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Demographic features and the links between subjective happiness and perceptions of welfare: a biographical perspective.

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Demographic features and the links between subjective happiness and perceptions of welfare: a biographical perspective [1].

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1. Introduction

The correlation between happiness and income has been the subject of an extended literature (Clark and Senik for example, see the excellent review of Clark et al., 2008). Since Easterlin's seminal paper pointing out that in Western countries at macro level, reported happiness has not increased even though net income had grown five-fold over the past 50 years, the "Easterlin paradox" has been solved in several ways. First at micro level, there actually is a strong link between income and happiness, both in cross-section approaches and in panel data (controlling for unobserved individual fixed effects) with a decreasing marginal effect,"for the rich half of European nations, higher levels of per capita income don't buy greater happiness", (Di Tella and MacCulloch, 2003). In fact, income has a greater impact in transition countries than developed ones. The solution to the paradox lies in the importance of *relative* income: relative to peers (via the environment effect) or relative to past income through adaptation (Clark et al. 2008).

These results were obtained from panel data where the pace of adaptation may be even stronger because references can change from year to year, each situation being evaluated using the criteria of the present year. Changes due to adaptation cannot be measured accurately.

The income/happiness slope is not necessary the same between groups (Clark *et al*. 2005, Frijters *et al*. 2004). Religion, in particular, can smooth the slope (Lelkes 2006, Clark 2005). The same diversity occurs with relative income: Mayraz *et al*. (2009) show that the reference group can

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[1] I would like to thank Claudia Senik for her valuable advice, as well as Charles Binet, Axelle Chauvet-Peyrard, François Gitton, and Alexandra Louvet, ENSAE students in 2007. This article is based on a working group supervised by the author.

vary and that the importance of income comparisons with peers as a predictor of happiness differs between groups, with comparisons being a better predictor for men than for women.

Life satisfaction tends to vary significantly according to sex, age, income, education, health, employment, and religiosity (Argyle 1999; Blanchflower and Oswald 2004b; Frey and Stutzer 2002). Married people are happier than singles, who in turn are happier than separated couples, widowed, and last of all, divorced, people (Powdthavee, 2004; Kohler et al., 2005). Biographical events, such as marriage, children, divorce, the formation of a new couple, starting a new job, and moving house, can therefore effect happiness in diverse ways and alter the impact of income to happiness.

Our approach is altogether different. Our aim is to link the *retrospective* feelings of *reported subjective* happiness and *perceived* financial welfare throughout the life cycle, and to identify the criteria that strengthen or loosen these links. For which population, with what kind of lifespan, for what biographical events in professional lives, housing or the family sphere, do these ties vary?

Subjectivity and perceived emotions: Since happiness is a "state of interior satisfaction", it is by definition a feeling, and therefore difficult to separate from the consciousness that formulates it. It can be appreciated only through people's own descriptions. A person's wealth may be described as the combination of income, financial capital and real estate in his or her possession. However, the possible link between happiness and wealth depends on the structure of the person's income, the size of his/her family, projects, housing, security etc. that influence the person's perception of his/her wealth. In fact, it is this perception of wealth, based on the match between a person's material needs and their resources, which is likely to influence feeling of happiness.

Our investigation into the links between perceived financial welfare and happiness is two-fold. Although high income facilitates life and increases the chances of being happy, the links and similarities between material comfort and happiness seem to be more complex. A happy situation

can reduce the consequences of financial problems, but, more importantly, a concomitant change can prompt two distinct reactions to the same event.

The retrospective approach has the advantage of providing an insight into the whole lifespan using the same scale. In our study, individuals express heterogeneous emotions, with personal scales. Nevertheless, this heterogeneity can be taken into account by studying the individual changes in those perceptions throughout the life cycle in a retrospective approach. Furthermore, since our survey was conducted using a new technique, it was possible to minimize the well-known drawbacks of memory loss in a **retrospective study** (Lelièvre *et al*).

Our research is based on the INED "*Biographies et entourage*" (event histories and contact circle) survey carried out by E Lelièvre and C. Bonvalet in 2001. A population of 2,830 individuals, aged between 50 and 70 and living in the Paris area, were questioned on their family, social, residential and occupational history. At the end of the survey, individuals were asked to determine self-established sequences of spells over their life course for each field: each respondent provided an estimation of his/her well-being and financial satisfaction at key stages in his/her life. This retrospective view of well-being and welfare can be viewed though interactions between past and present situations. The impact of a past event may depend on the present situation of a person aged 50-70.

