	Germany (W)	GER	Japan	JPN	Spain	SPA
Belgium	BEL	Great Britain	GBR	Luxemburg	LUX	Sweden	SWE
Canada	CAN	Greece	GRE	Netherlands	NET	Switzerland	SWI
Denmark	DEN	Iceland	ICE	New Zealand	NZL	USA	USA
Finland	FIN	Ireland	IRE	Norway	NOR		

Table 2: Correlation Matrix for 12 Countries (Including Dissatisfaction Variables)

	1	2	3	4	5	6	7
1 Self-employment	1.000						
2 Unemployment	.276**	1.000					
3 Female labor share	-.186*	.021	1.000				
4 Population density	-.330***	-.206*	.106	1.000			
5 Labor income quota	.121	-.206*	-.207*	-.329***	1.000		
6 GDP per capita	-.534***	-.261**	.344***	.385***	-.287**	1.000	
7 Dissatisfaction life	.737***	.082	-.140	-.409***	.226*	-.579***	1.000
8 Dissatisf. democracy	.628***	.234*	-.196*	-.148	.134	-.294**	.603***

* p<.05
** p<.01
*** p<.001

119 cases

Table 3: Correlation Matrix for 23 Countries (Excluding Dissatisfaction Variables)

	1	2	3	4	5
1 Self-employment	1.000				
2 Unemployment	.273***	1.000			
3 Female labor share	-.353***	-.015	1.000		
4 Population density	-.028	.021	-.186**	1.000	
5 Labor-income quota	.043	-.155*	-.176**	-.027	1.000
6 GDP per capita	-.385***	-.180**	.445***	.061	-.238**

* p<.05
** p<.01
*** p<.001

253 cases

Table 4: Dissatisfaction and Self-Employment

	1	2	3
Constant	29.861 (5.238)***	17.202 (4.452)***	27.040 (3.900)***
Dissatisfaction with life		.577 (.073)***	
Dissatisfaction with democracy			.240 (.026)***
Labor-income quota	.015 (.043)	.020 (.034)	-.021 (.032)
Unemployment	-.081 (.076)	.067 (.063)	-.195 (.058)**
GDP per capita	-.678 (.092)***	-.271 (.089)**	-.582 (.069)***
Female labor share	-.182 (.060)**	-.156 (.048)**	-.132 (.045)**
Population density	-.001 (.003)	.003 (.003)	-.002 (.002)
N	119	119	119
R^2	.526	.705	.741
F	7.618	15.241	18.272

Dependent variable: self-employment per labour force. Standard errors in parentheses. Statistics on dummy variables for years not reported.

* p<.05
** p<.01
*** p<.001

Table 5: Uncertainty Avoidance, Wealth, and Self-Employment

	1 All Countries	2 Strong Uncertainty Avoidance	3 Weak Uncertainty Avoidance	4 Low Income	5 High Income
Constant	32.889 (3.487)***	38.341 (5.780)***	31.323 (3.403)***	59.743 (13.083)***	28.457 (3.891)***
Labor-income quota	-.008 (.029)	.047 (.038)	-.084 (.036)*	-.022 (.053)	-.041 (.036)
Unemployment	-.021 (.050)	.094 (.064)	-.032 (.060)	-.320 (.111)**	.098 (.058)
GDP per capita	-.444 (.062)***	-.777 (.074)***	.082 (.080)	-1.081 (.394)**	-.228 (.088)
Female labor share	-.310 (.042)***	-.503 (.072)***	-.329 (.043)***	-.819 (.186)***	-.268 (.052)**
Population density	-.003 (.002)*	.014 (.003)**	-.011 (.002)***	.075 (.020)***	-.004 (.002)**
N	253	99	143	55	198
R^2	.431	.733	.469	.645	.187
F	11.972	15.180	7.479	4.726	2.782

Dependent variable: self-employment per labour force. Standard errors in parentheses. Statistics on dummy variables for years not reported.

* $p<.05$

** $p<.01$

*** $p<.001$