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Twenty-five years of materialism:
do the US and Europe diverge?

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Abstract

Using data from the World Values Survey and the European Values Study, we compare the trends of materialism over the last quarter of century among the US and six major European countries: France, Spain, Italy, Germany, Great Britain and Sweden. We use the definition of materialism adopted by positive psychologists. We find that the *trends* in Europe and in the US diverged. In the US materialism increased, while in Europe it decreased. However, some mixed patterns arise. In particular, Great Britain, Spain and Sweden showed some symptoms of an increase of materialistic values, although they were far less pronounced compared to the American ones. As far as the *levels* of materialism are concerned, the US started from relatively less materialistic positions. However, towards the end of our period of observation, they scored very high in the ranking of materialism in our sample of countries.

Keywords: materialism, trends, positive psychology, United States, Europe.

JEL classification codes: D64; I31; O57.

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1 Introduction

The aim of this paper is to assess how materialism evolved over the last decades in the major European countries and the US. Materialism, as usually addressed by positive psychology, is a system of personal values ascribing great importance in life to extrinsic motivations and low priority to intrinsic motivations. The distinction between extrinsic and intrinsic motivations refers, respectively, to the instrumentality or lack thereof of the motivations for doing something. The term extrinsic stands for motivations that are external to an activity, such as money. Conversely, “one is said to be intrinsically motivated to perform an activity when one receives no apparent reward except the activity itself” (Deci, 1971, p. 105). For instance, one can choose his/her friends for the sake of friendship (intrinsic motivation) or for convenience, such as social advancement (extrinsic motivation). In short, materialistic individuals tend to prioritize life goals such as money, luxury consumer’s goods and success, while attributing a lower priority to affection, human relationships, solidarity, civic engagement and - more generally - to pro-social behaviors.

The issue of the trends of materialism was pioneered by Inglehart and collaborators (Inglehart et al., 2008). According to them, materialism emphasizes economic and physical security and it is opposite to post-materialism which emphasizes the satisfaction of non-material needs, such as self-expression and aesthetic needs. Inglehart and colleagues measure values through answers to survey questions asking people “which goals they considered most important, choosing between such things as economic growth, fighting rising prices, maintaining order, and the fight against crime (which tap materialist priorities); and freedom of speech, giving people more say in important government decisions, more say on the job, and a society where ideas count (which tap post-materialist priorities)”. (Inglehart et al., 2008, p. 133)

Inglehart and colleagues argue that materialism has reduced over the last decades in western countries and this is essentially due to generational turnover as younger generations tend to be less materialist. The essential reason is that after the World War II they were socialized - differently from older generations - under conditions of increasing economic prosperity, in which less emphasis is placed on the satisfaction of material needs.

It is worth to emphasize the difference between the concept of materialism used by Inglehart and colleagues and the one adopted by positive psychologists. The latter is grounded on

the distinction between intrinsic and extrinsic motivations. Conversely, while the materialistic values indicated by Inglehart and colleagues are extrinsically motivated, the post-materialistic ones are not necessarily intrinsically motivated. For instance, one can be favorable to freedom of speech or to greater participation in political and economic life not because he/she considers such issues intrinsically important, but for their positive social spillovers - e.g. having more effective decisions or a more stable society ¹.

In this paper we adopt positive psychology's notion of materialism. This literature investigated materialism in dozens of quantitative studies using various population samples. Adopting various methods, these works quantify the levels of materialism in individuals and relate such levels to various psychological outcomes, such as the degree of well-being and the quality of relationships with others and with oneself ².

The results of these studies indicate that the more people care about money, image and status, the lower their well-being and the higher their distress. Such findings have been documented with several measures of well-being (see Kasser (2002) for a review). Materialistic individuals are less satisfied with their lives, less happy and experience positive emotions (such as joy and contentment) less frequently. They have a higher chance of falling prey to mental illnesses such as anxiety and depression and suffer negative emotions (like anger, sadness or fear) more frequently. In addition, they watch more TV, consume more alcohol and drugs and are less healthy. Indeed, more materialistic people are more frequently subject to psycho-somatic irritations - headaches, digestive troubles - and are more exposed to the risk of cardio-vascular

¹A typical example refers to the popular argument that democracies are more reluctant to engage in wars compared to dictatorships. Provided that less wars is a desirable goal, this argument considers democracies as a better form of political organization for instrumental reasons, i.e. the capacity to lead to more desirable decisions, and not for intrinsic motives. The emphasis on political participation related to post-materialistic priorities obviously implies a preference for democracy in the dictatorship/democracy antinomy.

²In some cases materialism is observed through survey questions asking the respondent to state how much he or she agrees with statements such as "Some of the most important achievements in life include acquiring material possessions", "I would rather buy something I need than borrow it from someone else", "I like to own things that impress people" and "I like a lot of luxury in my life" (Belk, 1985, Richins and Dawson, 1992). In some other cases, respondents are directly asked to state how much importance they attach to issues such as spirituality, family, hedonism and conformity. Subsequently, the answers are collected and aggregated into indexes to summarize how much being "financially successful", having "a lot of expensive possessions", being "admired by many people" and keeping up "with fashions in clothing and hair" is important to the respondent (Kasser and Ryan, 1993, 1996, 2001). Alternatively, some studies have assessed the degree of people's materialism by asking to freely list people's goals and subsequently to rate how much each goal is important to achieve various kind of "possible futures". In this case, some of the possible futures feature materialistic outcomes (Sheldon and Kasser, 1995, 1998, 2001). Finally, more sophisticated methods involve computer-assisted techniques to measure the relative speed with which people associate the words "I" and "me" with words recalling expensive (e.g., diamonds) and inexpensive (e.g., flowers) goods (Solberg et al., 2004).

diseases (Keyes, 2004).

Moreover, materialism is also related to a poorer quality of relationships with friends and loved ones. This negative experience stems from a number of relational attitudes that individuals with materialistic inclinations develop. Especially disadvantageous for having satisfying relationships is the tendency to “objectify” the other, that is to say the tendency to consider others as objects. Objectification refers to both the low degree of generosity, empathy, cooperative capacity and genuineness (non-instrumentality), and to the high level of cynicism and mistrust on which individuals with these attitudes base their relations (Kasser, 2002, Khanna and Kasser, 2001, Kasser et al., 1995, Sheldon and Flanagan, 2001, Cohen and Cohen, 1996, Belk, 1985, McHoskey, 1999, Kasser and Sheldon, 2000, Sheldon et al., 2000).

The causality, however, goes also in the opposite direction. A lower quality in the emotional relationship with one’s parents during infancy is associated with higher levels of materialism later on. In fact, lack of affection generates a sense of insecurity and materialism is an answer to insecurity (Kasser et al., 1995, Williams et al., 2000, Cohen and Cohen, 1996, Kasser and Sheldon, 2000).

The conclusion of the researchers is that there is a circular effect leading both materialism and relational poverty to feed each other. A materialistic culture drives individuals to organize their lives in ways that do not allow the fulfilment of their deep needs, and this drives people towards a higher level of materialism.

Besides being associated with poorer relations with others, materialism generates a poorer relationship with oneself as well. In fact, higher levels of materialism are associated with lower levels of self-esteem, self-actualization and vitality (Ryan, 1995, Cohen and Cohen, 1996, Kasser, 2002).

There is, in short, robust evidence that materialism is a bad deal both for people who embrace it and for those around them. This is the reason why the trend of materialism is a relevant issue. The signals coming from the US are not encouraging. An initial optimism (Yankelovich, 1981, Bellah et al., 1985) has been replaced by increasing alerts about the broadening of US materialism over recent decades. Myers and Diener (1997) report that 39% of the college freshmen were declaring in 1970 that having a lot of money was important in life. In 1995 they had become 74%, and having a lot of money had turned into the main life goal, beating any other goal as, for instance, having a family. According to Schor (1998) between

1975 and 1991 in a representative sample of the American population, materialistic goals became more important, while the relevance of non-materialistic priorities reduced³. Similarly, Easterlin and Crimmins (1991, p. 499) found that “from the early seventies through 1986-87, private materialism as a life goal increased greatly in importance among American youth”.

Compared to the US, we know much less about what happened to materialism in Europe. Hellevik finds that “compared to the late eighties, the Norwegian population around the turn of the century on the average had a more materialistic value orientation” (Hellevik, 2003, p. 271) and that such a trend can be a contributing factor in the explanation of the stagnation of Norwegian happiness over such a period. However, beyond this paper we found only anecdotal evidence on the issue of materialism in Europe.

Summarizing, a systematic study on comparable data trying to assess the long-term trends of materialism across western countries in the last decades is lacking. Our goal is to contribute to fill this gap. Using data from the World Values Survey and the European Values Study (WVS-EVS), we compare the trends of materialism over the last quarter of century among the US and six major European countries: France, Spain, Italy, Germany, Great Britain and Sweden. We find that:

1) The *trends* in Europe and the US diverged. In the US materialism increased while in Europe it decreased. As far as the *levels* of materialism are concerned, it is interesting that the US often started from relatively less materialistic positions. Yet towards the end of the period of observation they often scored very high in the ranking of levels of materialism. However, some mixed patterns arise. In particular, Great Britain, Spain and Sweden showed some symptoms of an increase of materialistic values, although such symptoms were far less pronounced compared to the American ones.

2) The US-Europe divergence in the trends of materialism was very strong in the 80s, while it disappeared in the 90s. Indeed, the latter decade was characterized by a general decrease of the US materialism followed by a subsequent rise after 2000. Italy and Spain followed a reverse path compared to the US: materialism increased in the 90s and decreased after their end.

³The percentage identifying “having a lot of money” as a part of the good life, grew from 38% to 55% and those identifying “a job that pays much more than average” increased from 45% to 60%. Instead, those indicating a “happy marriage” as an ingredient of the good life dropped from 84% to 77% and an “interesting job” from 69% to 63% (Schor, 1998).

The paper is organized as follows. Section 2 illustrates the data available for present research and describes the relevant variables. Section 3 provides details about our investigating procedure, while our results are presented in section 4. Some concluding remarks follow in section 5.

2 Data

The scarcity of internationally comparable data-sets providing time-series about materialism is a general problem constraining present analysis. The most comprehensive and long-lasting data-base providing cross-country comparable data in many domains of people's life - including their values - is the World Values Survey⁴ - European Values Study⁵ ⁶ (WVS/EVS). The 6 waves integrated WVS/EVS data-set allows to compare across countries the trends of various proxies of materialism. Indeed, this data-base offers a large compilation of surveys collected in more than 80 countries representing more than 80% of the world's population.

WVS-EVS provides information about economic, social, cultural and political features, surveying nationally representative samples for a total of more than 400,000 observations. In particular this database provides information on "individual beliefs about politics, the economy, religious, social and ethical topics, personal finances, familial and social relationships, happiness and life satisfaction"⁷.

Surveys have been administered from the early 80s to 2009 in 1981 - 1984, 1989 - 1993, 1994 - 1998, 1999 - 2004, 2005 - 2007 and 2008 - 2009.

Given our focus on Western countries, our sample includes the US and the largest Western European countries, those with a population of several tens of millions of people. We limit our analysis to the most populated European countries to keep international comparisons within a manageable size. According to our criterion, this list includes Germany, France, Spain, Italy and Great Britain, whereas all Scandinavian countries are too small to be included. However, given the importance and interest of Scandinavia, we included Sweden, the Scandinavian country with the largest population. Overall, our sample includes 7 countries with a total of

⁴<http://www.worldvaluessurvey.org>

⁵<http://www.europeanvaluesstudy.eu>

⁶WVS and EVS are freely available on line as well as instructions on how to integrate the two data-sets. For more details, please refer to: <http://www.wvsevsdb.com/wvs/WVSDData.jsp>.

⁷Bruni and Stanca (2008, p. 6)

more than 60,000 observations.

To allow international comparability, we further limit our analysis to those periods when these countries were jointly observed. In particular, the US pose a serious limitation to our sample because their time-series are shorter than the ones of our group of European countries. Very often figures about US end in 1998 and, rarely, in 1990, whereas for most European countries they are available until 2007. For the sake of international comparison, we limit the observations for European countries to the same period when the American ones are available⁸. A further concern is that in some cases there is no temporal overlap between the time-series of Germany and those of the US. Indeed, for some of our proxies German data start in 1990 when the American ones stop. In these cases we choose to exclude Germany rather than the US because of our focus on the US – Europe comparison.

2.1 Proxies of materialism

Our analysis is based on 13 proxies of materialism organized in four groups according to the kind of intrinsic or extrinsic motivation they concern⁹.

1) The first group regards four variables which allow to rate the importance of intrinsic motivations concerning one's relationships with other people:

- The first one is based on answers to a question asking the respondents to rate how important are friends in their lives. Answers range on a 1 (“very important”) to 4 (“not at all important”) points scale.
- A second question focuses on the desirability of putting more emphasis on family life¹⁰. More precisely, people are asked whether a future change in their way of life leading to more emphasis on family life is a good or a bad thing. Answers are ordered on a three points scale where 1 stands for “good thing” and 3 for “bad thing”.

⁸Please refer to tab. 4 and 5 on page 22 in the Appendix for a detailed description of data available, sample sizes and percentages of missing data.

⁹The complete list of variables with the respective wordings is available in Appendix G.

¹⁰The WVS/EVS includes another question with a very similar semantic content, namely how important is the family to the respondent. We did not include this variable because its time-series is shorter than that of the question about putting more emphasis on family life. Moreover, the idea that these two variables capture the same content is reinforced by the fact that for the period when the two variables were jointly observed (1990 – 2006), the two trends turn out to be highly consistent across countries.

- Two more questions ask about the importance of interpersonal relationships in a job. Respondents are asked whether “meeting people” or “having pleasant people to work with” are important aspects of a job. Answers are dichotomous, taking value 1 if these are important aspects of a job, 0 otherwise.

2) The second group of questions concerns five items observing from various viewpoints another aspect strictly connected to intrinsic motivations: the quality of the respondent’s relationship with her/himself. More precisely, these questions ask about the respondent’s attitude to prioritize important aspects of her/his own quality of life, namely quality of time and personal development. Arguably, indeed, a greater importance attributed to the quality of one’s time or personal development mirrors a better relationship with oneself.

- The first question concerns the importance of leisure time in life. Arguably, this variable captures an important dimension of the attention that one pays to his/her own quality of life. Answers range on a 1 (“very important”) to 4 (“not at all important”) scale.
- The second, third and fourth questions ask how important is not to experience too much pressure in a job, how important is to have an interesting job and how much important is to have a job that meets one’s abilities. These variables are relevant proxies of the importance that people attribute to the quality of the time they spend working¹¹. Since work usually absorbs a considerable portion of a person’s time, these variables proxy relevant dimensions of the importance that one attributes to the quality of her/his own time. More materialistically oriented individuals should, arguably, tend to prioritize other aspects of a job, as for instance a good pay. These variables take value 1 if this is considered an important aspect, 0 otherwise.
- Finally, respondents are asked about the desirability of putting in the future “greater emphasis on the development of the individual”. Answers range on a 1 (“good thing”) to 3 (“bad thing”) points scale and proxy one’s degree of attention paid to her/his own personal fulfilment. This question echoes the concept of self-actualization – the realization of a person’s full potential – located at the peak of Maslow’s hierarchy.¹²

¹¹Another way to consider the question on the importance of a job that meets one’s abilities is to look at it as mirroring what self-determination theory call the basic psychological need of competence (Deci and Ryan, 2002). Competence refers to the need to interact effectively with one’s environment (Ryan and La Guardia, 2000).

¹²Maslow described human needs as hierarchically ordered. “Need for Self-actualization” stands at the top

3) The third group is constituted by a single question concerning the importance of a non-relational intrinsic motivation in a job.

- People are asked whether they consider doing “a useful job for the society” an important aspect of a job. As in previous cases, answers are coded 1 if the mentioned aspect is important, 0 otherwise.

4) Finally, the fourth group is composed of three very different questions which allow to proxy the importance of money in life.

- The first one concerns the importance of extrinsic motivations at work. More precisely, the question asks whether a “good pay” is an important aspect in a job or not. The answers take value of 1 if a good pay is considered an important aspect, 0 otherwise.
- The second one is the desirability of putting “less emphasis on money and material possessions”. This variable is a clear proxy of materialism since it directly asks about the importance to be attributed to money.
- The third variable is about the desirability of “a simple and more natural lifestyle”. This question allows to investigate the importance of money in an interesting way because it asks about the desirability of its alternative. Arguably, indeed, a simple and more natural lifestyle is less based on money. Answers to this and to the former questions are ordered on a three points scale where 1 stands for “good thing” and 3 for “bad thing”.

Summarizing, we measure materialism using 13 variables which proxy four aspects of personal values. Some of them measure the priority attributed by respondents to an extrinsic motivation (money); the others proxy the importance of three types of intrinsic motivations: in a job, in the relationship with others (including colleagues) and in the relationship with oneself.

All the variables that associate higher values to more materialistic priorities have been recoded¹³. Descriptive data and missing values for each variable are presented in tab. 4 on

of the hierarchy and occurs when individuals are engaged in achieving their full potential. At the bottom of the hierarchy are the “Basic needs or Physiological needs” of a human being: food, water, sleep and sex. Superior needs can be satisfied only when inferior needs have been satisfied (Maslow, 1954).

¹³The variables concerned are those about the desirability of future change (where the value 3 is set to “good thing”) and those concerning important aspects in life (where 4 is set equal to “very important”)

page 22 in the Appendix.

Not all the variables have been observed in every wave and for this reason the number of available observations changes depending on the variables.¹⁴.

3 Methodological aspects

We compute the trends of our proxies of materialism using a very simple technique. For each country, we regress each variable on a time variable containing all the years when the dependent variable was observed. This method has been widely adopted to measure trends and correlations of several kind of variables across countries in many recent works (Aguiar and Hurst, 2006, Easterlin and Angelescu, 2009, Sacks et al., 2010).

The coefficient of the time variable from each regression represents the average yearly variation of the dependent variable for a given country. Hence, we use individual level information to derive national level estimates of the trends of each variable.

In case of a dichotomous dependent variable, trends are estimated with a probit model using robust standard errors reporting marginal effects.