The sequential data provides an overall and dynamic view of an individual's history. In this paper we:

(i) Analyse the transitions between two periods, in a cross-sectional manner, that exempts our study from the subjectivity implied by the notation scale, each individual using the same scale when reviewing his/her lifespan;

(ii) Conduct a longitudinal analysis of the sequences themselves in term of distance between financial welfare and well-being and profiles. Although this does depend on subjective scales such as optimism and so on, this biographical approach is richer than a cross-sectional analysis. We first define a distance, and then estimate the impact of demographic features on this distance;

(iii)   We then analyse the profiles themselves. This requires the data to be simplified by describing a sequence with basic variables. I will suggest eight of these, leading to production of a successive typology based on a discriminant analysis for each field of welfare and well-being sequences, for comparison. Finally, I will use categorical regression to estimate the impact of both demographic features and welfare sequences on well-being sequences.

Our results confirm the link between reported happiness and reported financial welfare that was found by the German Socio-Economic Panel (Zimmerman and Easterlin, 2006).

First, evaluations of well-being and welfare at a given time are significantly correlated. Thus, well-being and welfare tend to vary together: when perceived well-being improves, perceived welfare is also more likely to improve. I demonstrate that all renewal events, such as making a new start in life, enhances happiness: for instance a new job, forming a new couple, remarrying, and even separating (but not divorcing). A new couple or a new job enhances happiness even in cases where they reduce the perceived financial welfare. Conversely, the death of a spouse or death of a child are affective tragedies that occur with an increase perceived financial welfare.

Moreover, when studying the distance between the two sequences (well-being and welfare), we see that these distances are generally low. Increased distances are recorded for respondents with experience of some family tragedy such as the death of a child, or of a parent before the age of 20, a divorce, separation or widowhood. Thus, it appears that the link between well-being and welfare becomes weaker in persons who have experienced painful, non material, events.

Similarly, we highlight the fact that well-being profiles are significantly correlated to welfare profiles, where a profile must be understood as a certain type of life sequence. Within the "unhappy" profile, the "financially difficult childhood" and "had to contract debts" profiles are over-represented. Furthermore, a financially difficult childhood seems to be more influential than the existence of periods with debt. Besides, people who have always been "well-off" are significantly more likely to have a good profile in terms of well-being than those who have had to

contract debts. Lastly, having a constant sequence of financial welfare seems to be a protection from living an "unhappy" life.

Yet financial welfare is not the only factor that determines the well-being profile. For instance, married people are more likely to have a happy profile than divorced, separated or widowed ones. This result has already been observed in a study of the distance between the two sequences. One last point about profiles: we do not observe any results with respect to losing a child. This may imply that a one-off tragedy does not affect an entire life.

An individual's professional career and its inherent risks, also influences well-being and financial standing. The stages of a person's professional career have very different effects on well-being and degrees of financial comfort, as well as they way in which they are dependent. The beginning of the adult period appears to be a particularly important stage: the majority of respondents declared that their situation changed financially and emotionally at that time. But this simultaneous change occurs during a very eventful period (the meeting of a spouse, end of studies, first job, departure from the parental home etc.), so it is not possible to establish a clear relation between wealth and happiness at this time. While no one profession brings more happiness than any other, a change of occupation increases the chances of becoming happy, even if this change involves a deterioration in the respondent's financial situation.

This paper is organized as follows. Part 2 describes the survey process strategy and the data. In part 3, I analyse the related transitions of both perceived happiness and financial welfare, and the impact of biographical events using a categorical logit model. In part 4, I analyse whole sequences over the life cycle of each individual, their distance, and the impact of demographic features on the strength of the links between them, and I present separate typologies for each of those spheres: retrospective happiness and perceived financial welfare. Part 5 analyses the impact of individual characteristics and the welfare profile on the well-being profile.

2.The survey "Biographies et Entourage" (event histories and contact circle survey)

The event histories and contact circle survey conducted by INED in 2000-2001, collected the life histories of 2,830 family contact circles (*entourages*). It was a quantitative survey retracing the family, residential and occupational event histories along three or four generations in the same lineage through interviews with people born between 1930 and 1950. The 2,830 respondents aged 50 to 70 and living in the Paris area were interviewed, and listed their lineage and the important partners in their lives. The interviews used a grid on which respondents noted for each year the stages of their family, professional and residential lives. These different fields appeared in parallel, making it possible to switch back and forth between them in order to achieve accurate timing. At the end of the interview, the respondents' opinions on their life course was summarized. They were invited to divide their lives into periods, noted in the grid, and then to identify the most characteristic events for each period, and finally to evaluate each period in terms of well-being. The same process was used to obtain their assessment of their financial welfare. Finally, the respondents informed the interviewers about their total present household income.

