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TEXTO PARA DISCUSSÃO Nº 509

**THE INFLUENCE OF ATTITUDES AND BELIEFS ON THE DETERMINANTS OF
HAPPINESS IN BRAZIL**

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**UNIVERSIDADE FEDERAL DE MINAS GERAIS
FACULDADE DE CIÊNCIAS ECONÔMICAS
CENTRO DE DESENVOLVIMENTO E PLANEJAMENTO REGIONAL**

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HAPPINESS IN BRAZIL**

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Cedeplar/Face/UFMG

**CEDEPLAR/FACE/UFMG
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ABSTRACT

This paper is the second of a series of five papers that discuss the determinants of happiness in Brazil using as database the World Values Survey (WVS), and complements the first discussion presented in the paper “An introduction to the determinants of happiness in Brazil.” First, the paper presents some descriptive statistics with some variables that might influence the levels of happiness and satisfaction, such as family relationships, friends and community, trust in general and confidence in institutions, religiosity, freedom and self-determination, and self-evaluated financial situation. Then it discusses the determinants of happiness and satisfaction with life, with the use of an ordered logistic models for the first variable and OLS models for the second. The main findings of the paper are the following: Individuals tend to be happier and more satisfied if they value family relationships more highly, trust others more, judge that they have a better financial situation, and feel they have more freedom and self-determination. Moreover, people who are more religious tend to be happier. Individuals who think that marriage is an outdated institution tend to be unhappier and less satisfied with life. Individuals who are more interested in politics are happier, but not more satisfied. On the other hand, more left -wing and politically active individuals tend to be less satisfied with life.

Key-words: happiness, satisfaction with life, Brazil, WVS.

RESUMO

Este trabalho faz parte de uma série de cinco artigos que analisa os determinantes da felicidade no Brasil usando World Values Survey (WVS) como base de dados, e complementa a discussão do primeiro artigo da série, que tem como título “An introduction to the determinants of happiness in Brazil”. Primeiramente, o trabalho apresenta estatísticas descritivas sobre diversos fatores que podem influenciar os níveis gerais de felicidade e de satisfação com a vida, como relações familiares, amigos e comunidade, confiança em geral e em instituições, religiosidade, liberdade, controle sobre a própria vida, e avaliação subjetiva da situação financeira. Em seguida, o texto discute os determinantes da felicidade e da satisfação com a vida fazendo uso de modelos logísticos ordenados para essa primeira variável e modelos MQO para a segunda. Os principais resultados encontrados foram os seguintes. Indivíduos que valorizam mais as relações familiares, que confiam mais nos outros, que jugam que tem uma melhor condição financeira, que tem mais liberdade e controle sobre a própria vida são mais felizes/satisfeitos. Além disso, pessoas que são mais religiosas, que não consideram o casamento uma instituição obsoleta também são mais felizes/satisfeitos. Indivíduos com maior interesse em política são mais felizes, mas, por outro lado, pessoas mais a esquerda no espectro político e mais politicamente atuantes são menos satisfeitas com a vida.

Palavras-chave: felicidades, satisfação com a vida, Brasil, WVS. JEL: I310

1. INTRODUCTION

This paper is the second of a series of papers that discuss the determinants of happiness in Brazil using as database the World Values Survey (WVS). This presentation is complemented by the other four papers of the series. The other four papers are entitled: “An introduction to the determinants of happiness in Brazil”, “The influence of attitudes and beliefs on the determinants of happiness in Brazil”, “An overview of the determinants of happiness in Brazil in 2006”, “The determinants of happiness and satisfaction in Brazil through the lenses of the APC approach” and “The most miserable and the most blissful individuals in Brazil.”

Happiness was first studied by philosophers and then by psychologists. More recently, researchers in the fields of sociology and political science also analyzed the theme. The topic began to be explored in economics in the seventies and became a popular one in the nineties. Most papers in the area discuss the determinants of happiness or the implementation of public policies (Frey, 2008).

In my previous paper “An introduction to the determinants of happiness in Brazil”, I discussed the main determinants of happiness and satisfaction with life in Brazil using the World Values Survey (WVS) of the years 1991, 1997 and 2006. The explanatory variables were sex, age, ethnic group, marital status, self-evaluated health level, employment status, household income, schooling attainment and time trend. These or similar variables were analyzed in different studies (Blanchflower and Oswald, 2004; Kahneman et al, 2006; Slutzer and Frey, 2006; Yang, 2008; Frey, 2008; Laynard, 2005), also in analysis about Brazil (Corbi and Menezes-Filho, 2006; Cavalcanti et al, 2009).