The resulting equation is:

$$Pr(Proxy_i^j = 1 | YEAR_i^j) = \phi(\beta^j \cdot YEAR_i^j + \mu_i^j) \quad (1)$$

where ϕ is a normal cumulative distribution function. Marginal effects of the coefficients are subsequently computed.

In case of an ordered dependent variable taking discrete values, ordered probit or logit models should be applied (Ferrer-i Carbonell, 2005). However, there is a growing evidence that in

¹⁴Questions concerning aspects that are considered important in life have been observed in wave 2, 3, 4 and 5 for an overall sample of more than 40,000 observations. Questions about important aspects in a job are observed on more than 24,000 individuals over the first two waves. The item “good pay” is the only exception being available up to the fourth wave. In this case about 41,300 observations are available. Answers about the desirability of future changes are observed in the first two waves for an average of more than 24,000 observations. Finally, the question about the desirability of having more emphasis on family life is available up to the fifth wave for a total of about 49,000 observations. As reported in the last column of tab. 4 and in tab. 5 on page 22 the percentage of missing data both in the pooled data-set and across waves are very low and do not raise any risk of biasing our estimates. There is only one case that is worth mentioning. In the third wave France and Italy were not observed and this is why the percentages of missing data appear curiously high if compared with other waves. However, this aspect does not raise any concern of bias for our estimates because the two countries were not observed by design (Allison, 2001, Schafer and Graham, 2002, Saunders et al., 2006).

similar cases adopting an OLS model provides equivalent results both in terms of sign and of significance of the coefficients (Ferrer-i Carbonell and Frijters, 2004, Blanchflower, 2008). The main advantage of using OLS is that they allow a direct comparison of the regression coefficients across countries. Therefore, in these cases we adopt the following model:

$$Proxy_i^j = \alpha + \beta^j \cdot YEAR_i^j + \mu_i^j \quad (2)$$

in both eq. 1 and 2 index j stands for the various proxies of materialism, while index i stands for individuals.

Time trends have been computed applying the original weights provided in WVS/EVS.

4 Results

We present our results on trends using charts such as the one in fig. 1 on page 23, which shows the desirability of putting more emphasis on family life in the future. On the x-axis we report the average yearly variation of the considered variable, whereas on the y-axis we order the countries from the one with the smallest variation to the one with the biggest one. The coefficients reported on the x-axis and represented by dots in the chart are the β coefficients estimated with our regressions. The horizontal lines crossing the dots in the scatterplots represent the 95% confidence interval.

A further set of charts (see figures 14 to 26 on pages 30 to 36) facilitate a visual comparison of the levels of each variable at the beginning and at the end of the period of observation. The direction of the variation over time is represented by an arrow going from the initial to the final year of observations, while the length of the arrow indicates the size of the variation. On the x-axis we report the absolute levels of a variable. The y-axis ranks the countries according to the level of a variable at the end of our period of observation.

4.1 The US

Did materialism increase in the US? The answer provided by our data is positive. Ten out of thirteen variables document an increase in materialism. The list includes the desirability for the future of putting more emphasis on family life (fig. 1), on individual (fig. 2), of a simple and more natural lifestyle (fig. 3) and the importance in a job of working with pleasant people

(fig. 4), of being useful to the society (fig. 5), of meeting people (fig. 6), of a good pay (fig. 7), of experiencing not too much pressure (fig. 8), having a job that meets one's abilities (fig.9) and the importance in life of leisure time (fig. 10).

The increase in the American materialism is not confirmed in three cases: the importance in life of friends (fig. 11), the desirability for the future of putting less emphasis on money and material possession (fig. 12) and the importance of having an interesting job (fig. 13). Interestingly, figures about the desirability of putting less emphasis on money and material possession are at odds with the evidence from another variable proxying the importance of money: the desirability of having a simple and more natural lifestyle (increasing and decreasing, respectively). A possible explanation for this contrast lies in the partially different time periods covered by the two variables: the desirability of a more natural life style covers the period 1981 - 1990, whereas the time-series of putting less emphasis on money and material possession refers to the period 1981 - 1999 (see section 4.5). If we consider the period when the two time-series are overlapping – the 80s – this contrast is sharply reduced. Indeed, during the 80s the trend of less emphasis on money and material possession is basically flat. Instead in the 90s this variable increased, consistently with our results from sub-periods showing that in the 90s American materialism slowed down (see section 4.5). This can also explain the results of the other two variables pointing to a decrease in US materialism – the importance in life of friends and of having an interesting job – which probably depend on the fact that they refer to the 90s ¹⁵.

Overall the evidence from the US points to an increase in materialistic values over the past 25 years.

4.2 Europe and the US compared

Is the increase in materialism a characteristic feature of the US or is it rather a common aspect of Western countries?

In five out of six European countries, the trends of seven variables are opposite to the American ones. These are:

¹⁵Another hypothesis to explain this discrepancy is that the answers to the question on the desirability of putting less emphasis on money and material possession might be biased by the social stigma of greed, leading to an under-estimation of materialism.

i. **more emphasis on family life** (see fig.1). This variable shows very slight variations in all countries. Between 1982 and 2006 the desirability of giving more emphasis to family life declined in the US by -0.07% per year, followed only by the Swedish decline. In all other cases this variable weakly increased, with Great Britain and Spain leading the ranking (+0.13% per year). Notably, the US had the highest average level of this variable in 1982 (see fig. 14). Twenty-four years later such average was below the initial levels of France and Italy, while Great Britain and Spain – at the beginning among the worst ranked countries – experienced a growth that placed them at the same level of France and Italy.

ii. **more emphasis on the individual** (see fig. 2). Between 1982 and 1990 the US experienced a -0.26% yearly decline. In contrast, the trends of all other countries are positive, with the exception of France which is flat. If we compare the levels across countries (see fig. 15) the US scored among the highest at the beginning of the period, together with France and Italy. About 8 years later, only Great Britain ranked lower, although with a positive trend.

iii. **importance in a job of working with pleasant people.** (see fig. 4). Between 1982 and 1990 this variable declined in only two countries: the US (-0.6% per year) and Great Britain (-0.4% per year). Sweden and Italy led the ranking of the growth of this variable. In Sweden it increased by 1.2% yearly while in Italy by about 0.6% per year. Interestingly, the US started from relatively high initial levels (see fig. 17). In 1982 about 80% of the US respondents declared that working with pleasant people was an important aspect of a job. Eight years later this percentage declined sensibly to almost 70%. Only Sweden had comparable initial levels. The difference is that in the Swedish case this percentage increased to almost 90% in 1990.

iv. **importance of doing a useful job for society** (see fig. 5). The limited decline in the US (-0.2% per year) and in Great Britain characterizing the period 1981 – 1990 was overcome only by the Spanish decrease (-0.6%) per year. In contrast, this trend increased dramatically in Sweden (about 2% per year) and by 0.5% per year in Italy and France. The high initial level of the US was reached by Sweden (from 26% in 1982 to 41% in 1990) and overcome by the Italian one (from 42% to 46%) (see fig. 18).

v. **the importance in a job of meeting people** (see fig.6). Between 1982 and 1990 the only reduction of the importance of this aspect of a job was the American one (-1.8% per year). In 1982 more than 50% of the US citizens considered this aspect as an important feature of a job – by far the highest share in our sample. On top of 8 years this portion roughly reduced to

the initial levels of the other countries (about 36%) (see fig. 19). Conversely, the importance of this job aspect increased at a pace of about 3% per year in Sweden, going from 40% to more than 60%. Italy and France laid in between these two extremes with a variation of about 0.6% yearly. At the end of the period, these changes placed the US in the second worst position in the rankings of materialism (see fig. 19).

vi. **the importance of having a job that meets one's abilities** (see fig. 9). Between 1981 and 2000, the flat trend of the US was the worst after the British one (-0.5% yearly). On the contrary, the other European countries performed much better. Italy experienced the strongest yearly reduction of materialism (+1.6%), followed by France (+1.0%), Spain (+0.5%) and Sweden (+0.49%). Also in this case, the US were among the countries with the highest initial level – in 1982 about 59% of the respondents mentioned this item as an important aspect of one's job. However, after 17 years this number remained basically unchanged. Instead, Italy shifted from 46% to more than 70% in the same period and was closely followed by Spain (from 51% to about 63%). Great Britain is the only country where the levels of this variable reduced (see fig. 22).

vii. **importance in life of leisure time** (see fig. 10). This variable shows modest changes over time. Between 1990 and 2006 the US decline (-0.05% per year) was second only to the German one (-0.17% per year) and close to the trend of Sweden, which was substantially stagnating. Figure 23 informs that the US level at the beginning of the period was among the highest in our sample, together with Sweden and Great Britain.

Summarizing, these seven variables exhibit trends that are diverging between the US and the majority of the sample of European countries.

As far as four other variables are concerned, the variations of materialism in the US and Europe are concordant. These are the importance in life of friends, the importance of having a good pay, of having an interesting job and the desirability in the future of putting less emphasis on money and material possession. In the first case materialism decreased in all countries, although at different paces: Great Britain, Germany and France show variations of about +0.4% yearly, whereas the remaining countries experience negligible increases (see fig. 11). In the case of the importance of having a good pay (fig. 7), materialism increased in all countries. For the subsequent two variables materialism decreased in all countries except Great Britain (interesting job, fig. 13), France and Spain (less emphasis on money and material possession,

fig. 12).

As for the importance of experiencing not too much pressure in a job (fig. 8), the variations over time and across countries are negligible.

Summarizing, did Europe experience an increase in materialism? The answer provided by 9 out of 13 variables is negative. As for the desirability of having more emphasis on the family (see fig. 1) and the importance of friends (see fig. 11), all European countries showed a clear declining pattern of materialism. As for the importance of leisure in life (see fig. 10) only Germany experienced a decline, while the trend is basically flat in Sweden. More emphasis on the individual (see fig. 2) was considered increasingly desirable in all European countries except France, where it slightly declined. The importance of working with pleasant people, of an interesting job and of a job that meets one's abilities declined only in Great Britain (see fig. 4, 9 and 13). The importance of performing a useful job for the society increased in all considered European countries with the exception of Spain (declining) and Great Britain (flat) (see fig. 5). Finally, the importance of meeting people at work was generally increasing except in Spain, where it stagnated (see fig. 6).

For three other variables the trends appear to be more mixed:

- desirability of a simple and more natural life-style: declining in France and Sweden (see fig. 3);
- importance of not having too much pressure at work: declining in Sweden and flat in Spain (see fig. 8);
- desirability of putting less emphasis on money and material possession in the future: declining in France and Spain (see fig. 12).

The only variable showing a general increase in materialism in our sample is the importance of having a good pay.

Overall, these figures suggest that materialism decreased in our sample, with the notable exception of the US. However, some mixed patterns arise. In particular, Great Britain, Spain and Sweden showed some symptoms of an increase of materialistic values. Yet these symptoms are far less pronounced compared to the American ones.

4.3 Cohorts and gender

Remarkably, these trends are highly consistent across sex and cohorts. Tables 6 to 12 in the Appendix provide some evidence in this regard. Each table refers to a different country. Trends by gender and cohorts for each proxy of materialism are reported on separate lines. For each country we run two sets of regressions with interactions using robust standard errors and applying proper sample weights. In case of gender, the reference category is “men”, whereas the reference category for cohorts is “15 - 24” years old. We divided the sample in 6 age classes to have samples of non negligible size.

Results inform that the trends do not change significantly from the reference categories. Only in a few cases women report different trends. However, they do not reveal any consistent pattern across countries nor across variables. In other words, our trends do not differ significantly between men and women and for people of various cohorts.

Our results for cohorts are inconsistent with those of Inglehart and collaborators whose thesis of a decline of materialism in western countries over the last decades is grounded on generational turnover. Indeed, they find that younger generations tend to be less materialistic. However, the potential contrast between Inglehart’s findings and ours should be read keeping in mind that our definition of materialism is different from the one of Inglehart and collaborators.

4.4 Rankings

Independently of the question concerning whether materialism increased or not, there are few doubts that the US are the country exhibiting the worst trends.

Table 1 shows the position of the US in the ranking of the trends of each proxy in the international comparisons of materialism. The countries are ordered from the one with the best (less increase or more decrease of materialism) to the one with the worst trends (less decrease or more increase).

With the exception of less emphasis on money and material possession, the US always score low in the ranking. In other words, even in those cases where the American materialism decreased, European countries experienced a stronger decrease. Similarly, in the cases where European materialism increased, the US exhibit a greater increase.

Table 1: Summary of the ranking of the US for each proxy of materialism.

variable	ranking
importance of friends in life	5
more emphasis on family life	6
importance in a job of meeting people	6
importance in a job of having pleasant people to work with	6
importance of leisure time in life	5
importance in a job of not having too much pressure	5
importance of having an interesting job	5
importance of having a job that meets one's abilities	5
more emphasis on the individual	6
importance of having a useful job	5
importance of having a good pay	4
less emphasis on money and material possession	2
more emphasis on a simple and more natural lifestyle	5

4.5 Sub-periods

While the divergence between the US and our sample of European countries is clear for the six variables covering the 80s, our results become less straightforward when we focus on variables with longer or more recent time-spans ¹⁶.

This evidence raises the doubt that the various sub-periods exhibit different patterns. Is our conclusion confirmed if we focus on the trends within each of the three available sub-periods: 1980 - 1990, 1990 - 2000 and 2000 - 2006?

Table 2 summarizes the trends of materialism by sub-periods, whereas tab. 3 allows a comparison with the trends of the variables covering only a decade. ¹⁷.

Figures provide a consistent pattern of the evolution of materialistic values across the three sub-periods. In the 80s the American and the European trends diverged. During the 90s the US experienced a decrease of materialism which, for some variables, is more pronounced than in Europe. In the same period, the latter exhibited some limited symptoms of an increase in materialism (emphasis on family life, importance of leisure, importance of a good pay in a job). However, these symptoms disappeared since 2000 when the divergence characterizing the 80s reappeared.

Summarizing, within each sub-period the evolution of materialism follows consistent patterns in the US and Europe. This explains the less clear picture that we get from the trends over longer or different periods than the 80s. The overall picture describing an increase in materialism in the US over the last quarter of a century results from very different trends within each sub-period. In particular the 90s appear to temporarily reverse the American increasing trend in materialism. Interestingly, the 90s twist affects the US and much less Europe, where the decrease in materialism continued although to a less marked extent than in the 80s.

¹⁶In particular, the trends of the importance in life of friends (fig 11) suggests that, between 1990 and 2006, materialism decreased in the US, even though less than in Europe. Two out of five variables observed between 1980 and 2000, the importance in a job of a good pay (fig. 7) and not having too much pressure (fig. 8), suggest a generalized increase in materialistic values. Further three variables of the period 1980 - 2000, namely having an interesting job (fig. 9), a job that meets one's abilities (fig. 4) and the desirability of less emphasis on money and material possession (fig. 12) point towards a decrease of materialism. Finally, the remaining two variables confirm the mentioned divergence. These are the desirability of putting more emphasis on family life (fig. 1), the only variable covering our entire period of observation (1980 - 2006), and the importance in life of leisure (fig. 10) covering the period 1990 - 2006.

¹⁷For a graphic representation of the trends for each variable in each sub-period, please refer to charts from figure 29 to 39 in Appendix 4.5.

Table 2: Trends for sub-periods of the eight proxies of materialism covering more than a decade. An increase (decrease) of materialism is represented by a + (-), whereas n.a. stands for data not available.

variable	country	sub-periods		
		1980 - 90	1990 - 2000	2000 - 06
emphasis of family life	US	+	-	+
	Europe	-	+	-
less emphasis on money	US	-	-	n.a.
	Europe	-	-	n.a.
not too much pressure	US	+	-	n.a.
	Europe	-	-	n.a.
a job that is interesting	US	+	-	n.a.
	Europe	-	-	n.a.
a job that meets one's abilities	US	+	-	n.a.
	Europe	-	-	n.a.
importance of friends	US	n.a.	-	+
	Europe	n.a.	-	-
importance of leisure	US	n.a.	-	+
	Europe	n.a.	+	-
importance of a good pay	US	+	+	n.a.
	Europe	+	+	n.a.

Table 3: Trends of the five proxies of materialism covering only one decade. An increase (decrease) of materialism is represented by a + (-), whereas n.a. stands for data not available.

variable	country	sub-periods		
		1980 - 90	1990 - 2000	2000 - 06
more emphasis on the individual	US	+	n.a.	n.a.
	Europe	-	n.a.	n.a.
a simple and more natural lifestyle	US	+	n.a.	n.a.
	Europe	-	n.a.	n.a.
pleasant people to work with	US	+	n.a.	n.a.
	Europe	-	n.a.	n.a.
a useful job for society	US	+	n.a.	n.a.
	Europe	-	n.a.	n.a.
meeting people	US	+	n.a.	n.a.
	Europe	-	n.a.	n.a.

5 Conclusions

Present work proposes a systematic study on comparable data to assess how materialistic values evolved across western countries in the past few decades. Materialism is a relevant issue because it is a bad deal for people who embrace it and for those who surround them. Indeed, a huge body of psychological research documents that the more people care for money, image and status, the lower their well-being and health and the worst the quality of their relationships with themselves and with other people.

Our evidence is based on 13 questions from the World Values Survey and the European Values Study administered in the US and six major European countries: France, Spain, Italy, Germany, Great Britain and Sweden.

To the best of our knowledge, we use the only source of comparable data across countries. Our work is constrained by data availability. Only one proxy of materialism is consistently observed across all countries along our entire period of observation (1981-2006). Moreover, very often relevant questions were asked in different periods in the various countries. This forced us to limit our analysis to the periods when our variables were jointly observed in all countries of our sample.

Nevertheless, the set of variables we consider depict some clear patterns. The trends of materialism in the US and Western Europe diverge: over the last quarter of the century materialism increased in the US, whereas it decreased in Europe. However, we found some mixed patterns when considering European countries: Great Britain in the 80s, and Spain and Sweden in the 90s showed some symptoms of an increase of materialistic values.

The US-Europe divergence follows a specific pattern across time. It was very strong in the 80s, when the US experienced a marked increase in materialism; it slowed down during the 90s when American materialism decreased and finally it increased again after 2000. Overall, materialism decreased in Europe across all our sub-periods. Mainly during the 90s some European countries exhibited some signs of increase in materialism.