The first part of the survey contained information about the respondent's present situation: age sex, profession, number of children, number of grand-children, matrimonial situation, total number of partners they had lived with, etc. The second part was devoted to a brief life history of their contact circle, i.e. parents, brothers, sisters, spouses, and the list of the "significant others" in their lives. From this information, we used the main professional status of the parents as perceived by the respondents, the number of siblings and the size of the contact circle. The third part consisted of the grid that we mentioned above. From that, we used the respondent's occupational residential history and the sequence of family events, as well as the synthetic variables on wellbeing and welfare perception.

With regard to perceived well-being variables, the respondents were invited to divide their life courses into periods and indicate most significant facts for each one (open question) with a score to indicate wellbeing on a scale of five, from 1 = Very Good years (VG), 2 = Good years (G), 3 = Problem-free years (SP), 4 = Difficult years (D) and 5 = Very Difficult years (TD). Data

collection for perceived financial welfare followed the same method with the scale: 1 = Well-off, 2 = No particular problems, 3 = Had to be careful, 4 = Difficult to make ends meet and 5 = Had to borrow money.

Note that this last scale is not symmetrical: score 5 is very demanding whereas score 1 is broad and encompasses very well-off people as well as less well-off ones who consider that they have enough. However, the scale for well-being is symmetrical, which explains why far more people have "very unhappy years" than "had to borrow money". This point has to be taken into account when comparing the two sequences.

The first approach shows that an individual had an average of 4.3 different periods of wellbeing in a life course, with a mean duration of 14 years per period. Difficult and very difficult periods lasted a shorter amount of time (10 and 9 years respectively) than other periods (15 years each). Good periods (33% of all the periods) were more frequent, and 25% of the periods were perceived as "very good" periods. Only 8% of all periods were perceived as "very difficult", (with 25% of respondents experiencing such a period, and 6% experiencing two or more such periods in their lives).

Periods of financial welfare were longer on average (21 years), and the more difficult the period the shorter it lasted. The "no problem" period (score 2) was more frequent (29%), followed by scores 3, 4 and 1, while 19% of the periods were "well-off" ones. Only 3% of the periods had a score of 5 ("had to borrow), and 9% of the respondents experienced such a bad period.

Firstly, evaluations of well-being and welfare at certain times were significantly correlated. From the table opposite we see that the distribution of well-being evaluations depends on welfare evaluations. For instance, 45% of the financial welfare periods marked "1" ("well-off") also show a "very good" score for well-being. On the whole, there are few very good years that are

Welfare	Well-being				
	VG	G	=	D	VD
Well-off	45%	33%	11%	9%	2%
No problems	29%	43%	16%	10%	3%
Had to be careful	21%	40%	22%	15%	3%
Difficult	14%	28%	13%	32%	13%
Had to borrow	16%	23%	9%	23%	29%

P-value of Chi² test <0.0001
Kendall's Tau-b = 0.28

financially hard. In much the same way, difficult years tend not to be prosperous, though this appears less clearly.

3. Transitions of the reported happiness sequences and of perceived financial welfare sequences

When studying the simultaneous evolutions of perceived well-being and perceived financial welfare in two different periods, we controlled for some unobserved heterogeneity. But the choice of marking a transition at a certain point of time, remains subjective.

Many welfare transitions occur with no change in well-being (39%), and as much as 52% of the respondents who experienced an improvement in happiness declared no change in financial welfare. Furthermore, respondents sometimes gave the same score to two different periods (see Table 1). We then focused on the four remaining groups: increasing and decreasing happiness versus decreasing welfare (two groups), decreasing and increasing happiness versus decreasing welfare (two groups). We determined the characteristics of individuals who undergo similar changes to their well-being and their welfare in most of the cases, and those of the minority that undergo opposite evolutions in happiness and welfare. Moreover, some characters affect happiness independently of welfare evolutions. Table 2 presents the results of the four categorical logit models on the chance of belonging to a group characterized by similar or different changes in directions of perceived wellbeing and perceived financial welfare.