The main conclusions of this previous paper were the following: healthier individuals tended to be happier and more satisfied with life than others; married individuals were the happiest among all marital status categories and also the most satisfied; males and females differed very little in well-being; whites and non-whites also differed slightly; although age was not decisive to determine happiness it affected marital status and health levels, variables that influence happiness and satisfaction; unemployed individuals were the most miserable among all the employment statuses; money matters, however, mostly because it buys health that impacts positively on well-being; apparently, higher education buys happiness through higher income, and also due to lower levels of unemployment and/or better health, not because it has an intrinsic value; individuals with only a high school degree were the most miserable.

This second paper of the series that discusses happiness in Brazil complements the discussion presented in the first one with a focus on other explanatory variables. The databases used are the same in both papers. The two main objectives of this presentation are: to further characterize the determinants of happiness and satisfaction with life in Brazil; and to present some other variables of the WVS database that were not used in the first paper of the series.

The WVS is a group of representative national surveys carried on in nearly 100 societies since 1981. Besides the demographic variables and self-evaluations concerning health, happiness and satisfaction with life, the database contains information associated to values, opinions, attitudes and

beliefs, which will be used in this paper. See <http://www.worldvaluessurvey.org/> for further details about the database. Specifically for Brazil, there are three survey waves, in the years of 1991, 1997 and 2006, respectively with 1782, 1149 and 1500 observations.

The focuses of this paper are the same two variables used previously in the first study of the series. The first variable is “In general, you consider yourself a person that is: a) very happy; b) quite happy; c) not very happy; or d) not at all happy”. Given that very few people considered themselves “Not at all happy”, I grouped the last two categories. Hence, the happiness variable used here has three categories: 1 – Not Happy; 2 – Quite Happy; and 3 – Very Happy.

The other variable of main interest is the following “In general, are you satisfied or unsatisfied with your life?”. The answered ranged from 1, totally unsatisfied, to 10, totally satisfied. Few individuals answered 1 to 4, hence I grouped the first five categories, and obtained a six category variable ranging from 1 – unsatisfied to 6--totally satisfied.

Table 1 shows the distribution of these two variables. Most people, 2504 among 4400, considered themselves quite happy, while 1130 classified themselves as very happy and another 766 were not happy. 1021 individuals were not satisfied with their life, while 1204 were totally satisfied. Considering the two variables conjointly, 397 individuals were the most miserable, as they were not happy and not satisfied with their lives. On the other hand, 513 persons were the most blissful, as they were very happy and very satisfied with life.

TABLE 1
Number of observations for the happiness and satisfaction variables

		Happiness			Total
		Not happy	Quite Happy	Very happy	
Satisfaction	Not satisfied	397	522	102	1021
	2	87	223	50	360
	3	71	371	88	530
	4	77	534	218	829
	5	42	255	159	456
	Totally satisfied	92	599	513	1204
Total		766	2504	1130	4400

Source: WVS, 1991, 1997 and 2006

I have already presented some of the main determinants of happiness and satisfaction in the previous paper. In the following sections, I present descriptive statistics concerning other variables that also might be considered as determinants of happiness and satisfaction. The objective is to give a finer overview of the Brazilian reality regarding this topic, complementing the discussion presented in the first paper.

Blanchflower and Oswald (2004) presented explanatory variables similar to the ones discussed in the previous paper and also included some others, such as whether the parents of the person were divorced and household size, both with negative effects on happiness. Kahneman et al (2006) includes among their variables the body mass index; a high body mass index also had a negative effect.

There are many other aspects that might impact happiness. Frey (2008) discusses the association of democracy with individual happiness. Even after controlling for several socioeconomic variables, more democratic countries tended to have happier inhabitants, and the observed effect was quite sizable. For instance, a one-mark increase in a ten-mark scale for democracy had a similar effect to an increase of 4,500 US dollars in individual income. Government quality also might affect happiness. Features such as honesty, lack of corruption, rule of law, efficiency and trust in political institutions affect overall happiness levels (Laynard, 2005).

This same author presents the association of inflation with happiness. Happiness is systemically lowered by inflation, although the effect is not large. A one per cent increase in inflation decreased happiness in 0.01 units when this variable was measured with four categories. As already discussed, unemployed individuals are the most miserable among all employment statuses. A trade-off between inflation and unemployment indicates that a 1% increase in unemployment is compensated by a 1.7% decrease in inflation.

Income inequality also might affect happiness. In Europe inequality tends to decrease happiness, especially for the poor individuals. In the US the general results indicated no significant correlation between happiness and inequality. These findings might be linked to the main idea that social mobility in the US is more probable than in Europe.