Remarkably, at the beginning of our period of observation, Americans often reported lower levels of materialism than many of their European fellows. Yet, towards the end of the period the US often scored very high – well beyond most European countries – in the ranking of the levels of materialism.

The divergence between the two sides of the Atlantic ocean is particularly striking when variables relating to interpersonal relationships are considered. Notably, almost every proxy of the importance of relationships exhibits a decrease over time in the US. Differently from Europeans, the importance of the relational dimension in Americans' lives has been shrinking over the past few decades.

5.1 Future research

Besides the proxies of materialism, international data are also available for the two main variables connected to materialism: interpersonal relationships and well-being. The former are proxied by several measures of the quantity and quality of social connections, provided by surveys administered on nationally representative samples. Well-being is proxied in a rapidly growing literature by subjective data, usually survey questions about respondents' perceived happiness or satisfaction with their own life. The reason for the increasing popularity of these data lies in a host of "validation tests" documenting their high correlation with other measures of well-being, including those usually adopted by psychologists.¹⁸

Interestingly, these data show that the US – Europe divergence in the trends of materialism is mirrored by the divergence over the same period in the trends of social connections and subjective well-being, which are both decreasing in the US and both increasing in Europe.

The argument about the decline in social connections among Americans in recent decades has been popularized by Putnam (2000). His evidence has been the object of an intense debate (see for example Ladd (1996)) that finally has confirmed the robustness of Putnam's findings. Indeed, Paxton (1999), Robinson and Jackson (2001), Costa and Kahn (2003) and Bartolini et al. (2013), after observing a variety of indicators, confirmed that social connections are declining in the US. Instead, the same trend has followed a different path among Europeans. Sarracino (2012) analyzes the period 1980-2005 and finds evidence of stable or

¹⁸The reliability of subjective well-being data has been tested in a number of experiments. For example, subjective well-being data are well correlated with objective measures of well-being such as the heart rate, the blood pressure, the duration of the Duchenne smiles as well as with the neurological activity of the brain (Blanchflower and Oswald, 2004a, van Reekum et al., 2007). Moreover, subjective well-being measures are highly correlated to each other (Schwarz and Strack, 1999, Wanous and Hudy, 2001, Schimmack et al., 2010) and with the evaluations about the respondent's well-being as given by friends, relatives or clinical experts (Schneider and Schimmack, 2009, Kahneman and Krueger, 2006, Layard, 2005). Finally, happier people have been found to have better memories of past positive events and to cope better with stress.

increasing trends of social connections in Western Europe.

The trends of subjective well-being between Europe and the US diverge as well. Over the last thirty years the average American subjective well-being declined (Blanchflower and Oswald, 2004b, Bartolini et al., 2013, Layard et al., 2009, Stevenson and Wolfers, 2008), while the European one slightly increased (Stevenson and Wolfers, 2008, Sarracino, 2010).

These are the results that one would expect given the deep connection of materialism with well-being and the quality of relationships. Therefore, future research may investigate in greater depth to what extent the US-Europe divergence in the trends of materialism can contribute to explain the divergence of the trends of subjective well-being and of social connections.

Finally, the economic literature on social connections and subjective well-being suggests to investigate to what extent the impact of materialism on well-being and health is mediated by the differences in the quality of the relational experience associated to different level of materialism. Indeed, social connections proved to be strongly correlated with subjective well-being in micro data (see the pioneering studies by Helliwell (2001, 2006) and Helliwell and Putnam (2004); see also Bruni and Stanca (2008), Becchetti et al. (2008), Bartolini et al. (2013), Powdthavee (2008)). Moreover, Becchetti et al. (2009) provided a causal analysis showing that social connections have a strong impact on subjective well-being . This suggests that the negative association between materialism and well-being may be mediated by the lower quality of relationships experienced by more materialistic individuals. A huge epidemiological literature showing the strict tie between social connections and health suggests that materialism may drive individuals to lower health for the same reason (Wilkinson and Pickett, 2009, Jetten et al., 2010).

A Descriptive tables

Table 4: Descriptive statistics and missing values for the pooled data-set of countries with at least 10 years long time-spans.

variable	mean	sd	min	max	obs	missing
important in life: family	-	-	1	4	40449	0.0300
important in life: friends	-	-	1	4	40413	0.0309
important in a job: pleasant people to work with	0.661	0.474	0	1	24271	0
important in a job: meeting people	0.435	0.496	0	1	24271	0
future changes: more emphasis on family life	-	-	1	3	49392	0.0315
important in life: leisure time	-	-	1	4	40224	0.0354
important in a job: not too much pressure	0.301	0.458	0	1	41198	0.0290
future changes: more emphasis on individual	-	-	1	3	24052	0.00902
important in a job: good pay	0.735	0.441	0	1	41300	0.0266
future changes: a simple and more natural lifestyle	-	-	1	3	24100	0.00705
important in a job: a useful job for society	0.384	0.486	0	1	24271	0

Table 5: Percentage of data missingness across waves for the pooled data-set of countries.

variable	wave 1	wave 2	wave 3	wave 4	wave 5	wave 6
important in life: family	.	0.00614	0.160	0.00284	0.00338	.
important in life: friends	.	0.00634	0.162	0.00470	0.00268	.
important in a job: pleasant people to work with	0	0	.	.	.	.
important in a job: meeting people	0	0	.	.	.	.
future changes: more emphasis on family life	0.00774	0.00481	0.164	0.0160	0.0177	.
important in life: leisure time	.	0.0140	0.166	0.00514	0.00782	.
important in a job: not too much pressure	0	0	0.159	0.0121	.	.
future changes: more emphasis on individual	0.0128	0.00668	.	.	.	.
important in a job: good pay	0	0	0.159	0.00302	.	.
future changes: a simple and more natural lifestyle	0.00817	0.00634	.	.	.	.
important in a job: a useful job for society	0	0	.	.	.	.

B Comparison of the trends of materialism across countries

The following figures summarize the trends of the selected proxies of materialism across countries. On each figure the x-axis represents the average yearly variation of the considered variable, whereas the y-axis lists the countries according to the magnitude of the coefficients of the trends. The size of the coefficient for a given country is represented by a dot in the scatterplot. Each dot represents the β coefficient for a given country as estimated according to our regressions. The horizontal lines crossing the dots graphically represent the 95% confidence interval.

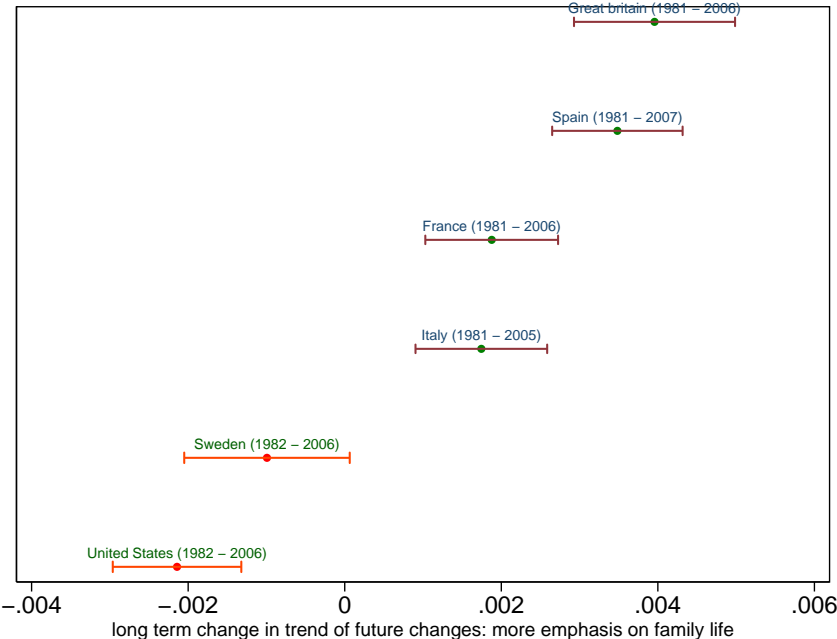


Figure 1: Comparison across countries of the trends of the desirability of putting more emphasis on family life in the future.

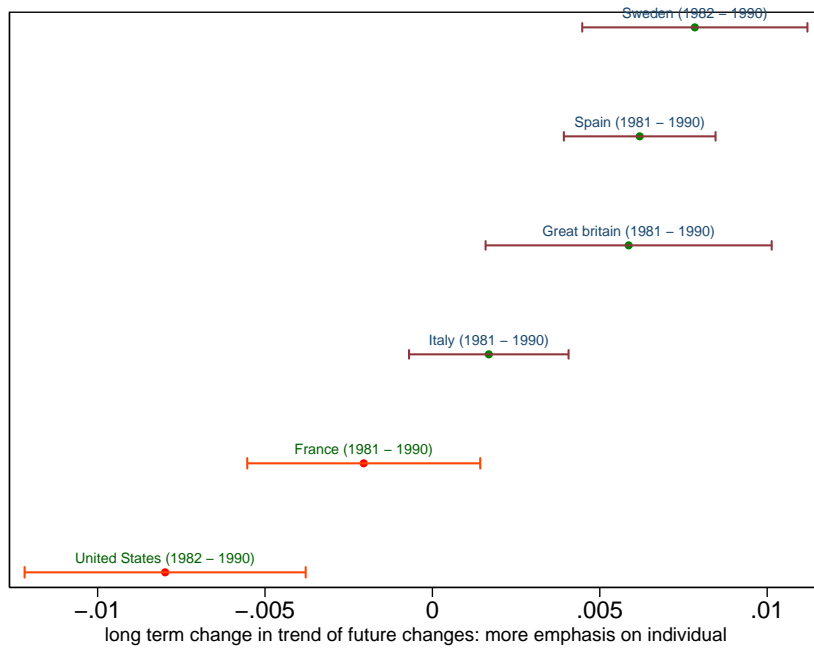


Figure 2: Comparison across countries of the trends of the desirability of putting more emphasis on the individual in the future.

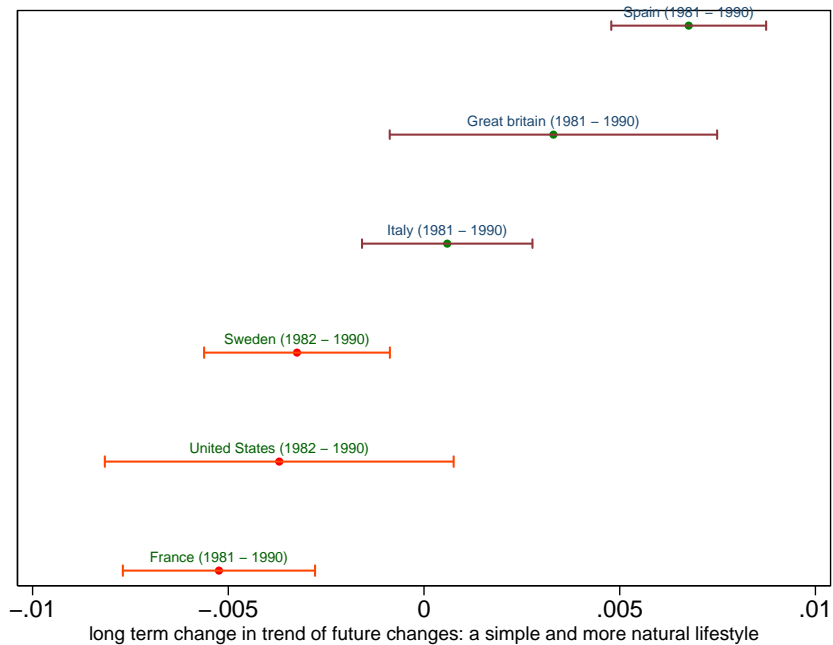


Figure 3: Comparison across countries of the trends of the desirability of having a simple and more natural lifestyle in the future.

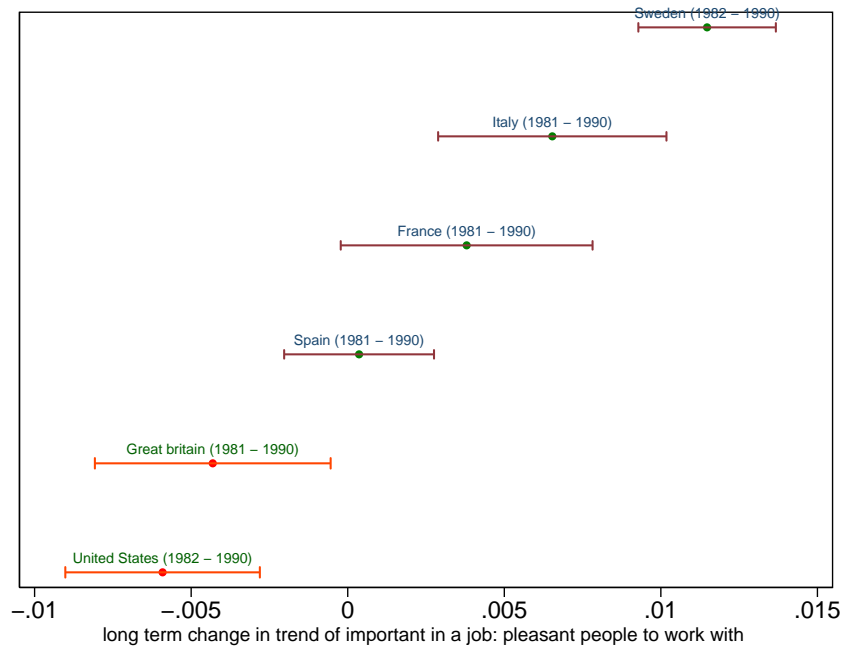


Figure 4: Comparison across countries of the trends of the importance of having pleasant people to work with.

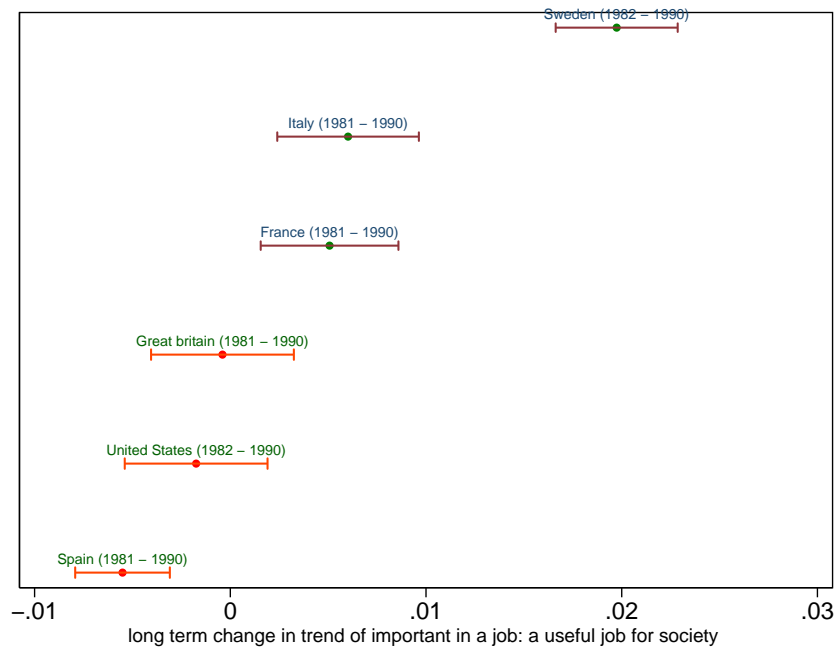


Figure 5: Comparison across countries of the trends of the importance of having a useful job for the society.

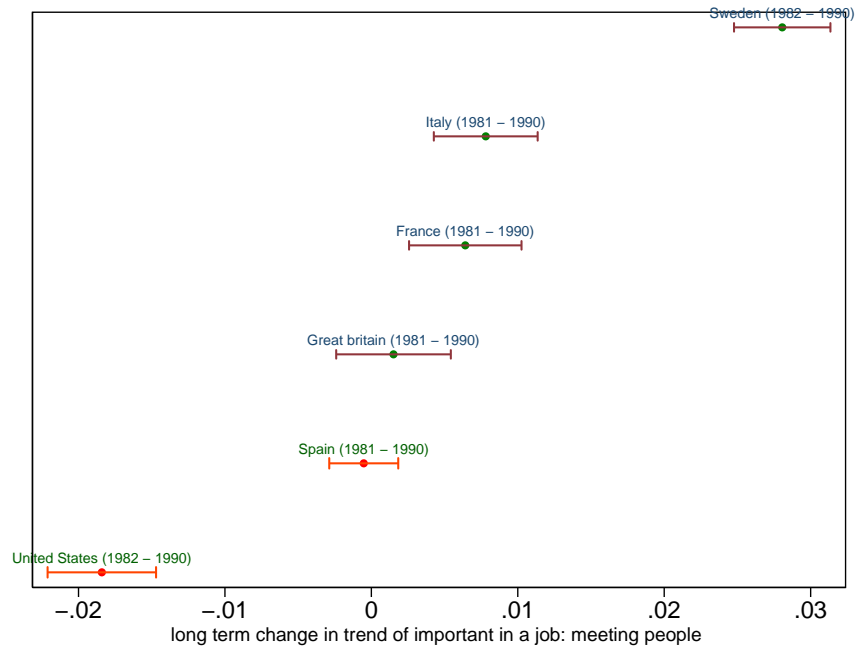


Figure 6: Comparison across countries of the trends of the importance in a job of meeting people.

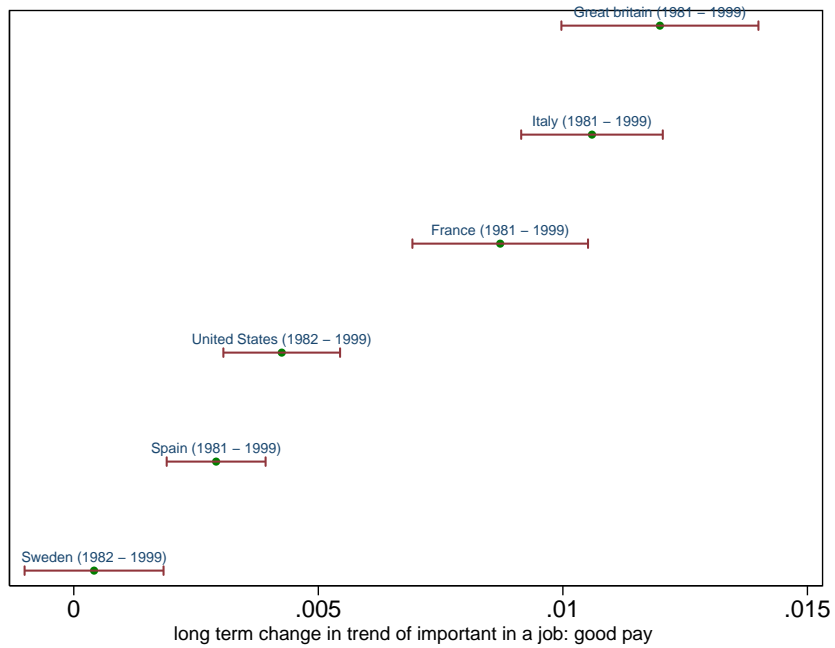


Figure 7: Comparison across countries of the trends of the importance in a job of having a good pay.