Among the results we found that individuals who changed their professional occupation were more likely to undergo an improvement in their well-being, even if that change led to a poorer financial situation. The same observation can be made for individuals who form a new couple. Among the effects correlated to the decrease in well-being, were individuals who lost a child and were more likely to see a decrease in their well-being while nevertheless declaring an improvement in their financial welfare. This group also consisted of the largest number of married people. We also found couples who were unsettled by an unexpected increase in income (Weiss et al., 2005), but newly married couples were less likely to belong to this group. It is interesting to note that remarriage, when it occurs, is a source of improvement in well-being.

Furthermore a very large number of children is associated with both a decrease in well-being and in financial welfare.

We will now analyze the entire life sequences of individuals and attempt to characterize the correlation between the wellbeing and welfare sequences.

4. Individual profiles over the life cycle.

A first approach consists in defining a distance between sequences that we then regress on individual variables with the intention of identifying those variables that explain the degree to which an individual has fairly similar sequences — in other words to tally their well-being with their financial welfare throughout their life spans.

However, there are a number of shortcomings in quantifying the link between sequences of well-being and sequences of financial welfare, as a result of the simplified hypotheses this process supposes. The results will depend greatly on the definition of the distance, and especially the notational scale given to each sequence. To offset this, we then focused on the well-being sequences (followed by the financial welfare ones) to create a typology. Then the main issue was to characterize a sequence using a limited number of carefully selected variables. We then compared the two typologies obtained.

Finally, the link between happiness and financial welfare was evaluated in a multinomal regression attempting to explain the life profile (in terms of well-being) through a set of interest variables that include the financial life profile.

4.1 Distance between the two sequences.

We define the distance between well-being and financial welfare sequences as the person-years distance (sum of the squares of the different scores attributed for well-being and for financial welfare) divided by the duration of the sequence i.e. the respondent's age. We then analysed the factors that modify this distance using a log linear model with residuals following a negative

binomial law. Table 3 shows the impact of demographic events on the distance between subjective well-being and welfare sequences.

The first effect we obtained was the influence of the form of the sequence. That is a partly mechanical effect, since a sequence of well-being using extreme values, has more chance of being distinct from any financial sequence. However, the result is not only mechanical, for if the sequences were entirely correlated, the distance would be nil whatever the form of the sequence. This leads us to conclude that the sequences of well-being with extreme periods are not accompanied by similar financial sequences, and therefore their chaos is a result of factors other than financial ones, and particularly family ones (such as divorce, widowhood, the death of a child) and a large contact circle, which improve happiness even in poor financial situation.

On the other hand, the reasons that explain why the two sequences are close, are more likely to be economic ones. Money appears to acquire greater importance where incomes are low or the father is self-employed. Thus the financial conditions of people's childhoods have an impact on the perception of the importance of money to well-being, but this link appears to be gradually eroded by the occurrence of family and emotional events. Furthermore financial welfare is more important to women than to men.

This last result seems to contradict the previous results on transitions in part 3 where more women than men belonged to the group experiencing improvement in perceived happiness levels along with a decline in welfare. This reveals the limitations of this approach by distance, which can be small whereas the two sequences have different developments. We then analysed the profiles of the sequences in turn.

4.1 Characterising the profiles using eight features

In order to summarize the information included in a sequence with a limited number of modalities we selected the eight features below:

- **the number of different periods**
- **the score of the first period**

- the main score (in duration)
- the range
- the number of trend changes
- having experienced a very difficult period
- having enjoyed a very good period
- **entropy** showing the irregularity in period duration. This is valued between 0 and 1 and is equal to 1 if all the periods in the sequence have the same duration. This has the advantage of seizing one very short period in a sequence, which diminishes entropy.

Let n be the number of periods of a sequence. Let p_i, $i \in [\![1..n]\!]$ the distribution of the proportions of the length in years of the different periods. By definition,

For $n \geq 2$, the entropy is equal to $E = -\dfrac{\sum_{i=1}^{n} p_i \ln(p_i)}{\ln(n)}$.

For $n = 1$, the entropy is equal 1.

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4.2 A typology of well-being profiles

We performed an MCA based on these variables. The first 6 axes capture 50% of inertia of the data cloud. We then performed an ascendant hierarchical classification based on the 15 first axes of the MCA, and the dendogram shows that we may distinguish 10 different classes, as follows:

- **Always very happy**   **4% of the sample**

This class groups people with a single very happy period throughout their lives.