Laynard (2005) concludes that there are seven factors that stand out as the most important determinants of happiness. The first five are the following, in this order: family relationships, financial situation, work, community and friends, and health. He also presented two others, personal freedom and personal values, which are also important to determine happiness.

Following this author, some of these factors have improved in the recent decades, such as health, income and quality of work. However, some might have deteriorated, such as family relationships, the strength and safety of communities and the prevalence of selfish values. For instance, he presents some trends regarding broken families. Divorce increased sharply in the US and Britain between 1960 and 2000. Moreover, out-of wedlock births and families headed by a single parent also increased. These two trends suggest that family relationships deteriorated with negative impacts on happiness. Associated with the community, he emphasizes that crime rates increased sharply after Second World War in these same

two countries, and rates decreased in the last decades. Besides, trust in other people has diminished since the fifties. Also fewer people belong to associations such as the ones that are organized around sports, politics, service to others or common ethnicity. All these tendencies associated with the community might negatively affect overall happiness levels.

Most of these trends occurred in the last 50 years. Laynard (2005) points out three possible explanations: gender roles changed, TV became widespread, and moral and spiritual values altered. First, let's consider gender role changes. In the recent past, women were mostly mothers and housewives. Nowadays fertility is lower, housework is easier and paid work has become more inviting. As these changes occurred, women were empowered and marriages became easier to end. Moreover, couples nowadays have less time to spend together and with the family, and marriages tend to be less satisfactory than before. That is, family relationships have deteriorated. The author concludes that we need a more family-friendly lifestyle with more flexible working schedules and better child care.

Second, the author emphasizes the importance of TV. A great proportion of the population will spend more time in life watching TV than working. It is common to observe a mean value of four hours daily watching TV. As a consequence, during the last 50 years the time spent participating in social life or playing sports decreased. Community life deteriorated. In the beginning, at least TV was a focus of family life; however, nowadays many households have more than one set, which decreases the time spent at home with other members of the family.

This increase in time spent watching TV has many other side effects. Kahneman et al (2006) describes how passive leisure is less enjoyable than active leisure. Kahneman and Krueger (2006) rank many daily activities by net effect on hedonic level. Watching TV is less enjoyable than most activities done as leisure, although it has a greater value than activities associated with work, commuting and housework. Frey (2008) observed that watching TV is negatively correlated with life satisfaction, even after controlling for other variables. The author emphasizes that individuals tend to have systematically imperfect foresight and control over their own behavior, gaining lower levels of satisfaction from TV than expected.

Moreover, watching TV has some consequences in the way individuals behave that might also affect overall happiness levels. TV programs do not resemble actual life, as the focus is on extremes, considered more interesting by the audience. They contain much more violence and illicit sex, promoting these same attitudes in the population. These trends contribute to the decline of family and of community life and the increase in crime rates (Laynard, 2005). This same author also states that TV shows individuals with much higher income and beauty than normally seen in a society. This fact has some effects that decrease happiness level. First, as the most important variable for happiness is not absolute income, but income relative to others, individuals who see too much TV tend to consider their income relatively lower than it is in reality. Moreover, women tend to regard themselves as uglier, while men have a tendency to consider their wives less attractive. Another point that impacts happiness level is TV advertisements. TV watchers tend to value their own goods less and spend more to keep up with the Joneses.

The third point highlighted by Laynard (2005) is that moral and spiritual values changed in recent decades. Nowadays individuals tend to be less religious than before, and this tends to impact happiness negatively. Moreover, left-wing ideas retreated and community action decreased sharply. The goal of self-realization that came to replace the old perspective was not enough to create a happier society. Hence, the decline of religiosity and social solidarity left a moral vacuum.

These topics discussed above are empirically analyzed in the next sections. I selected some variables that were present in the WVS of the years of 1991, 1997 and 2006. Some other variables that exist only in the most recent of these databases will be explored afterwards in another paper.

This paper is further divided in 9 sections. In the next 7 sections I descriptively present associations between attitude and beliefs and happiness/satisfaction. Section two presents the association between family beliefs and happiness/satisfaction. The following six respectively present associations with friends and community, religion, work and leisure, freedom and control over life, politics, and finance and wealth. Section nine presents the econometric models and the last section concludes the paper.

2. ASSOCIATIONS BETWEEN FAMILY BELIEFS AND HAPPINESS /SATISFACTION

Laynard (2005) states that family relationships are among the most important features that impact individual well-being. Frey (2008) presents ten points that we should care about if we want to be happier. To get married is the second most decisive step. The first one is to “make the most of your genes”, which is beyond the scope of this paper.