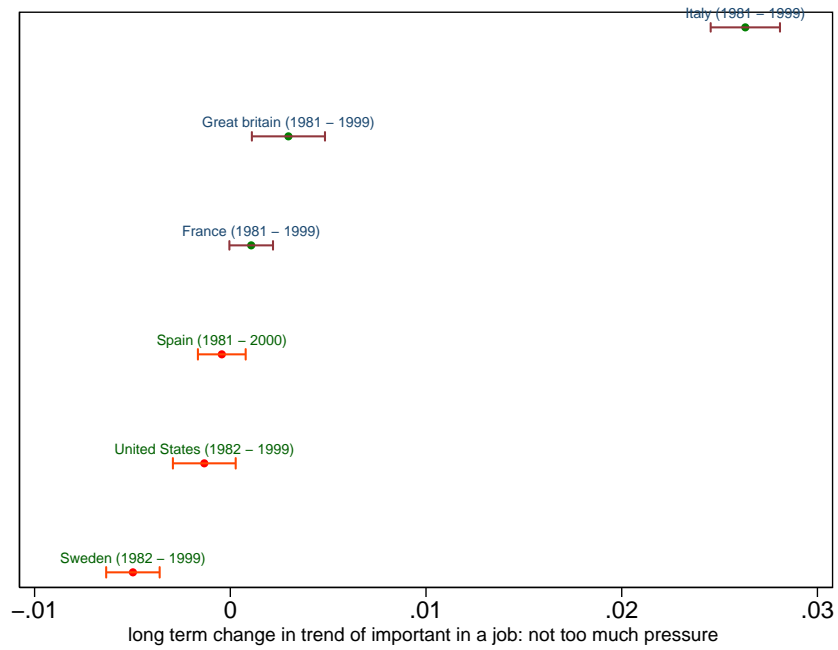


Figure 8: Comparison across countries of the trends of the importance in a job of not having too much pressure.

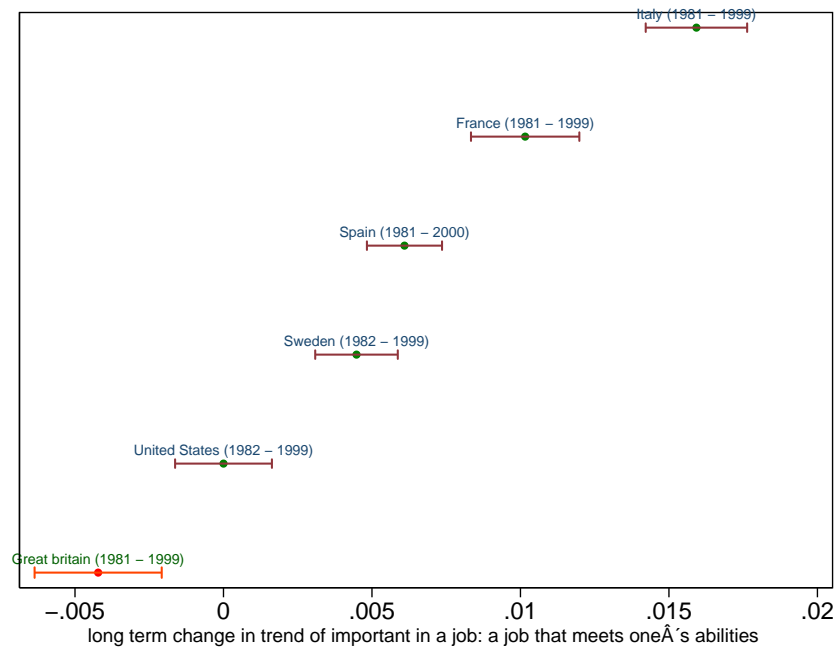


Figure 9: Comparison across countries of the trends of the importance of having a job that meets one's abilities.

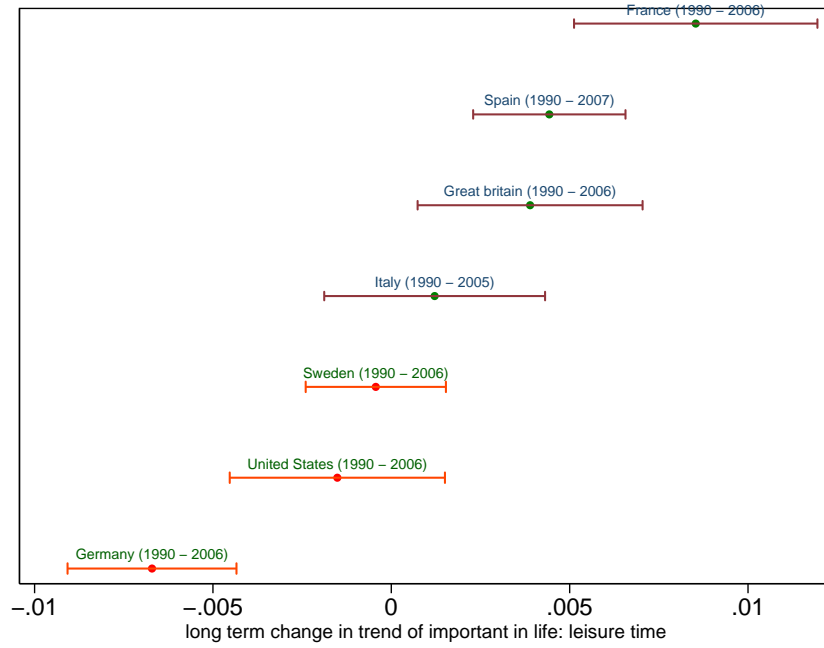


Figure 10: Comparison across countries of the trends of the importance of leisure time in life.

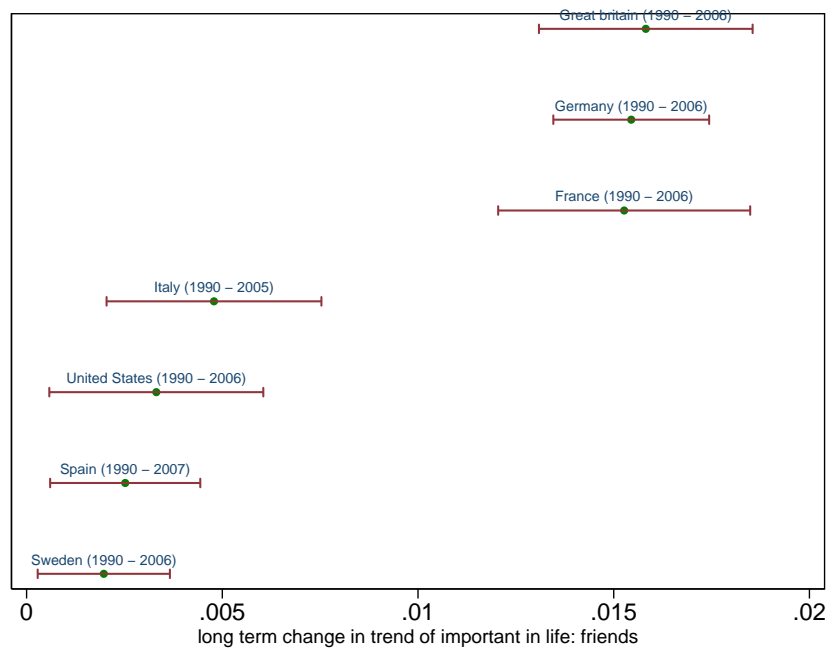


Figure 11: Comparison across countries of the trends of the importance of friends in life.

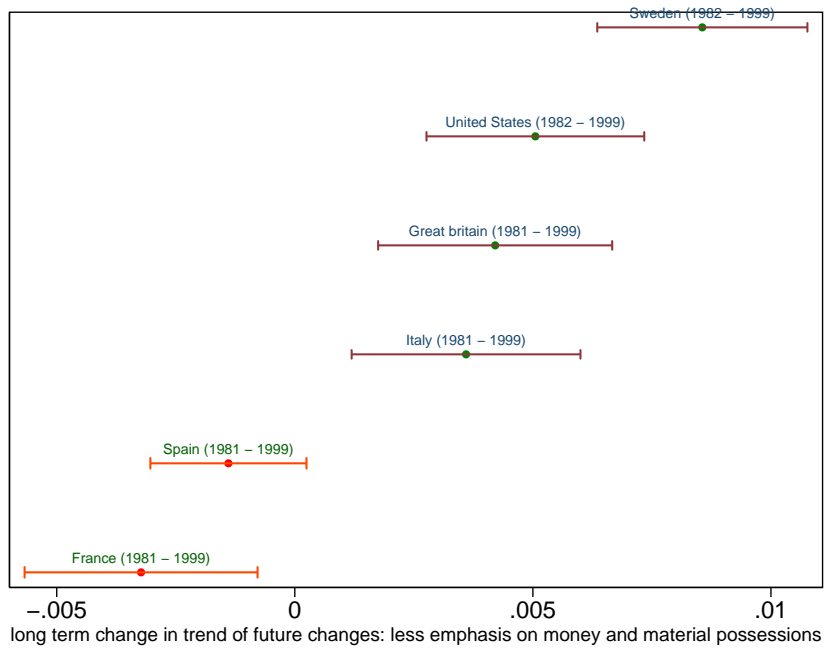


Figure 12: Comparison across countries of the trends of the desirability of putting less emphasis on money and material possession in the future.

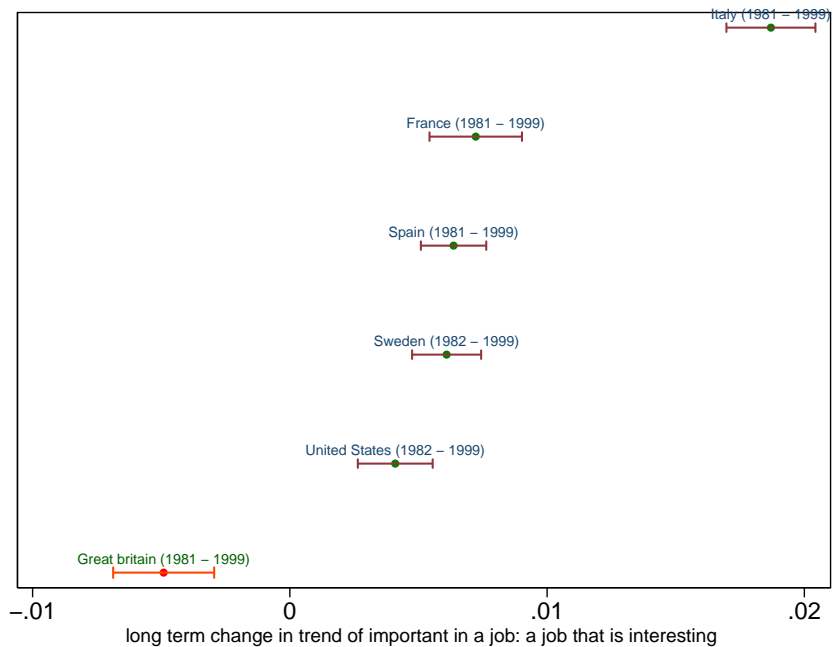


Figure 13: Comparison across countries of the trends of the importance of having an interesting job.

C Comparison of the average levels across countries

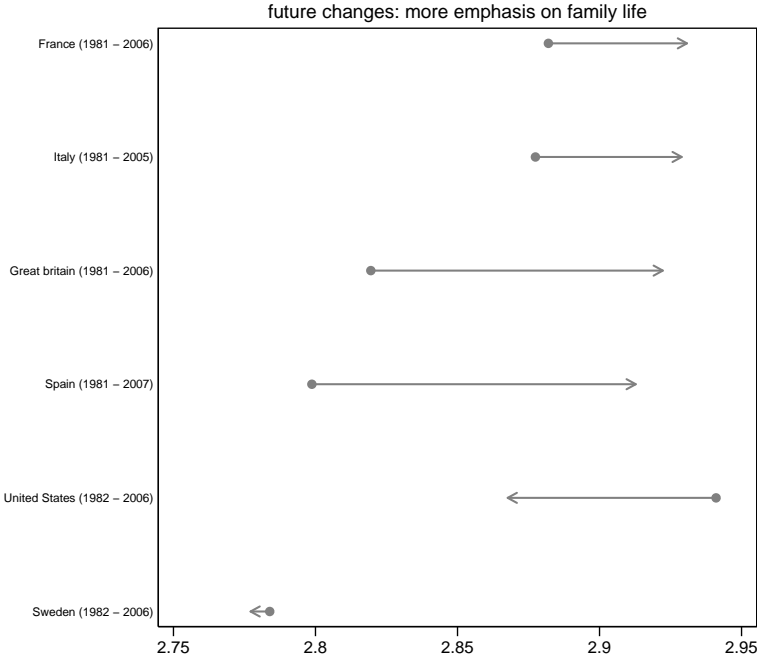


Figure 14: Comparison across countries of the levels at the beginning and at the end of the period of observation of the desirability of putting more emphasis on family life in the future. The arrow points out the direction of the variation.

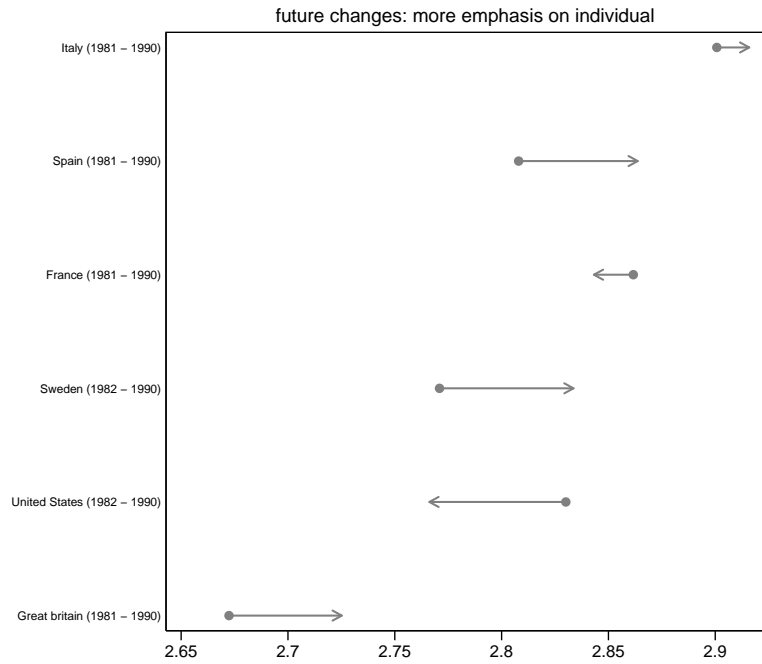


Figure 15: Comparison across countries of the levels at the beginning and at the end of the period of observation of the desirability of putting more emphasis on the individual in the future. The arrow points out the direction of the variation.

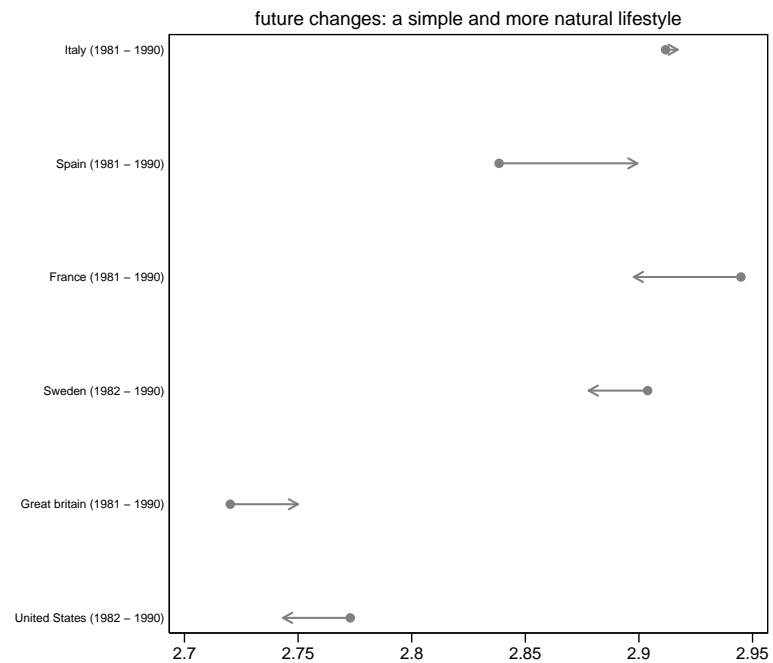


Figure 16: Comparison across countries of the levels at the beginning and at the end of the period of observation of the desirability of having a simple and more natural lifestyle in the future. The arrow points out the direction of the variation.

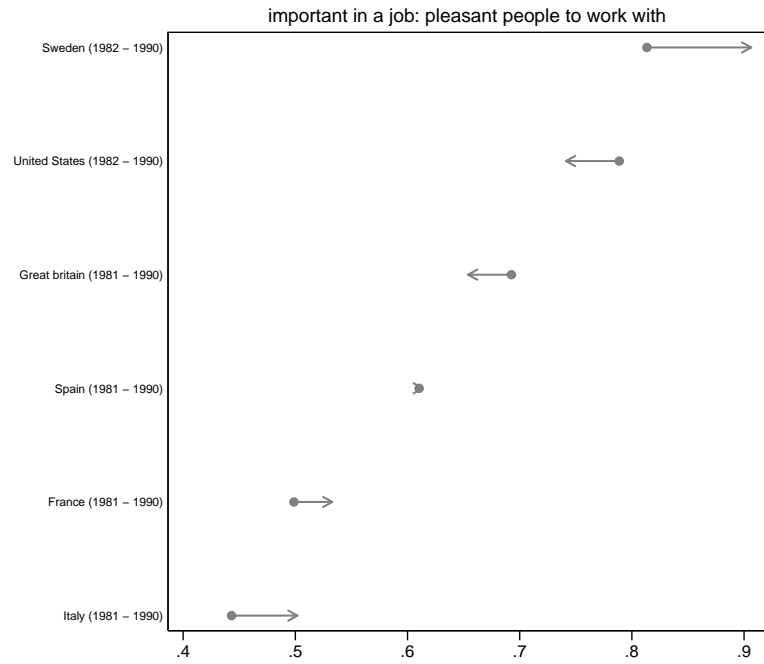


Figure 17: Comparison across countries of the levels at the beginning and at the end of the period of observation of the importance of having pleasant people to work with. The arrow points out the direction of the variation.