- **Happy**   **8%**

People with few different periods, mostly good and very good.

- **Steady**   **10%**

People with a single period, either "good years" (64% of occurrences), "problem free years" (30%), or "difficult years" (6%).

- **No experience of extreme happiness   17%**

People with relatively few periods and no sharp variations, mainly good or difficult (33% of individuals whose main score was "difficult" are in this category).

- **Problem-free and middling   12%**

People with mildly varying periods, around the "problem free years" range for 63% of this category, with "problem free years" being the dominant sequence, while 78% had a "problem free" childhood.

- **Two peak-variations = 3 ("camels")   5%**

Three changing trends, with a range mostly equal to 3, namely individuals who may have experienced very good periods or very bad ones.

- **Generally happy, with a few ups and downs   22%**

This class also comprised people who experienced varying periods, with a range equal to 3, but with fewer variations and happier than the "two peak" variations, range 3" (everyone experienced a very happy period, and for 80% the good or very good period was the longer one).

- **All extremes experienced, but mainly positive   11%**

People that experienced both very good and very difficult periods, but the dominant (i.e. the longest) one was good.

- **Alternating happiness and unhappiness   5%**

This group was composed of 95% of the individuals with a very unsteady sequence, with four changing trends. Half of these individuals had experienced a "very difficult" period and 80% had experienced a very happy period.

- **Unhappy   6%**

This grouped together 95% of the individuals who experienced a very difficult childhood, and 90% of the sequences where the main rating was "very difficult".

4.3 Typology of financial welfare

The same method was used for the financial welfare sequences and produced the 10 classes listed below:

- **Always well-off**   **5%**

The people who had a single well-off period throughout their lives.

- **Mostly well-off**   **12%**

Decreasing sequence or a single changing trend, with 85% having had a well-off childhood, and 75% whose main score was well-off, with everyone having had at least one well-off period.

- **Steady**   **12%**

One single period, mostly with "no particular problems" (50%), or "had to be careful" (40%), but rarely "it was difficult" (10%).

- **Occasional problems**   **16%**

People with mildly varying periods. Their longest (main) period score was "no particular problems". Almost everyone had a childhood with "no particular problems".

- **No particular problems**   **5%**

Increasing sequences or small variations, where most people "had to be careful" in their childhood, two-thirds had a main sequence with this score, and one-third had a main sequence with a better score.

- **Financial problems in childhood**   **14%**

Increasing sequence or mildly varying sequence, "it was difficult" in their childhood. No extreme score.

- **Financial problems in childhood, but better now   12%**

Individuals with a very comfortable financial welfare sequence, which further increased for half of them, and a financially difficult childhood for four out of five individuals, but where the dominant score for two individuals out of five was "comfortable"!

- **Ups and downs, but few real difficulties   4%**

People whose sequence showed at least four different trends but did not include any very difficult period. The main period was scored 1 to 3.

- **Had to borrow   6%**

This class contains all the individuals that "had to borrow" in their childhood or had experienced this situation for their longest period. Everyone in this class had at least one such period, however, for two thirds their longer period had a score of 1 to 3. Therefore, their financial problems lasted for a limited duration.

- **No response   14%**

5. Sequence comparisons: some determinants of perceived wellbeing

5.1 Comparing the two sequences

The aim of these classifications was to compare the two profiles and assess the link between them. A Chi2 test showed that financial profiles and well-being profiles are linked, the null hypothesis of independence is rejected with a p-value lower than 5%:

- 19% of "always happy" had an "always well-off" profile, whereas, as a reference, only 5% of people in the whole sample were "always well-off" (ref: 5%);

- 43% of the "unhappy" had profiles with "financial difficulties in childhood" or "had to borrow" (ref: 20%);

- 32% with a "steady" well-being profile had a "steady" financial profile (ref: 12%).

We then performed a non-ordered multinomial categorical logistic regression of the variable "wellbeing profiles", the good life versus belonging to the "unhappy" class. Besides the welfare classes, we added all the variables that are over- or under-represented in the wellbeing classes, i.e. gender, age, matrimonial status at the time of survey, number of children, having experienced the death of a child, number of siblings, size of the contact circle (or number of persons to which the respondent feels close), number times they moved house, having lost a parent before the age of 20, professional status and monthly household income at the time of the survey.