Besides marital status already analyzed, the WVS contains some questions associated with the family. One of them asks how the individual evaluates whether or not it would be beneficial for him/her to give further emphasis to family life in the future. There were three possible answers: 1- Bad thing; 2 – Don’t mind; and 3 – Good thing. The great majority of the individuals, 97.6%, said it was a good thing to give additional attention to family life, indicating the importance of the family for Brazilians. Given this extremely high number, I do not use this question to discuss the determinants of happiness.

Another question about the theme is the following: “How important is family for your life? 1 – Very important, 2 – Important, 3 – With some importance; 4 - Not important at all.” Very few people selected one of the last two categories. Hence, I grouped the last three and obtained a two category variable: 1 – Not important or important; 2 – Very important.

Table 2 shows the distribution and mean values for happiness and satisfaction for each category of this variable by year. First, notice that a large majority, around 90%, consider the family very important, with a slight tendency of decrease between 1991 and 2006. Besides, individuals who think that family is very important are happier and more satisfied with life in the three years. Differences are

statistically significant. Of course, there is the possibility of reverse causality, as happier individuals might tend to have a better family life and to value it more.

TABLE 2
Number of observations and mean values for happiness and satisfaction
By family importance

		Year		
		1991	1997	2006
Numbers	Not very important	169	84	204
	Very important	1611	1064	1296
Proportion	Very important (%)	90.5	92.7	86.4
Happiness	Not very important	1.78	1.83	2.02
	Very important	1.99	2.07	2.28
Satisfaction	Not very important	6.9	6.4	7.2
	Very important	7.4	7.2	7.7

Source: WVS, 1991, 1997 and 2006

I selected three other questions that are present in the three WVS waves and are also related to the family. The first one is “A child needs a home with father and mother: 1 - Tend to disagree, 2 - Tend to agree”. The second is “Marriage is an outdated institution: 1 – Disagree, 2 – Agree”. The last is “Woman as a single parent: 1- Disapprove, 2 – Depends, 3 – Approve.” These variables are weakly correlated and indicate different aspects of the family.

Table 3 shows the results for these three variables. The majority of Brazilians, over 80%, tend to agree that “a child needs a home with father and mother”. However, there is a slight decreasing tendency with time. Individuals who tended to agree with this proposition were statistically significant happier and more satisfied with life in all three years.

For the question about whether “marriage is an outdated institution”, a minority agrees with this statement with no clear time tendency, although the value for 2006 is much smaller than in other years. Individuals who disagreed were happier and more satisfied with life in all three years.

Finally, for “woman as a single parent”, there is a tendency of sharp increase in the category “depends”, while the other two groups, “disapprove” and “approve”, diminished their numbers, indicating an increase in flexibility of thoughts on the subject. The group that disapproved tended to be slightly happier and more satisfied in the first two years. In 2006 well-being levels were rather similar for the three groups.

TABLE 3
Number of observations and mean values for happiness and satisfaction for
questions associated with the family

	Year		
	1991	1997	2006
A child needs a home with father and mother			
Proportion tend to agree	88.3	87.2	82.0
Happiness			
Tend to disagree	1.92	2.01	2.17
Tend to agree	1.98	2.06	2.26
Satisfaction			
Tend to disagree	7.2	6.5	7.4
Tend to agree	7.4	7.2	7.7
Marriage is an outdated institution			
Proportion agree	27.3	29.5	21.3
Happiness			
Disagree	1.99	2.12	2.27
Agree	1.90	1.89	2.17
Satisfaction			
Disagree	7.5	7.3	7.7
Agree	7.1	6.8	7.4
Woman as a single parent			
Disapprove	50.8	52.0	46.0
Depends	4.7	3.8	14.7
Approve	44.5	44.2	39.3
Happiness			
Disapprove	2.03	2.1	2.25
Depends	2.00	2.00	2.27
Approve	1.92	2.01	2.24
Satisfaction			
Disapprove	7.6	7.5	7.7
Depends	7.3	7.0	7.5
Approve	7.2	6.9	7.7

Source: WVS, 1991, 1997 and 2006

In the previous paper, I observed that married individuals were the happiest. Tables 2 and 3 show that individuals who give more importance to the family, to marriage and to raising children in a dual-parent household tend to be happier than others. These results suggest that the recent increase in uniparental households in Brazil might have negative impacts on happiness and satisfaction.

3. ASSOCIATIONS BETWEEN HAPPINESS/ SATISFACTION AND COMMUNITY AND FRIENDS

This section discusses associations between variables related to community and friends and happiness/satisfaction. In the ten points discussed in Frey (2008) that individuals should care about in order to be happier, “make friends and value them” is the third most decisive, after getting married and making the most of one’s genes. Laynard (2005) states that features associated with friends and the community are among the most important in determining happiness levels. More specifically concerning this topic, this author discusses the following statement: “In general, people can be trusted”.