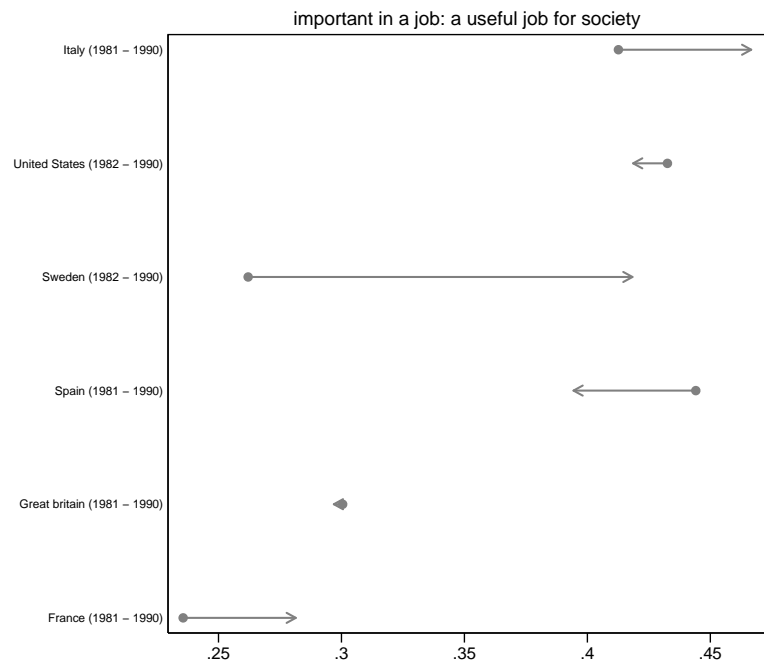


Figure 18: Comparison across countries of the levels at the beginning and at the end of the period of observation of the importance of having a useful job for the society. The arrow points out the direction of the variation.

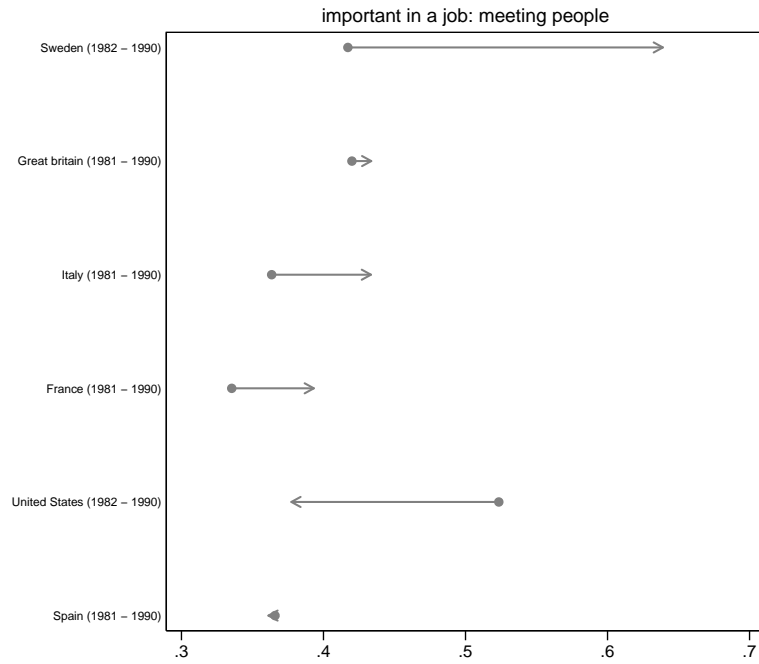


Figure 19: Comparison across countries of the levels at the beginning and at the end of the period of observation of the importance in a job of meeting people. The arrow points out the direction of the variation.

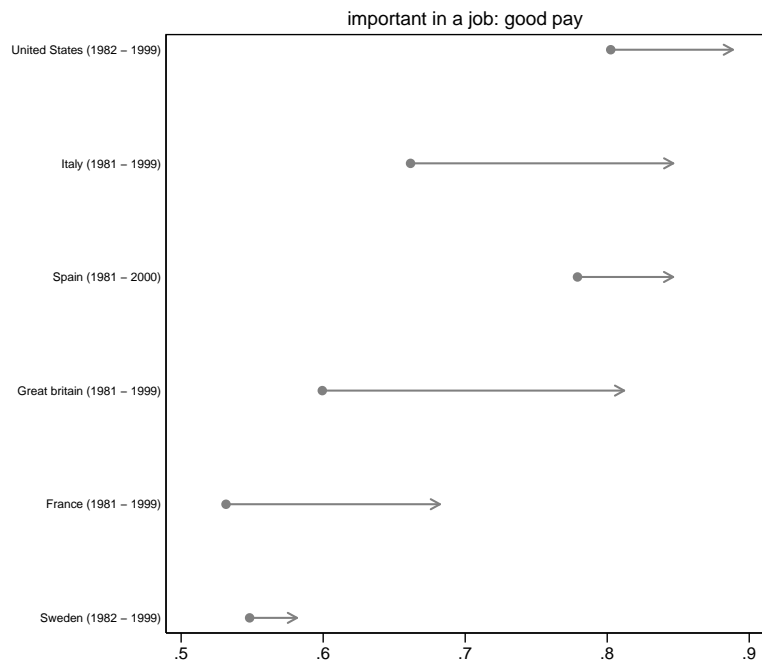


Figure 20: Comparison across countries of the levels at the beginning and at the end of the period of observation of the importance in a job of having a good pay. The arrow points out the direction of the variation.

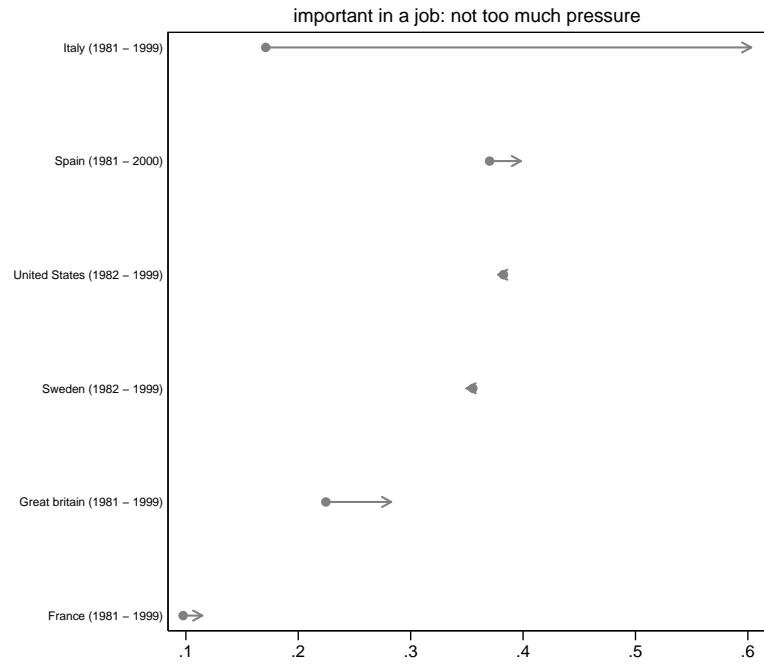


Figure 21: Comparison across countries of the levels at the beginning and at the end of the period of observation of the importance in a job of not having too much pressure. The arrow points out the direction of the variation.

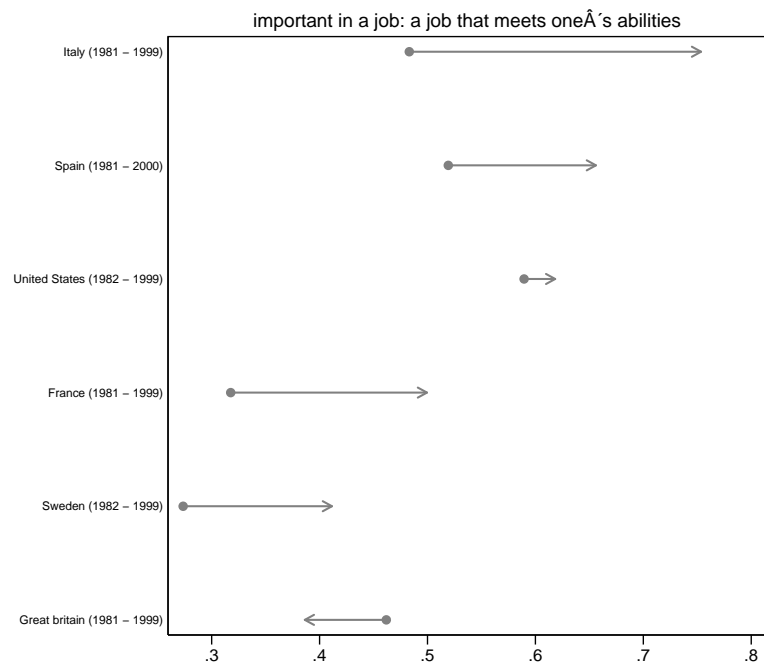


Figure 22: Comparison across countries of the levels at the beginning and at the end of the period of observation of the importance of having a job that meets one's abilities. The arrow points out the direction of the variation.

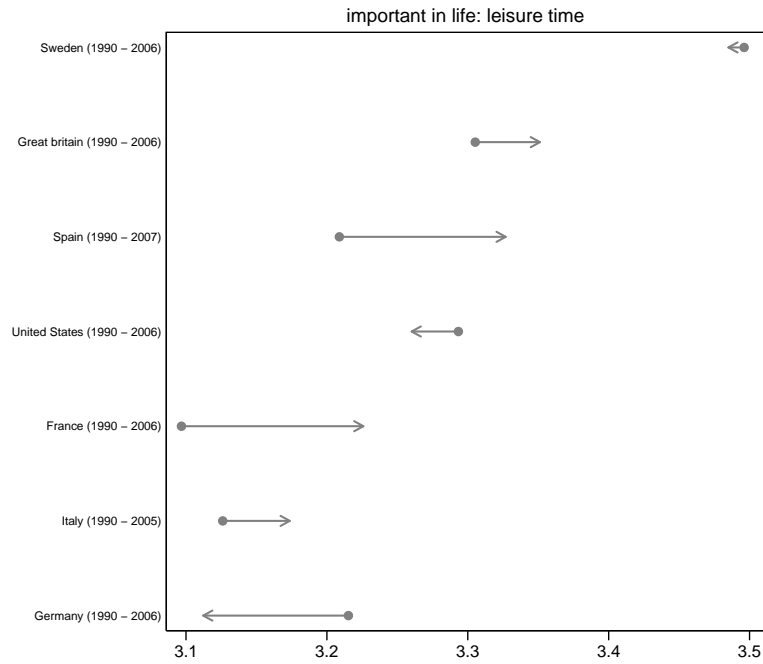


Figure 23: Comparison across countries of the levels at the beginning and at the end of the period of observation of the importance of leisure time in life. The arrow points out the direction of the variation.

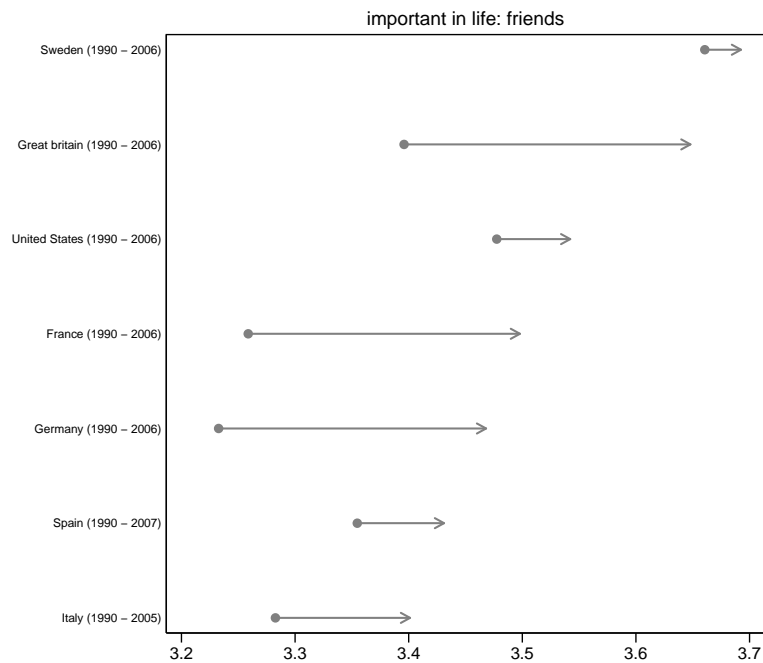


Figure 24: Comparison across countries of the levels at the beginning and at the end of the period of observation of the importance of friends in life. The arrow points out the direction of the variation.

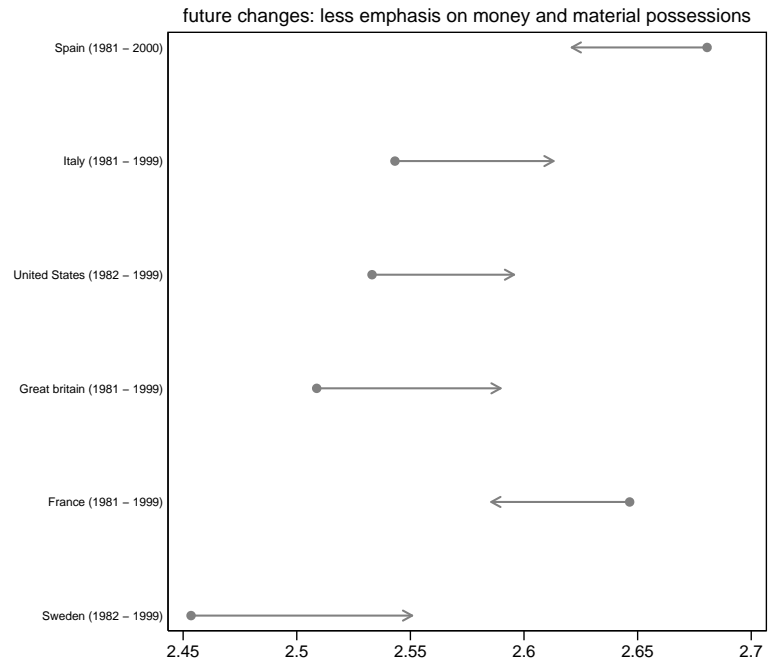


Figure 25: Comparison across countries of the levels at the beginning and at the end of the period of observation of the desirability of putting less emphasis on money and material possession in the future. Levels at the beginning and at the end of the period of observation.

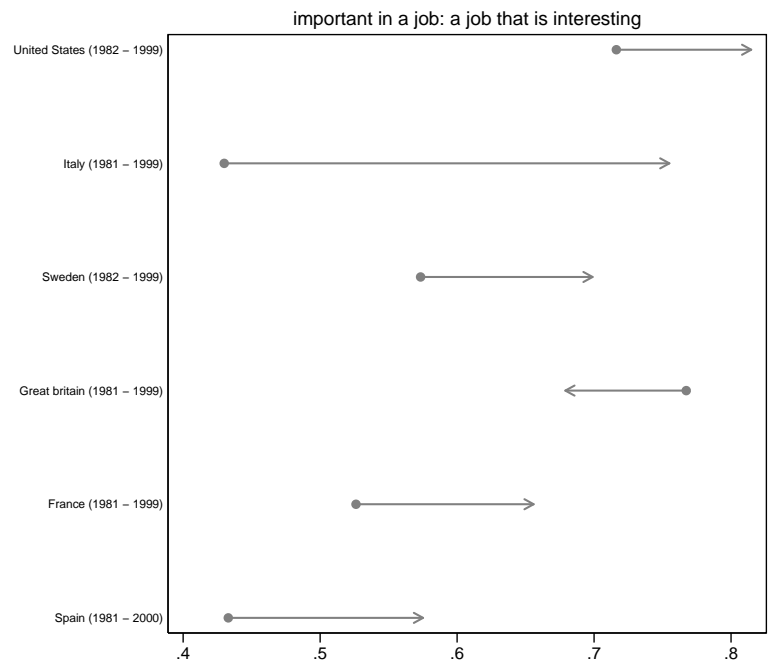


Figure 26: Comparison across countries of the levels at the beginning and at the end of the period of observation of the importance of having an interesting job. The arrow points out the direction of the variation.

D Subperiods

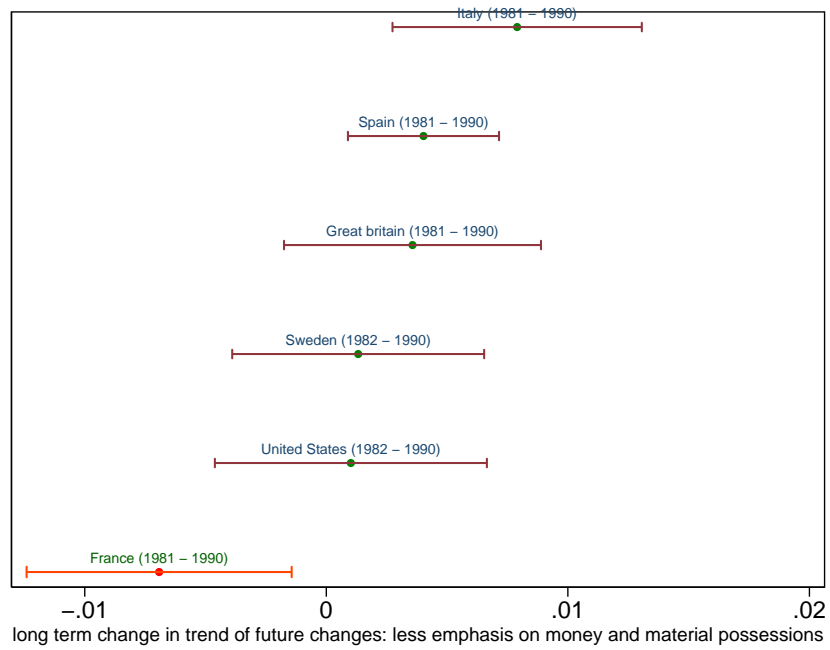


Figure 27: Future changes: less emphasis on money and material possession. Change over the period 1981 - 1990.