The dependent variables are the odds ratio of belonging to one class relative to another. For example: "having a low income increases the odds of having an unhappy life".
This result concerns the influence of the income level on the odds ratio

$\dfrac{P[i \in CL_k]}{P[i \in CL_{10}]}$: for each class $k \in [1:9]$, this ratio is significantly higher (around the 5%

level) for individuals with a monthly income above Fr 15,000 (about €2,300) than for those with middle incomes ranging from Fr 5,000 to Fr 15,000. In terms of symmetry, this ratio is significantly[2] lower for individuals with monthly income below Fr 5,000 than for those with average incomes. We therefore deduct that poverty (evaluated through income levels at the time of the survey) had a significant impact on a person belonging to the "unhappy" class.

5.2 The significant coefficients in category-based regression
5.2.1 Welfare profiles influence wellbeing profiles…
- *The "always well-off" are significantly more likely to have good life profiles* (relative to the "unhappy" class) than those who "had to borrow";

- *The influence of a financially difficult childhood on the risk of having an unhappy life is greater than having to borrow*: this important result indicates a limit to the power of adaptation.

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[2] At 1% for classes 2, 3 and 7, 5% for classes 4 and 5, 12% for classes 1, 8 and 9. Class 6 is not affected, because it does not include any low incomes.

- A calm and generally positive financial sequence appears to protect against an unhappy life

But this is not the only explanation, since biographical events play an important role.

5.2.2 Family history plays an important role

- Being married increases the likelihood of a happy life

Married individuals have significantly more chance than separated or divorced people, of belonging to classes 2 (happy) or 3 (constant), compared with class 10 (unhappy). Furthermore, single people have a significantly greater likelihood than married ones of having a constant life (class 3) rather than one of upheavals (classes 6 and 8).

- Losing at least one parent before the age of 20 increases the risk of an unhappy life,
 - But: there is no long-term effect of losing a child...

The categorical regression shows that experiencing the death of a child is not a significant variable for belonging to a particular class. The risk ratio of having an unhappy life relative to any other profile, does not depend on having lived this tragic life event.

- Having a large contact circle increases the chances of having a relatively steady life, but having no partner does not increase the risk of an unhappy life

The odds ratio of an "unhappy life" relative to any other profile does not depend on the number of "significant others". On the contrary, the odds ratio of a steady life relative to any other life profile is lower for persons without a partner than for those who report having had numerous ones (more than seven)[3].

- Those who infrequently moved homes are more likely to have had a stable life

Individuals who moved house less than 6 times during their lives, have a lower odds ratio of belonging to class 6 to 9 than those who moved more than 11 times, (in relation to class 3). Thus the fact of having moved homes many times appears to "push" individuals into more eventful life profiles, rather than the more placid ones.

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[3] Significant at the 5% threshold for classes 4, 7, 8 and 9.

• **Few results on siblings or kinship:**

- *An only child has a greater chance of having a problem-free life and families with four children are more likely to be "unhappy"*

The only significant result on siblings at the 5% threshold level is that only children had a greater chance of having problem-free lives (class 5) than of having unhappy ones (class 10). Individuals with two children also had a greater chance of belonging to class 7 of happy people who only experienced minor difficulties (compared with class 10 of unhappy people) than those who had at least four children. Finally, individuals with an only child have a systematically weaker probability ratio compared with class 3 ("steady") individuals, than families of at least four children[4]. Lastly, the fact of having lost at least one parent before the age of 29 increased the risk of having an unhappy life.

•*And the socio-occupational category has no impact!*

No single socio-occupational category is happier than any other. Indeed, the socio-professional category at the time of the survey had no impact on the probability of belonging to any particular class of well-being. Nor do we observe any significant difference between the life histories recounted by pensioners or non-pensioners. The only class impacted by the socio-occupational category was that of happy people who had suffered minor difficulties (class 7), namely managers and people in intermediate occupations who were more likely to belong to this class (compared with the unhappy class) than others.

•**…After controlling for income effect**

Poverty (viewed from the income levels at the time of the survey) has a significant effect on a person belonging to the "unhappy" class.

Conclusion

In answer to the question, "is subjective happiness linked to subjective welfare?" we can answer yes, but the strength of this link is complex and very variable according to the individuals and the situations they have lived through.

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[4] Significant at 5% level for classes 4, 5, 7, 8 and 10.