I selected some variables related to these topics that were present in the WVS for Brazil. The first one is “How important are friends in your life: 1 – Very important, 2 – Important, 3 – With some importance; 4 - Not important at all.” Similarly to the family variable, very few people selected the last category. Hence, I grouped the last two and obtained a three category variable: 1 – Not important, 2 - Important; 3 – Very important.

Table 4 shows the results for this question. First, notice that the importance given to friends decreased in 2006, as fewer individuals classified friends as very important. This might be a recent trend, but more WVS waves are needed in order to reach any conclusion. Moreover, individuals who regarded friends as very important tended to be happier and more satisfied than others, and the contrary is observed for those who thought friends were not important. Differences in 1997 were not statistically significant, but for the other years they were.

TABLE 4
Number of observations and mean values for happiness and satisfaction by
friends’ importance

	Year		
	1991	1997	2006
Very important	57.2	57.6	37.2
Important	33.5	30.4	50.6
Not important	9.2	11.9	12.2
Happiness			
Very important	2.01	2.08	2.32
Important	1.96	2.04	2.22
Not important	1.76	1.94	2.12

Satisfaction			
Very important	7.56	7.26	7.86
Important	7.29	6.99	7.57
Not important	6.65	7.05	7.36

Source: WVS, 1991, 1997 and 2006

The WVS has a similar question to the one presented above by Laynard (2005): “Can most people be trusted? 1 – Yes, 2 – No”. Table 5 shows the distribution for this variable and the mean value for happiness and satisfaction for each of these answers. Very few people stated that most people could be trusted in Brazil. This country has one of the lowest numbers among all countries for this question, what might impact overall well-being. The small group in the population which trusted others was happier and more satisfied than the great majority.

TABLE 5
Number of observations and mean values for happiness and satisfaction by trust

	Year		
	1991	1997	2006
Most people can be trusted	6.7	2.8	9.4
Happiness			
Most people can be trusted	2.07	2.25	2.29
Can't be too careful	1.96	2.04	2.24
Satisfaction			
Most people can be trusted	7.89	8.00	7.80
Can't be too careful	7.34	7.12	7.64

Source: WVS, 1991, 1997 and 2006

Moreover, there are many questions that ask the individual about his/her degree of confidence in certain institutions, such as: churches, armed forces, major companies, press, civil services, justice system, labor unions, television, police and parliament. The answers were classified as: 0 – no confidence at all, 1 – not very much, 2 – quite a lot and 3 – a great deal.

Table 6 shows the results for each of these institutions. In order to make comparisons easier, I created an index of confidence giving respectively the values 0, 1/3, 2/3 and 1 for these four categories. Two institutions showed a higher level of confidence: churches and the armed forces. The parliament was the least reliable, and the police and TV came in between.

TABLE 6
Distribution of individual confidence in different institutions

Institution	A great deal	Quite a lot	Not very much	None at all	Index
Churches	35.4	40.2	14.4	10.1	0.67
Armed Forces	29.4	39.5	19.2	11.9	0.62
Major Companies	15.8	44.5	25.3	14.4	0.54
The Press	13.2	39.4	28.4	19.0	0.49
The Civil Services	11.8	40.9	28.9	18.4	0.49
Justice System	16.2	32.7	27.5	23.7	0.47
Labor Unions	11.6	37.3	28.0	23.0	0.46
Television	8.6	35.7	28.9	26.8	0.42
The Police	10.1	32.0	28.1	29.7	0.41
Parliament	4.6	22.3	27.8	45.3	0.29

Source: WVS, 1991, 1997 and 2006

It is expected that individuals who have confidence in some institutions might also have confidence in others. That is, the results of these variables may show a strong positive correlation. There was positive and significant correlation between all ten variables, indicating that individuals tend to rely on, or to mistrust, institutions altogether. Besides, some pairs showed a stronger correlation: police and justice system (0.522), TV and press (0.476), and civil service and major companies (0.455). A principal components analysis indicated that this second pair could be grouped. Given that the number of variables would only decrease from ten to nine, I left then in the original form.

Table 7 presents the bivariate correlations between happiness and the confidence level on each institution, and the same for satisfaction. Individuals who had greater confidence in institutions were in general happier and more satisfied, as shown by the positive and significant correlations for most of them. For happiness, for four institutions the correlations were not significant: major companies, the press, labor unions and television. These same four had the weakest correlation with satisfaction, although they were significant. Individuals that had greater confidence in churches, armed forces, civil system, justice system, police and Parliament were happier and more satisfied with their life.