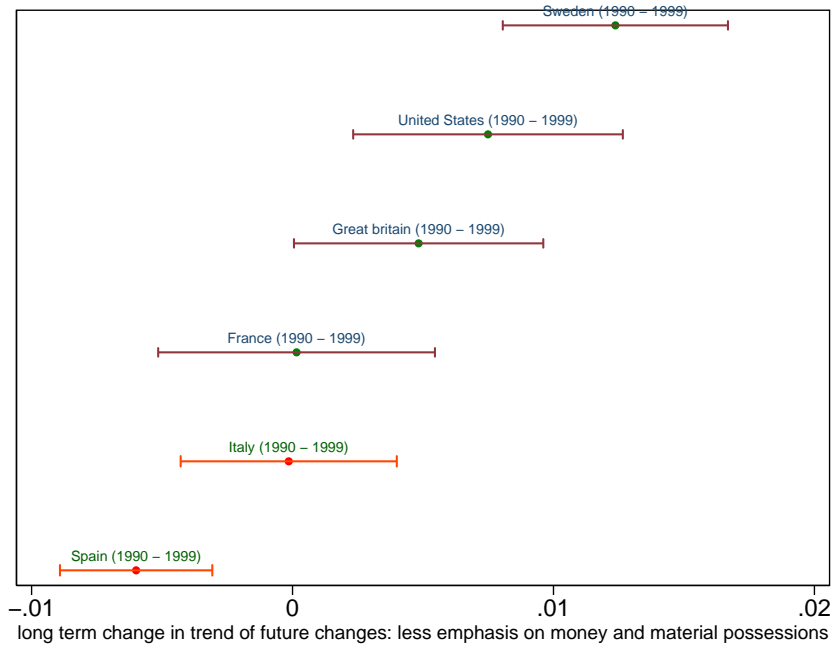


Figure 28: Future changes: less emphasis on money and material possession. Change over the period 1990 - 1999.

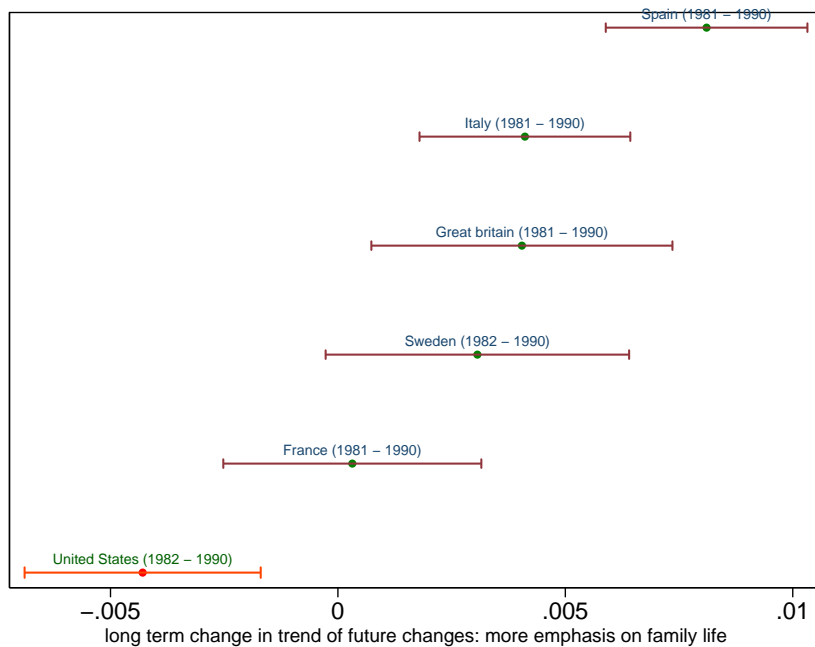


Figure 29: Future changes: more emphasis on family life. Change over the period 1981 - 1990.

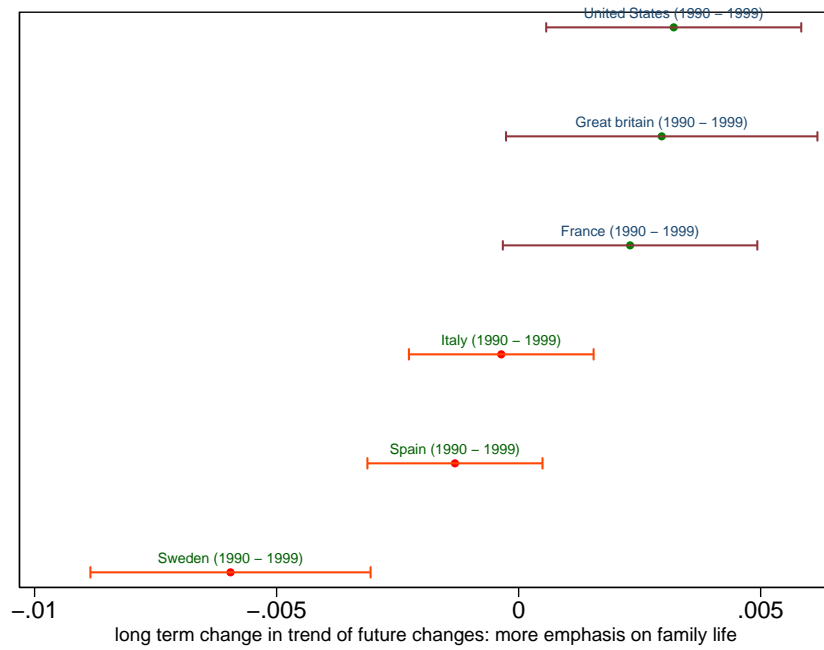


Figure 30: Future changes: more emphasis on family life. Change over the period 1990 - 1999.

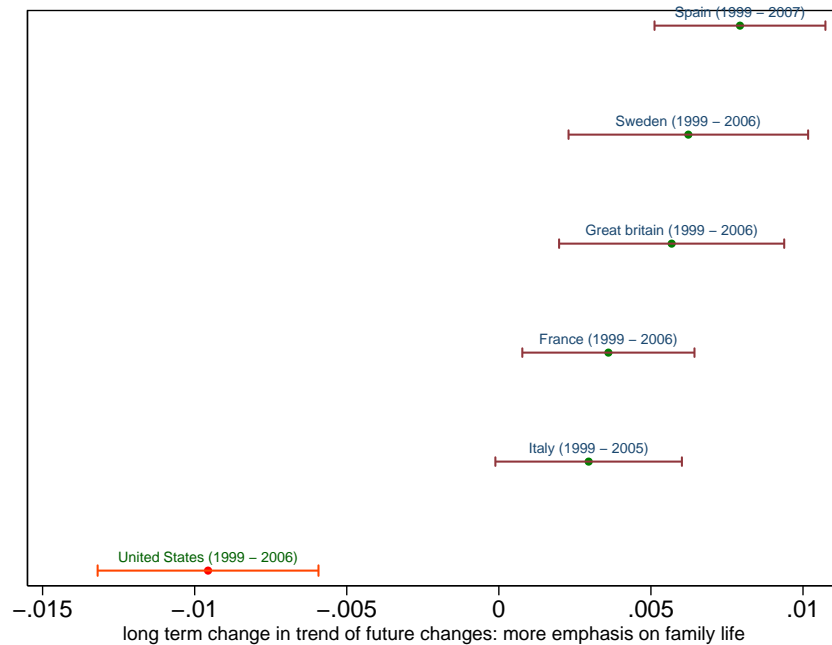


Figure 31: Future changes: more emphasis on family life. Change over the period 1999 - 2006.

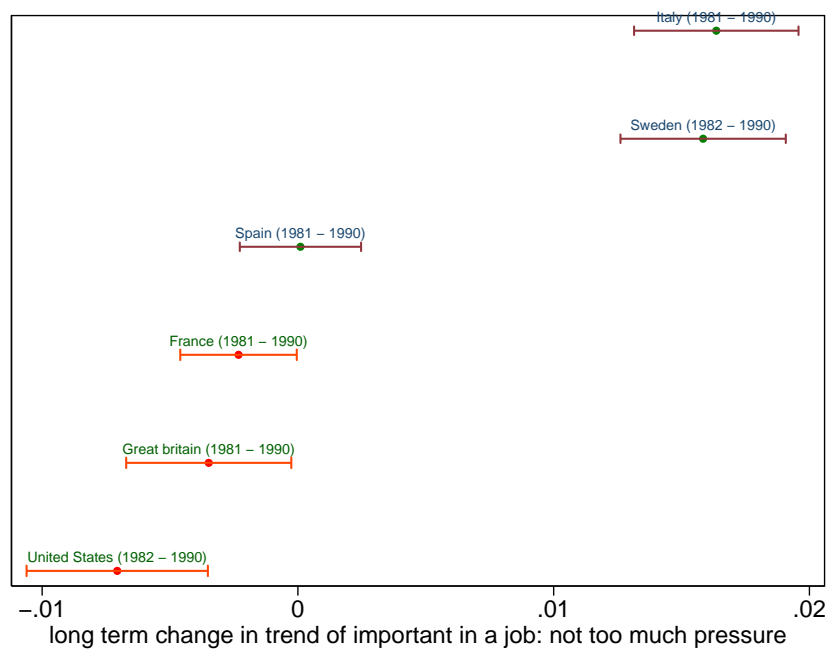


Figure 32: Important in a job: not too much pressure. Change over the period 1981 - 1990.

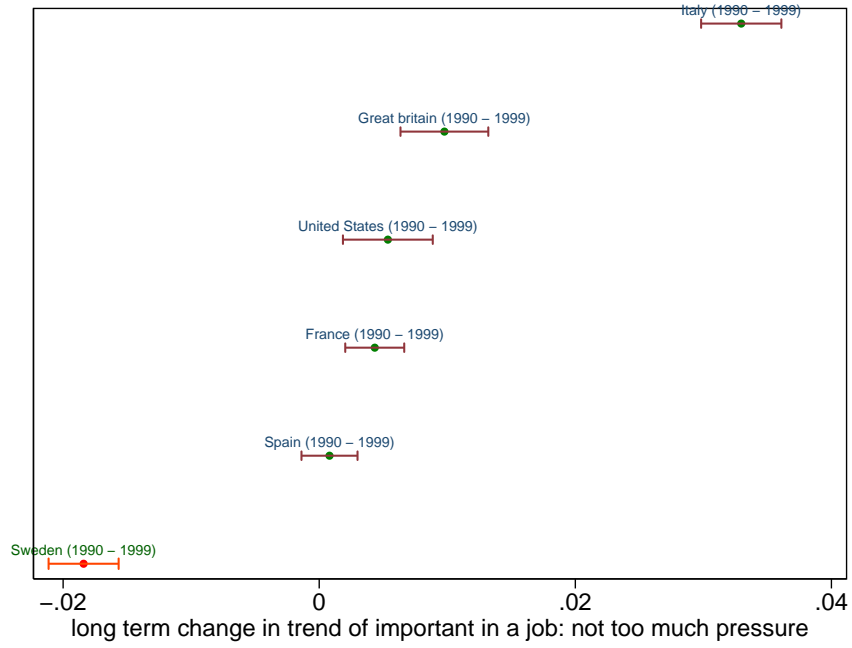


Figure 33: Important in a job: not too much pressure. Change over the period 1990 - 1999.

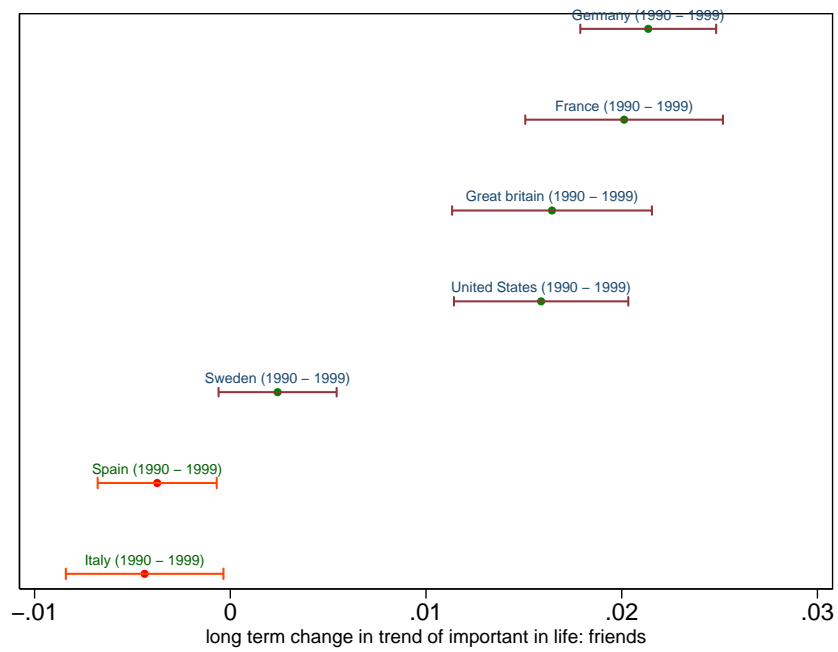


Figure 34: Friends important in life. Change over the period 1990 - 1999.

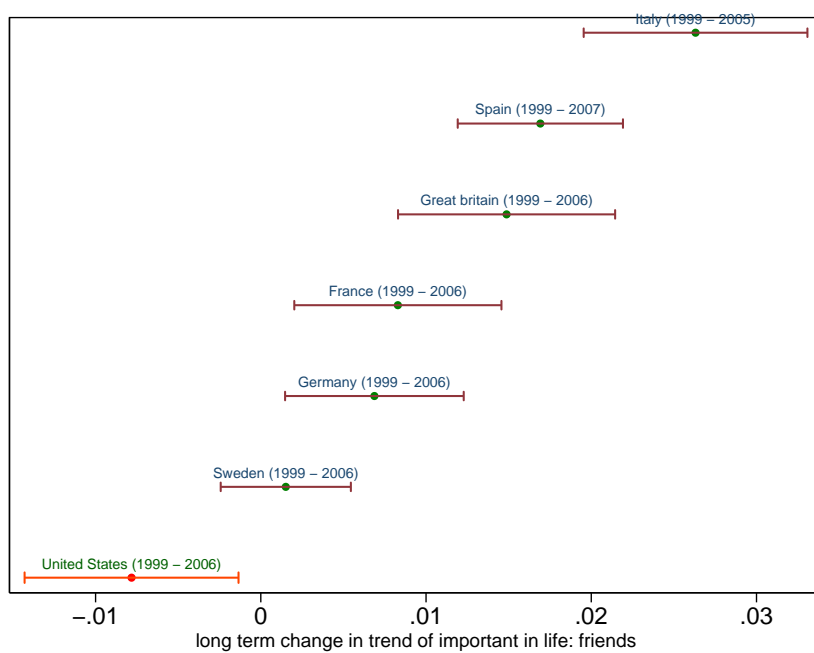


Figure 35: Friends important in life. Change over the period 1999 - 2007.

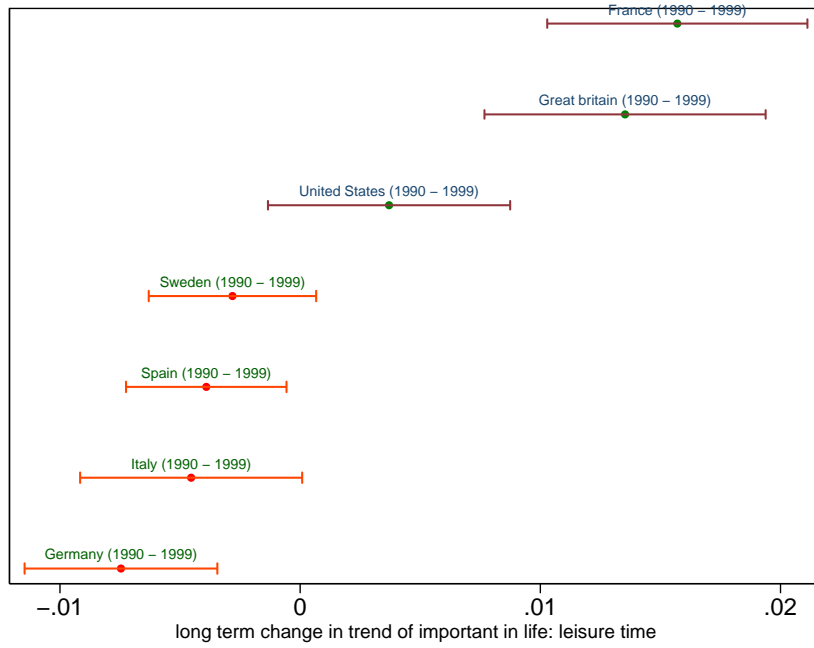


Figure 36: Leisure time important in life. Change over the period 1990 - 1999.

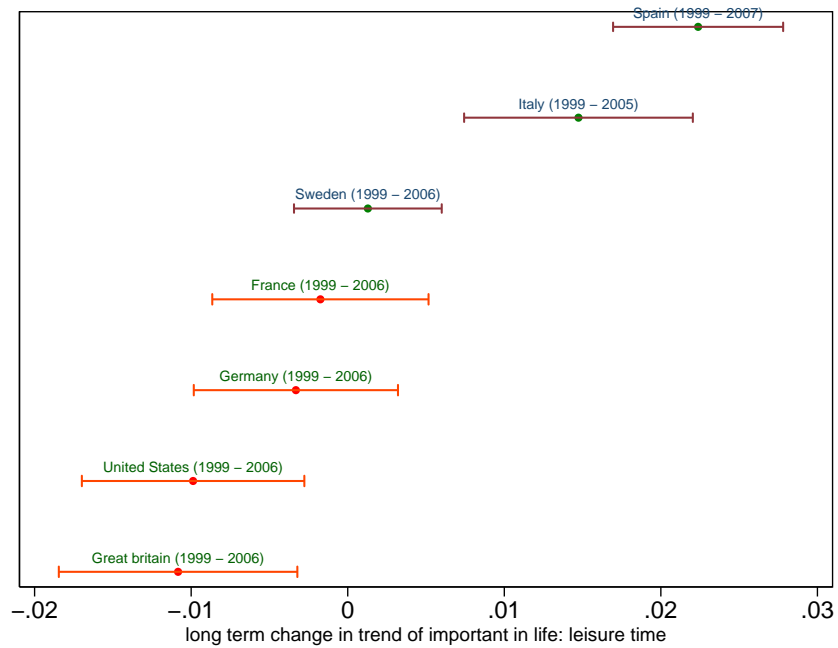


Figure 37: Leisure time important in life. Change over the period 1999 - 2006.