The first obvious conclusion is the clear correlation between the two perceptions of well-being and financial welfare. But we also confirm Easterlin's paradox: whereas financial welfare increases with age, the perception of wellbeing is far more stable. The introduction of other variables could explain the variations in perceptions and by taking into account the succession of perceptions we were able to study this link in greater detail.

All renewal events, such as making a new start in life, enhance happiness. These include a new job, forming a new couple, remarrying, and even separating (but not divorcing). A new couple or a new job enhances happiness even in cases where they reduce the perceived financial welfare. Conversely, the death of a spouse or the death of a child are affective tragedies that go hand-in-hand with an increase perceived financial welfare.

The arrival of a child or entry into the workforce are also key events that lead to changes in available income. Entry into the workforce is particularly interesting because of the peak in period breaks at around the age of twenty. Here we face the problem that this event occurs concomitantly with others (for instance, meeting a future spouse) and it is impossible to isolate these effects from one another. Nevertheless, these issues deserve to be treated separately.

Studying sequences of perceptions of well-being or financial welfare, enabled us to view the links between them differently. Thus having known a financially difficult childhood appears to be linked with having a less happy life. Having lived through a tragedy such as the loss of a child or of a parent before age of 20, leads individuals to put the importance of money into perspective, since the persons concerned were less likely to make a link between financial welfare and well-being. On the other hand, having lived through a tragedy does not predispose people to a happy or unhappy perception of their lives. That was one of the surprising results of this study and deserves a specific analysis. It would be interesting to find out why two individuals who have suffered the same tragedy can evaluate their lives in diametrically opposite ways.

In general, the study of sequences is very tricky because of the complex nature of what is being scrutinized. The innovative approach that consists of resuming a sequence with a few judiciously

constructed variables, is extremely promising. Indeed, our classifications are quite easily interpreted and provide us with an overall view of a reality that is difficult to understand.

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Table 1 Variations in the retrospective perception of well-being in relation to the retrospective perception of financial welfare

		Variation in the perception of well-being					
		Severe decline	Decline	No change	Improvement	Large Improvement	*total*
Variation in the perception of financial welfare	**Severe decline**	26%	26%	39%	7%	2%	*100%*
	Decline	15%	27%	42%	13%	3%	*100%*
	No change	10%	25%	31%	27%	7%	*100%*
	Improvement	2%	9%	52%	28%	9%	*100%*
	Large Improvement	2%	5%	42%	33%	18%	*100%*
	total	*9%*	*21%*	*39%*	*25%*	*7%*	*100%*

Table 2 The main determinants of the transitions between perceived wellbeing and perceived financial welfare:
Categorical logit modelling of the chance of belonging to a group characterized by similar or different directions of change in perceived wellbeing and perceived financial welfare.

	Decline in perceived well-being	**Improvement** in perceived well-being

	Group 1		**Group 2**	
	Less chance of belonging to the group if	**More** chance of belonging to the group if	**Less** chance of belonging to the group if	**More** chance of belonging to the group if
Decline in perceived financial welfare	Age (0,991) Childless (0,675)	More than 5 children (1,231) Father's death (1,838) End of union (2,004)	In couple (0,668)	women (1,445) New job (1,404) Divorce (2,577) New union (2,272)

	Group 3		**Group 4**	
	Less chance of belonging to the group if	**More** chance of belonging to the group if	**Less** chance of belonging to the group if	**More** chance of belonging to the group if
Improvement in perceived financial welfare	Age (0,981) Marriage (1,595)	Married (1,545) Death of a child (1,567) Death of the spouse (4,672)	End of a union (0,584)	Separated (1,779) Remarried (1,589) New job (1,153) New union (1,501) Moving house (1.161)

Source: enquête biographie et entourage 2002

Note: the figures in parentheses are the odds ratio of logistic regressions done to model the probability of belonging to a group.

Table 3 Log linear model of the distance between individual financial and wellbeing sequences

Financial welfare not closely linked to well-being if	Financial welfare is more closely linked to well-being if
If lots of periods reported	few periods reported
If extreme periods experienced over the life course	
If man	woman
	low income <FF5000 ($1000)a month
If widow, separated or divorced	married or remarried
If death of a child	few children
If a parent lost before age 20	
If a lot of children	
	Self-employed father
If frequent changes of residence *	few or no changes of residence *
If large contact circle *	small contact circle *
If few grand -children *	lots of grand -children *

**p<0.10, otherwise p<0.05