TABLE 7
Correlation between happiness and satisfaction and level of confidence in different institutions

Institution	Happiness	Satisfaction
Churches	0.06*	0.14*
Armed Forces	0.07*	0.11*
Major Companies	0.03	0.07*
The Press	-0.01	0.04*
The Civil Services	0.04*	0.08*
Justice System	0.07*	0.14*
Labor Unions	-0.01	0.05*
Television	0.01	0.04*
The Police	0.07*	0.10*
Parliament	0.04*	0.09*

Source: WVS, 1991, 1997 and 2006

The results in this section indicate the importance of friends and community as determinants of happiness and satisfaction. Levels of trust and confidence are very low in Brazil, particularly for the justice system, the police and Parliament. An improvement in these institutions might increase individual trust in others and this might decisively impact the Brazilian level of well-being.

4. ASSOCIATIONS BETWEEN HAPPINESS/SATISFACTION AND RELIGION

Differences in religiosity might also impact happiness for different reasons. Laynard (2005) emphasizes that individuals who give more importance to God tend to be happier. Frey (2008) stated that religious people tend to be happier than non-religious.

In the WVS database there are some variables related to religion and religiosity, besides the one presented above concerning church confidence. One of the variables is similar to the one already discussed for the importance of family and friends: “How important is religion for your life?: 1 – Very important, 2 – Important, 3 – Somewhat important; 4 - Not important at all.” Very few people selected one of the two last categories. Hence, I grouped the last three and obtained a two-category variable: 1 – Not important or important; 2 – Very important.

Table 8 shows the results for the distribution of individuals, and happiness and satisfaction mean values by importance given to religion. There is no clear trend concerning distribution. A small majority thought that religion was very important in all three years. However, it is easily noticed that individuals who consider religion very important were happier and more satisfied than others. All differences were statistically significant at 5% except one, the one for satisfaction in 2006, which was significant only at 10%.

TABLE 8
Distribution and mean value for happiness and satisfaction by importance given to religion

Year	Proportion of very important(%)	Happiness		Satisfaction	
		Not very important	Very important	Not very important	Very important
1991	57.0	1.89	2.03	7.10	7.62
1997	64.6	1.94	2.11	6.95	7.27
2006	50.6	2.17	2.32	7.55	7.75

Source: WVS, 1991, 1997 and 2006

There are other questions in the WVS that are related to religiosity. First, a question asks how often the individual attends religious services. There are eight categories ranging from never to more than once a week: 1 – Never/practically never; 2 - Less often than once a year; 3 - Once a year; 4 – On other specific holy days; 5 - Only on special holy days/Christmas/Easter days; 6 - Once a month; 7 - Once a week; and 8 - More than once a week. The categories numbered 1, 3, 4 and 5 were not very numerous. Hence, I grouped the five first categories and obtained a four category variable: 1 – Less than once a month; 2 - Once a month; 3 - Once a week; and 4 - More than once a week.

A second question asks how the individual classifies himself: 1 - A convinced atheist; 2 - Not a religious person; or 3 - A religious person. This first category was not numerous and I grouped the first two and obtained a two category variable: 1 - Not a religious person; 2 - A religious person.

A third question asks how important God is in the individual's life. Answers ranged from Not at all to Very important in ten categories. Most people answered Very important, hence I grouped the first nine categories and obtained a two category variable: 1 – Not very important; 2 - Very important.

Table 9 shows the results for these three variables. First, I discuss their distribution, which will give an overall perspective on religiosity in Brazil. The variable associated with frequency indicates that there was an increase in attendance in Brazil after 2000. In part this might have occurred because of the increase in Pentecostal and Neo-Pentecostal churches, which are spatially more accessible (Coutinho and Golgher, 2013), facilitating attendance at services. The other two variables indicated that most Brazilians in the three years, more than 80%, considered themselves religious or thought that God was very important. As an overall perspective, these three questions show that religiosity is widespread in Brazil.

Concerning happiness, individuals who attended religious services more often were happier. Differences between the group that attended more than once week and the others were mostly statistically significant. Differences for the other categories were small and mostly non-significant. That is, attendance matters for happiness for those who attend more than once a week. Persons who considered themselves religious tended to be happier and more satisfied with life than those who were not religious. The same was true of individuals who thought that God was very important.