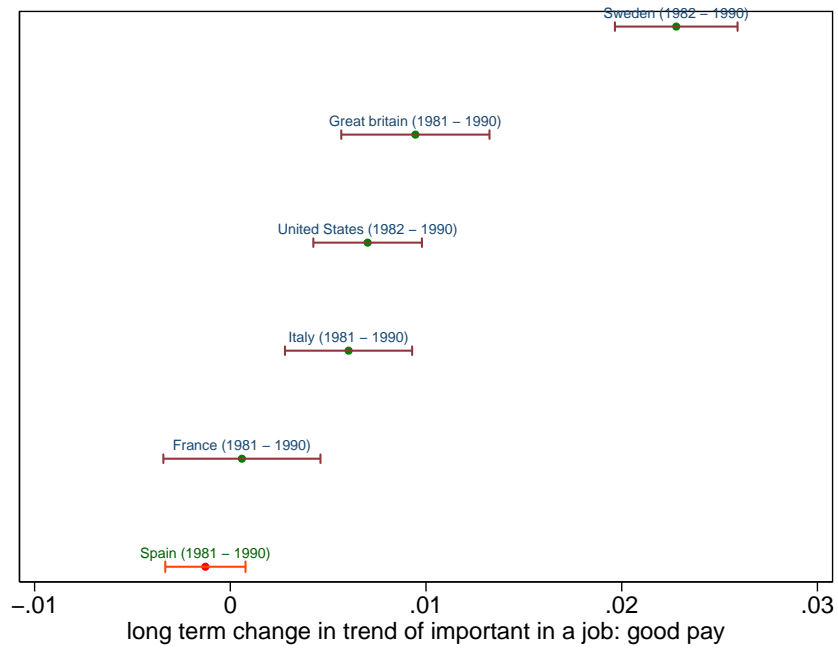


Figure 38: Important in a job: good pay. Change over the period 1981 - 1990.

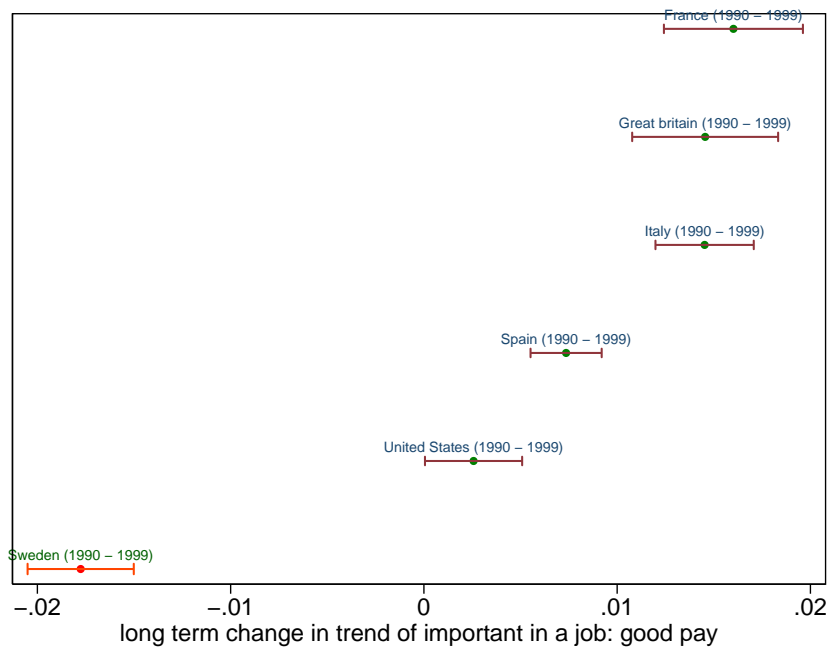


Figure 39: Important in a job: good pay. Change over the period 1990 - 1999.

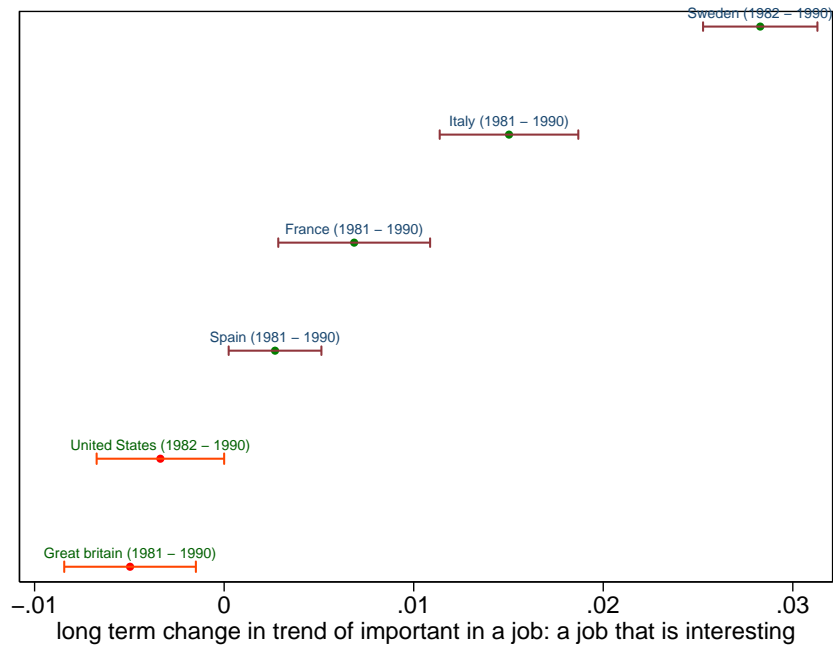


Figure 40: Important in a job: an interesting job. Change over the period 1981 - 1990.

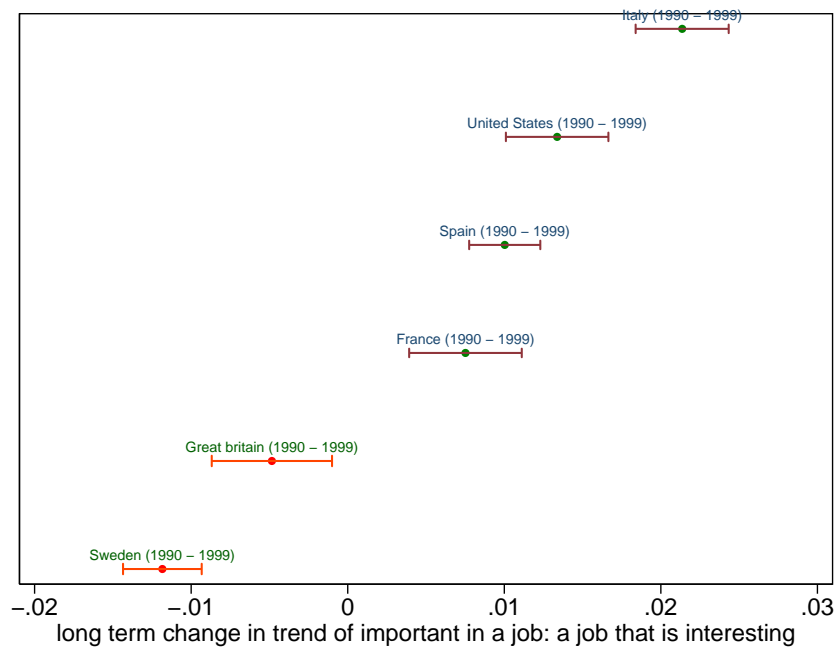


Figure 41: Important in a job: an interesting job. Change over the period 1990 - 1999.

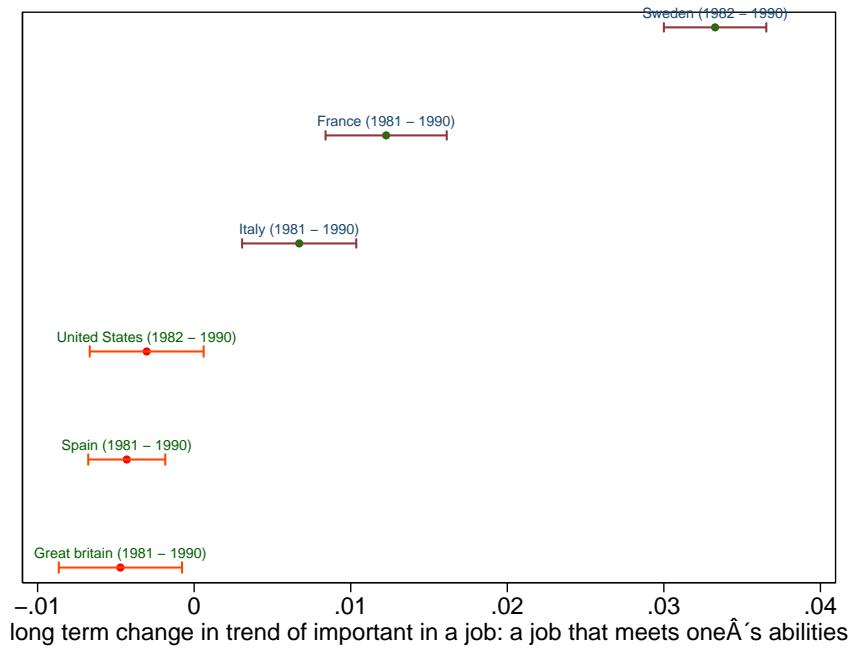


Figure 42: Important in a job: a job that meets one's abilities. Change over the period 1981 - 1990.

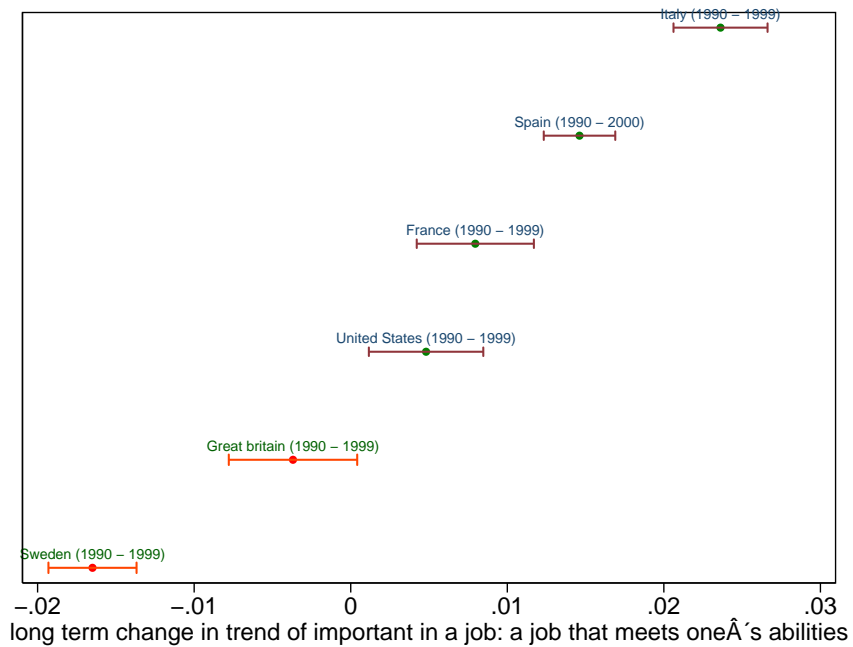


Figure 43: Important in a job: a job that meets one's abilities. Change over the period 1990 - 1999.

E Trends by sex and cohorts

Table 6: Differences in trends by sex and cohorts in France.

Variable	Gender		R2	Obs	Cohorts						R2	Obs
	Men	Women			15 - 24	25 - 34	35 - 44	45 - 54	55 - 64	> 65		
important in a job: good pay	0.022***	0.001	0.01	3817	0.022***	-0.000	0.002	-0.004	0.014	-0.002	0.02	3817
important in a job: not too much pressure	0.004	0.004	0.01	3817	0.007	0.006	0.001	-0.006	-0.007	-0.002	0.01	3817
important in a job: good job security	-0.003	0.005	0.00	3817	-0.001	0.013	0.004	-0.007	0.008	-0.008	0.00	3817
important in a job: good hours	0.013***	0.005	0.01	3817	0.007	0.016	0.014	-0.001	0.010	0.015	0.03	3817
important in a job: generous holidays	0.008*	-0.004	0.00	3817	0.013*	0.005	-0.007	-0.001	-0.018	-0.019	0.01	3817
important in a job: a job that is interesting	0.019***	-0.001	0.01	3817	0.026***	0.003	-0.000	-0.011	-0.011	-0.020	0.02	3817
important in a job: a job that meets one's abilities	0.022***	0.007	0.02	3817	0.038***	-0.014	-0.004	-0.020	-0.014	-0.015	0.02	3817
important in a job: pleasant people to work with	0.007	0.004	0.00	2202	0.027*	-0.026	-0.006	-0.035	-0.011	-0.033	0.02	2202
important in a job: a useful job for society	0.021**	-0.009	0.01	2202	0.027*	-0.006	-0.020	-0.031	-0.009	0.004	0.01	2202
important in a job: meeting people	0.002	0.028**	0.01	2202	0.030**	0.004	-0.010	-0.042	-0.009	-0.039	0.02	2202
important in life: family	0.003	0.000	0.02	3609	0.010***	-0.005	-0.004	-0.012	-0.011	-0.010	0.01	3609
important in life: friends	0.012***	0.006	0.02	3611	0.016***	-0.002	0.002	0.004	0.008	-0.011	0.03	3611
important in life: leisure time	0.009***	-0.001	0.01	3606	0.010**	-0.006	0.002	0.009	0.012	-0.008	0.05	3606
important in life: work	0.005*	0.001	0.00	3562	0.012***	-0.006	-0.010	-0.009	-0.013	-0.001	0.01	3562
future changes: more emphasis on individual	-0.005	0.005	0.00	2120	-0.003	0.001	-0.002	0.002	0.003	0.001	0.00	2120
future changes: more emphasis on family life	0.002***	-0.001	0.01	4769	0.006***	0.000	-0.006	-0.006	-0.008	-0.007	0.03	4769
future changes: a simple and more natural lifestyle	-0.006***	0.001	0.01	2167	-0.005	0.003	0.000	-0.000	-0.004	0.001	0.02	2167
future changes: less emphasis on money and material things	-0.002	-0.002	0.00	3666	-0.005	0.001	0.007	0.005	0.000	-0.002	0.01	3666
future changes: less importance placed on work	0.002	-0.000	0.00	4519	-0.004	0.008	0.010	0.005	0.012	0.006	0.02	4519

R2 from probit models are replaced by pseudo R2.

** p < 0.10, * p < 0.05, *** p < 0.001

Table 7: Differences in trends by sex and cohorts in Germany.

Variable	Gender		R2	Obs	Cohorts						R2	Obs
	Men	Women			15 - 24	25 - 34	35 - 44	45 - 54	55 - 64	> 65		
important in a job: good pay	-0.005	0.000	0.01	7465	-0.013	-0.023	0.023	-0.003	0.021	0.017	0.01	7456
important in a job: not too much pressure	-0.025***	0.012	0.00	7363	-0.014	-0.011	0.004	-0.025	-0.008	0.009	0.01	7354
important in a job: good job security	0.011*	-0.006	0.00	7473	0.014	-0.003	-0.000	-0.013	0.003	-0.022	0.00	7464
important in life: family	0.007***	-0.000	0.01	9483	0.023***	-0.017	-0.020	-0.021	-0.020	-0.017	0.04	9474
important in life: friends	0.016***	-0.002	0.02	9483	0.012***	0.008	0.007	0.004	0.010	-0.000	0.05	9474
important in life: leisure time	-0.009***	0.005*	0.01	9431	-0.017***	0.010	0.014	0.007	0.012	0.023	0.06	9422
important in life: work	0.005*	0.006*	0.01	9315	0.022***	-0.008	-0.008	-0.014	-0.022	-0.035	0.06	9306
future changes: more emphasis on family life	0.001	-0.001	0.00	9446	0.004	-0.005	-0.002	-0.006	-0.007	-0.006	0.03	9438
future changes: less emphasis on money and materia	0.015***	-0.008	0.01	7399	0.020**	-0.016	-0.000	-0.007	-0.004	-0.018	0.01	7392

R2 from probit models are replaced by pseudo R2.

** p < 0.10, * p < 0.05, *** p < 0.001

Table 8: Differences in trends by sex and cohorts in Italy.