TABLE 9
Mean value for happiness and satisfaction by importance given
points associated to religion

	1991	1997	2006
Attends religious services			
	Distribution		
Less than once a month	49.7	25.2	34.9
Once a month	17.1	38.6	17.2
Once a week	20.3	23.6	26.0
More than once a week	12.9	12.7	21.9
	Happiness		
Less than once a month	1.90	2.00	2.19
Once a month	1.95	1.98	2.27
Once a week	1.98	2.09	2.25
More than once a week	2.23	2.26	2.29
	Satisfaction		
Less than once a month	7.15	6.80	7.44
Once a month	7.41	7.10	7.74
Once a week	7.53	7.39	7.70
More than once a week	8.06	7.50	7.85
Individuals classify themselves			
Proportion of religious	87.6	85.4	88.0
	Happiness		
Not religious	1.89	1.89	2.22
Religious	1.98	2.08	2.25
	Satisfaction		
Not religious	7.19	6.32	7.27
Religious	7.42	7.29	7.71
Importance of God			
Proportion very important	82.5	87.1	87.0
	Happiness		
Not very important	1.93	1.99	2.17
Very important	1.98	2.06	2.26
	Satisfaction		
Not very important	7.01	6.69	7.06
Very important	7.48	7.22	7.74

Source: WVS, 1991, 1997 and 2006

Another question that is also linked to spirituality is the one that asks how often the individual thinks about the meaning and purpose of life with four possible answers: 1 – Never; 2 – Rarely; 3 – Sometimes; 4 – Often. The two first categories were less frequently selected, so I grouped them, and obtained a three category variable: 1 – Never or rarely; 2 – Sometimes; 3 – Often.

For this question, the most numerous type of answer was Often, although many individuals responded Sometimes and Never/Rarely. There was a slight increase in the frequency with which individuals think about the meaning and purpose of life after 1997, as nearly 60% declared they thought often about these topics. Differences in happiness and satisfaction between the categories were small, nearly all non-significant. The previous tables showed that happiness and satisfaction were positively correlated with religiosity, but this did not occur in the case of thinking about the purpose of life.

TABLE 10
Mean value for happiness and satisfaction by importance given
points associated to religion

Meaning and purpose of life			
	1991	1997	2006
	Distribution		
Never/Rarely	28.0	29.7	13.0
Sometimes	28.5	33.2	27.3
Often	43.5	37.1	59.7
	Happiness		
Never/Rarely	1.97	2.06	2.23
Sometimes	1.95	2.02	2.17
Often	1.97	2.06	2.29
	Satisfaction		
Never/Rarely	7.48	7.43	7.62
Sometimes	7.33	7.08	7.60
Often	7.36	6.94	7.69

Source: WVS, 1991, 1997 and 2006

In concluding this section, more religious people, those who attend religious services more often, consider themselves religious and/or think God is very important, tend to be happier and more satisfied than others. However, thinking about the meaning of life is not correlated with happiness, and possibly not with religiosity.

5. ASSOCIATIONS BETWEEN HAPPINESS AND SATISFACTION, AND WORK AND LEISURE

Individuals spend their time differently and this may impact on happiness levels (Kahneman et al, 2006). For example, Kahneman and Kruger (2006) present the subjectively hedonic evaluation of many types of activities. Among the most enjoyable were intimate relations, socializing after work and relaxing. On the other hand, among the least pleasant were commuting to work, working and commuting from work. Therefore, how individuals divide their time between enjoyable and unpleasant activities impacts their overall evaluation of happiness and satisfaction.

In a similar vein, Kahneman et al (2006) emphasize that how individuals allocate their time partially explains why income matters as a determinant of happiness only for low-income individuals. Although richer individuals spend more time on active leisure and eating, the most pleasurable activities, they also spend more time on working and commuting, the least enjoyed ones.

These two studies indicate that the way in which individuals spend their time is associated with their level of happiness and satisfaction with life. Laynard (2005) shows that time spent working in Europe decreased in the last decades and remained stable in the US. Nowadays Americans work much more than Europeans. These trends might be associated with the increase in happiness observed in Europe and the stable figures in the US.

This section discusses some questions that are related to how individuals spend their time, in particular with leisure and work. The first two are similar to the ones already presented above: “How important is leisure time for your life? 1 – Very important, 2 – Important, 3 – With some importance; 4 - Not important at all.” The second one is this same question for work. Very few people chose an answer from the last two categories for either question. Hence, I grouped the last three in each and obtained a two category variable for leisure and another one for work: 1 – Not important or important; 2 – Very important.

A third question is related to putting less importance in the work domain in the future. There are three possible answers: 1 - Good thing; 2 – Don’t mind; 3 – Bad thing.

Table 11 shows the results for these three questions. Notice that the proportion of individuals who considered leisure time very important decreased considerably, from around 52% in 1991 and 1997 to 27% in 2006. Happiness levels between the two categories were similar with only one statistically significant difference in 2006, with higher values for those who regarded leisure time as very important. These two variations for 2006 might be linked, as the few who continued to believe that leisure was important were happier than others. However, for satisfaction the values were different only for the 1991 data, indicating that overall differences in well-being between the two groups were small. That is, although individuals tend to enjoy more their leisure time than working or commuting, individuals who think that leisure is very important were only slightly happier than others. Notice that reverse causality may also occur. Individuals who work or commute too much may give greater importance to leisure due to the scarcity of time.