Variable	Gender		R2	Obs	Cohorts						R2	Obs
	Men	Women			15 - 24	25 - 34	35 - 44	45 - 54	55 - 64	> 65		
important in a job: good pay	0.034***	-0.001	0.03	5366	0.042***	0.004	0.001	-0.003	-0.018	-0.033	0.03	5366
important in a job: not too much pressure	0.065***	0.009	0.10	5366	0.078***	-0.009	-0.004	-0.019	-0.018	-0.000	0.10	5366
important in a job: good job security	0.028***	0.002	0.02	5366	0.053***	-0.017	-0.035	-0.020	-0.037	-0.030	0.04	5366
important in a job: good hours	0.036***	0.012**	0.04	5366	0.052***	-0.006	-0.004	-0.020	-0.018	-0.011	0.04	5366
important in a job: generous holidays	0.033***	0.011*	0.04	5365	0.036***	-0.001	0.009	-0.006	0.003	0.005	0.03	5365
important in a job: a job that is interesting	0.045***	0.008	0.05	5366	0.051***	-0.000	-0.000	0.000	-0.012	-0.004	0.06	5366
important in a job: a job that meets one's abilities	0.040***	0.003	0.04	5366	0.044***	0.004	-0.004	-0.005	-0.012	-0.001	0.04	5366
important in a job: pleasant people to work with	0.008	0.017	0.00	3366	0.043***	-0.002	-0.027	-0.039	-0.040	-0.051	0.01	3366
important in a job: a useful job for society	0.010	0.010	0.00	3366	0.024**	-0.018	-0.015	-0.008	-0.003	-0.003	0.00	3366
important in a job: meeting people	0.020***	0.001	0.00	3366	0.039***	-0.023	-0.016	-0.019	-0.018	-0.030	0.02	3366
important in life: family	0.003**	0.001	0.01	5020	0.000	0.008	0.001	0.001	0.000	0.007	0.01	5020
important in life: friends	0.002	0.006*	0.00	5007	0.006	0.007	0.003	-0.005	-0.004	-0.005	0.05	5007
important in life: leisure time	-0.001	0.005	0.01	4990	0.002	-0.004	0.002	0.009	-0.007	-0.006	0.06	4990
important in life: work	0.001	-0.001	0.01	4990	-0.014***	0.023	0.016	0.009	0.010	0.020	0.01	4990
future changes: more emphasis on individual	0.001	0.001	0.00	3365	0.003	-0.001	-0.001	-0.003	0.001	-0.004	0.00	3365
future changes: more emphasis on family life	0.002***	-0.001	0.01	6333	0.003**	0.001	-0.001	-0.003	-0.004	-0.003	0.02	6333
future changes: a simple and more natural lifestyle	-0.000	0.001	0.00	3363	-0.004	0.006	0.008	0.004	0.008	0.004	0.01	3363
future changes: less emphasis on money and material things	0.003	0.002	0.00	5302	-0.002	0.003	0.006	0.007	0.011	0.008	0.00	5302
future changes: less importance placed on work	0.008***	-0.003	0.00	6261	0.003	0.006	0.008	0.007	0.010	-0.007	0.02	6261

R2 from probit models are replaced by pseudo R2.

** p < 0.10, * p < 0.05, *** p < 0.001

Table 9: Differences in trends by sex and cohorts in Spain.

Variable	Gender		R2	Obs	15 - 24	25 - 34	35 - 44	Cohorts			R2	Obs
	Men	Women						45 - 54	55 - 64	> 65		
important in a job: good pay	0.011***	-0.001	0.00	10070	0.004	0.007	-0.001	0.004	0.004	0.021	0.00	10070
important in a job: not too much pressure	-0.001	-0.000	0.00	10070	0.004	-0.009	0.003	-0.005	-0.013	-0.001	0.01	10070
important in a job: good job security	0.014***	0.002	0.00	10070	0.012***	-0.004	0.002	-0.000	0.006	0.017	0.01	10070
important in a job: good hours	0.012***	-0.000	0.00	10070	0.013***	0.002	0.004	-0.007	-0.010	0.002	0.00	10070
important in a job: generous holidays	0.002	-0.007*	0.00	10070	-0.012***	0.015	0.010	0.015	0.005	0.012	0.00	10070
important in a job: a job that is interesting	0.018***	-0.003	0.01	10070	0.009*	0.006	0.015	0.007	0.002	0.015	0.01	10070
important in a job: a job that meets one's abilities	0.017***	-0.002	0.00	10070	0.012***	0.008	0.001	0.009	-0.001	0.005	0.01	10070
important in a job: pleasant people to work with	0.004	-0.006	0.00	6450	-0.009	0.006	0.015	0.013	0.010	0.017	0.01	6450
important in a job: a useful job for society	-0.006	-0.016**	0.00	6450	-0.014*	-0.007	0.000	-0.003	0.001	0.014	0.00	6450
important in a job: meeting people	0.005	-0.011	0.00	6450	-0.003	0.004	0.006	-0.001	-0.002	-0.002	0.01	6450
important in life: family	0.005***	-0.001	0.01	8944	0.003	0.003	-0.002	-0.003	0.002	0.002	0.02	8944
important in life: friends	0.002	0.000	0.00	8917	0.003	0.005	0.001	-0.001	0.001	-0.008	0.01	8917
important in life: leisure time	0.003	0.003	0.01	8865	0.008***	-0.003	0.002	0.003	-0.002	-0.013	0.05	8865
important in life: work	-0.011***	-0.001	0.01	8902	-0.008***	0.002	0.004	-0.004	-0.006	-0.018	0.05	8902
future changes: more emphasis on individual	0.009***	-0.005*	0.00	6391	0.001	0.002	0.010	0.009	0.009	0.002	0.01	6391
future changes: more emphasis on family life	0.005***	-0.002***	0.01	11131	0.006***	0.000	-0.003	-0.004	-0.004	-0.003	0.02	11131
future changes: a simple and more natural lifestyle	0.008***	-0.002	0.01	6403	0.005*	-0.001	-0.001	0.002	0.010	0.004	0.01	6403
future changes: less emphasis on money and material things	-0.002	0.001	0.00	9923	-0.007***	0.007	0.005	0.010	0.007	0.005	0.00	9923
future changes: less importance placed on work	0.003	0.001	0.00	10963	0.003	0.009	-0.001	0.006	-0.005	-0.006	0.01	10963

R2 from probit models are replaced by pseudo R2.

** p < 0.10, * p < 0.05, *** p < 0.001

Table 10: Differences in trends by sex and cohorts in Sweden.

Variable	Gender		R2	Obs	15 - 24	25 - 34	35 - 44	Cohorts			R2	Obs
	Men	Women						45 - 54	55 - 64	> 65		
important in a job: good pay	-0.008***	0.018***	0.01	8014	-0.010	0.010	0.019	0.007	0.006	0.018	0.02	7942
important in a job: not too much pressure	-0.019***	0.011***	0.01	8014	-0.017***	0.007	0.007	0.008	-0.000	0.000	0.01	7942
important in a job: good job security	-0.019***	0.001	0.01	8014	-0.030***	0.006	-0.002	0.012	0.008	0.047	0.01	7942
important in a job: good hours	-0.013***	-0.009**	0.01	8014	-0.044***	0.022	0.044	0.019	0.027	0.046	0.02	7942
important in a job: generous holidays	-0.022***	0.011***	0.01	8014	-0.028***	0.021	0.013	0.006	0.005	0.021	0.01	7942
important in a job: a job that is interesting	0.013***	0.010**	0.01	8014	0.015**	-0.006	0.013	0.010	0.005	-0.007	0.02	7942
important in a job: a job that meets one's abilities	0.005	0.014***	0.00	8014	0.007	-0.002	-0.000	0.003	0.014	0.019	0.01	7942
important in a job: pleasant people to work with	0.047***	0.015	0.02	3966	0.064***	-0.042	-0.020	-0.039	0.028	0.003	0.05	3894
important in a job: a useful job for society	0.038***	0.033***	0.02	3966	0.068***	-0.017	-0.032	-0.014	-0.016	-0.010	0.02	3894
important in a job: meeting people	0.069***	0.003	0.04	3966	0.085***	-0.031	-0.041	-0.011	-0.010	0.008	0.05	3894
important in life: family	0.006***	-0.002	0.02	8090	0.004	-0.001	-0.002	0.002	0.002	0.000	0.01	8018
important in life: friends	0.003**	-0.003	0.01	8110	0.001	0.007	0.003	0.004	0.001	-0.001	0.02	8038
important in life: leisure time	-0.002	0.003	0.01	8086	-0.001	-0.006	-0.001	0.005	0.002	0.009	0.01	8014
important in life: work	-0.016***	0.005*	0.01	8064	-0.011***	0.007	-0.001	-0.005	-0.007	-0.012	0.03	7992
future changes: more emphasis on individual	0.010***	-0.004	0.00	3942	0.002	0.008	0.006	0.006	0.017	0.000	0.01	3870
future changes: more emphasis on family life	0.000	-0.003**	0.00	9882	-0.003	0.002	0.006	-0.001	-0.004	0.004	0.01	9810
future changes: a simple and more natural lifestyle	-0.004*	0.002	0.01	3916	-0.013***	0.012	0.013	0.011	0.012	0.010	0.01	3844
future changes: less emphasis on money and material	0.010***	-0.003	0.03	7916	0.009**	-0.004	-0.006	0.005	-0.002	0.008	0.01	7848
future changes: less importance placed on work	0.033***	0.004*	0.10	9820	0.030***	0.013	0.021	0.003	0.005	-0.014	0.14	9750

R2 from probit models are replaced by pseudo R2.

** p < 0.10, * p < 0.05, *** p < 0.001

Table 11: Differences in trends by sex and cohorts in Great Britain.

Variable	Gender		R2	Obs	Cohorts						R2	Obs
	Men	Women			15 - 24	25 - 34	35 - 44	45 - 54	55 - 64	> 65		
important in a job: good pay	0.034***	0.001	0.04	3650	0.026***	0.005	0.021	0.024	0.010	-0.000	0.05	3613
important in a job: not too much pressure	0.008	0.003	0.00	3650	0.020***	0.003	0.001	-0.020	-0.036	-0.022	0.01	3613
important in a job: good job security	0.004	0.002	0.01	3650	-0.005	0.005	0.007	0.031	-0.000	0.017	0.01	3613
important in a job: good hours	0.027***	0.003	0.02	3650	0.033***	0.006	-0.006	-0.007	-0.012	-0.020	0.03	3613
important in a job: generous holidays	0.020***	0.006	0.02	3650	0.028***	0.004	-0.013	-0.013	-0.007	-0.013	0.01	3613
important in a job: a job that is interesting	-0.023***	0.016**	0.01	3650	-0.016**	-0.017	0.010	-0.006	0.015	0.010	0.01	3613
important in a job: a job that meets one's abilities	-0.014***	0.006	0.00	3650	-0.002	-0.002	-0.013	-0.010	-0.010	-0.018	0.01	3613
important in a job: pleasant people to work with	-0.011	-0.004	0.01	2651	-0.010	0.008	0.010	0.023	-0.040	-0.005	0.02	2642
important in a job: a useful job for society	-0.012	0.021*	0.00	2651	0.029**	-0.034	-0.043	-0.050	-0.040	-0.019	0.01	2642
important in a job: meeting people	0.001	0.006	0.01	2651	0.011	-0.002	-0.004	-0.006	-0.021	-0.005	0.01	2642
important in life: family	0.003	0.004	0.01	3511	0.008***	-0.009	-0.008	-0.001	-0.002	-0.001	0.01	3475
important in life: friends	0.017***	-0.001	0.04	3516	0.010**	0.004	0.012	0.004	0.004	0.007	0.04	3479
important in life: leisure time	0.003	0.002	0.01	3480	-0.009*	0.008	0.017	0.018	0.012	0.017	0.02	3443
important in life: work	-0.015***	0.015***	0.02	3291	-0.018***	0.012	0.013	0.001	0.012	0.002	0.16	3257
future changes: more emphasis on individual	0.001	0.009*	0.01	2644	0.010	-0.007	-0.001	-0.004	-0.012	-0.002	0.01	2635
future changes: more emphasis on family life	0.003***	0.001	0.01	4665	0.009***	-0.007	-0.007	-0.003	-0.008	-0.006	0.03	4629
future changes: a simple and more natural lifestyle	-0.000	0.007	0.01	2646	0.000	0.002	-0.002	0.016	-0.015	0.013	0.02	2637
future changes: less emphasis on money and material things	0.005**	-0.002	0.01	4644	0.013***	-0.011	-0.013	-0.006	-0.005	-0.016	0.01	4609
future changes: less importance placed on work	0.022***	0.006**	0.07	4587	0.023***	0.008	0.005	0.005	-0.003	-0.005	0.08	4551

R2 from probit models are replaced by pseudo R2.

** p < 0.10, * p < 0.05, *** p < 0.001

Table 12: Differences in trends by sex and cohorts in United States.

Variable	Gender		R2	Obs	Cohorts						R2	Obs
	Men	Women			15 - 24	25 - 34	35 - 44	45 - 54	55 - 64	> 65		
important in a job: good pay	0.015***	0.003	0.01	6866	0.033***	-0.026	-0.020	-0.022	-0.012	-0.012	0.03	6875
important in a job: not too much pressure	-0.009**	0.011**	0.00	6866	-0.002	-0.008	0.001	0.002	0.005	-0.009	0.00	6875
important in a job: good job security	0.002	-0.002	0.00	6866	-0.001	0.001	0.006	0.008	-0.012	0.009	0.00	6875
important in a job: good hours	-0.002	0.012***	0.00	6866	0.022***	-0.017	-0.011	-0.027	-0.031	-0.028	0.01	6875
important in a job: generous holidays	-0.005	0.010*	0.00	6866	0.021***	-0.027	-0.020	-0.024	-0.031	-0.036	0.00	6875
important in a job: a job that is interesting	0.015***	-0.005	0.00	6866	0.020***	-0.028	-0.001	-0.016	0.001	0.008	0.01	6875
important in a job: a job that meets one's ability	-0.004	0.009*	0.00	6866	-0.001	-0.013	-0.002	0.004	0.011	0.014	0.00	6875
important in a job: pleasant people to work with	-0.017*	-0.004	0.01	4124	-0.025	-0.002	-0.000	0.003	0.003	0.024	0.01	4153
important in a job: a useful job for society	-0.014*	0.013	0.00	4124	0.011	-0.015	-0.028	-0.019	0.011	-0.032	0.00	4153
important in a job: meeting people	-0.057***	0.022*	0.02	4124	-0.055***	-0.003	0.016	-0.003	0.019	0.036	0.02	4153
important in life: family	0.002	-0.000	0.01	5778	0.002	-0.002	-0.000	-0.004	0.002	0.002	0.01	5797
important in life: friends	0.001	0.005	0.01	5765	0.007	-0.006	-0.003	-0.007	0.004	-0.006	0.01	5784
important in life: leisure time	-0.003	0.003	0.00	5750	-0.002	-0.002	-0.002	-0.003	0.003	0.004	0.01	5770
important in life: work	-0.025***	0.007	0.03	5735	-0.017**	-0.013	-0.008	0.000	-0.014	-0.004	0.08	5755
future changes: more emphasis on individual	-0.007*	-0.002	0.00	4074	-0.019***	0.011	0.010	0.033	0.000	0.013	0.01	4103
future changes: more emphasis on family life	-0.003***	0.002**	0.01	8050	-0.006***	0.003	0.004	0.004	0.004	0.008	0.01	8058
future changes: a simple and more natural lifestyle	-0.001	-0.005	0.01	4082	-0.008	-0.014	0.009	0.010	0.010	0.006	0.01	4111
future changes: less emphasis on money and material	0.005**	0.001	0.01	6823	0.006*	-0.002	-0.000	-0.002	-0.005	-0.002	0.01	6833
future changes: less importance placed on work	0.016***	0.001	0.03	8044	0.020***	0.002	0.001	-0.005	-0.009	-0.012	0.04	8053

R2 from probit models are replaced by pseudo R2.

** p < 0.10, * p < 0.05, *** p < 0.001

F Wording

G Appendix: List of the proxies of materialism and their wording

A002.- Friends important in life

WVS2000: For each of the following aspects, indicate how important it is in your life. Would you say it is:

EVS1999: Please say, for each of the following, how important it is in your life.

Friends

1 'Very important'

2 'Rather important'

3 'Not very important'

4 'Not at all important'

A003.- Leisure time important in life

WVS2000: For each of the following aspects, indicate how important it is in your life. Would you say it is:

EVS1999: Please say, for each of the following, how important it is in your life.

Leisure time

1 'Very important'

2 'Rather important'

3 'Not very important'

4 'Not at all important'

C011.- Important in a job: good pay

Here are some more aspects of a job that people say are important. Please look at them and tell me which ones you personally think are important in a job?

Good pay

0 'Not mentioned'

1 'Mentioned'

C012.- Important in a job: not too much pressure

Here are some more aspects of a job that people say are important. Please look at them and tell me which ones you personally think are important in a job?

Not too much pressure

0 'Not mentioned'

1 'Mentioned '

C020.- Important in a job: a job that is interesting

Here are some more aspects of a job that people say are important. Please look at them and tell me which ones you personally think are important in a job?

A job that is interesting

0 'Not mentioned'

1 'Mentioned '

C021.- Important in a job: a job that meets one's abilities

Here are some more aspects of a job that people say are important. Please look at them and tell me which ones you personally think are important in a job?

A job that meets one's abilities

0 'Not mentioned'

1 'Mentioned '

C022.- Important in a job: pleasant people to work with

Here are some more aspects of a job that people say are important. Please look at them and tell me which ones you personally think are important in a job?

Pleasant people to work with

0 'Not mentioned'

1 'Mentioned '

C024.- Important in a job: a useful job for society

Here are some more aspects of a job that people say are important. Please look at them and tell me which ones you personally think are important in a job?

A useful job for society

0 'Not mentioned'

1 'Mentioned '

C025.- Important in a job: meeting people

Here are some more aspects of a job that people say are important. Please look at them and

tell me which ones you personally think are important in a job?

Meeting people

0 'Not mentioned'

1 'Mentioned'

E014.- Future changes: Less emphasis on money and material possession

I'm going to read out a list of various changes in our way of life that might take place in the near future. Please tell me for each one, if it were to happen, whether you think it would be a good thing, a bad thing, or don't you mind?

Less emphasis on money and material possession

1 'Good thing'

2 'Don't mind'

3 'Bad thing'

E017.- Future changes: More emphasis on individual

I'm going to read out a list of various changes in our way of life that might take place in the near future. Please tell me for each one, if it were to happen, whether you think it would be a good thing, a bad thing, or don't you mind?

Greater emphasis on the development of the individual

1 'Good thing'

2 'Don't mind'

3 'Bad thing'

E019.- Future changes: More emphasis on family life

I'm going to read out a list of various changes in our way of life that might take place in the near future. Please tell me for each one, if it were to happen, whether you think it would be a good thing, a bad thing, or don't you mind?

More emphasis on family life

1 'Good thing'

2 'Don't mind'

3 'Bad thing'

E020.- Future changes: A simple and more natural lifestyle

I'm going to read out a list of various changes in our way of life that might take place in the near future. Please tell me for each one, if it were to happen, whether you think it would be a good thing, a bad thing, or don't you mind?

A simple and more natural lifestyle

1 'Good thing'

2 'Don't mind'

3 'Bad thing'

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