This same type of analysis is done for the importance given to work. In 2006 fewer individuals thought work was very important. That is, in the same year fewer people considered either leisure or work very important, in an apparent paradox. A tentative explanation is that, as labor market and social

conditions improved after 2000, individuals reached an upper level of working and leisure satisfaction, giving less importance to both. Further analysis will be presented in the following paper of the series. Individuals who gave greater importance to work tended to be happier than others, with statistically significant differences in all three years. Differences for satisfaction were not statistically significant.

Finally, the number of individuals who considered it a good thing to put less emphasis on work increased between 1991 and 2006, and the contrary was observed with the statement that putting less emphasis in work was a bad thing. That is, individuals tended to believe they should put less emphasis on work in greater proportion at the end of the period. Happiness and satisfaction levels did not differ significantly between these categories.

TABLE 11
Mean value for happiness and satisfaction by importance given points associated to leisure time and work

	1991	1997	2006
Leisure time			
Very important (%)	51.5	54.4	27.2
	Happiness		
Not very important	1.95	2.05	2.23
Very important	1.98	2.05	2.30
	Satisfaction		
Not very important	7.27	7.16	7.63
Very important	7.50	7.15	7.69
Work			
Very important (%)	82.2	84.0	65.4
	Happiness		
Not very important	1.88	2.01	2.19
Very important	1.99	2.06	2.28
	Satisfaction		
Not very important	7.19	7.37	7.70
Very important	7.43	7.11	7.63
Future changes: Work less important			
Good thing	18.8	21.6	27.5
Don't mind	7.0	7.2	16.5
Bad thing	74.2	71.2	56.0
	Happiness		
Good thing	1.99	2.04	2.22
Don't mind	1.94	2.05	2.24
Bad thing	1.96	2.05	2.26
	Satisfaction		
Good thing	7.39	7.24	7.60
Don't mind	7.14	6.87	7.38

Bad thing	7.41	7.15	7.76
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Source: WVS, 1991, 1997 and 2006

The results presented in the previous table were not very conclusive. Possibly circular causalities are mixing the results. For instance, unemployed individuals might give more importance to work, given that they don't have any, but well employed individuals may also regard working as very important. Further analysis will be carried on with the econometric models in section 7.

6. ASSOCIATIONS BETWEEN HAPPINESS/SATISFACTION, AND FREEDOM/CONTROL OVER LIFE

Laynard (2005) describes the seven major factors affecting happiness. Among them he cites personal freedom in three spheres: personal, political and economic. For instance, individuals in communist countries tend to be much unhappier than in more democratic ones, as individuals in the former may feel they have less personal freedom and self-determination.

Concerning these topics, in the WVS there is the following question: "How much freedom of choice and control do you have over your life?" Answers ranged from "1 - Not at all" to "10 - A great deal". The first four categories were not numerous and I grouped them and obtained a seven categories variable from "1-A little" to "7 – A great deal".

Table 12 presents the correlation between this variable for freedom and self-control, and happiness and satisfaction. All correlations were significantly positive in all years, with stronger correlations with satisfaction.

TABLE 12
Correlations between happiness/satisfaction and
freedom/self-control in life

Variable	1991	1997	2006	Total
Happiness	0.170	0.156	0.162	0.175
Satisfaction	0.341	0.268	0.244	0.293

Source: WVS, 1991, 1997 and 2006

7. ASSOCIATIONS BETWEEN HAPPINESS/SATISFACTION AND POLITICS

Individuals in countries with good quality government tend to be much happier than in other countries, in part because they have more freedom, as discussed above, but also due to other aspects. Different features of governance, such as stability and lack of violence, the rule of law, and voice and

accountability may impact happiness. Moreover, just to be able to vote or to participate in political actions also affects happiness levels, as in Switzerland (Laynard, 2005).

In the WVS there are some questions related to politics. I selected six of them. The first two are associated with interest in politics. The first one is the following: “How important is politics for your life: 1 – Very important, 2 – Important, 3 – With some importance; 4 - Not important at all.” The other is: And “How interested are you in politics: 1 – Very interested; 2 – Somewhat interested; 3 – Not very interested; 4 – Not at all interested.” The next three are related to political action. The choices are: “signing a petition; joining in boycotts; and attending lawful/peaceful demonstrations.” All of them with three possible answers: “1 – Have done; 2 – Might do; 3 – Would never do.” The last one is related to self-positioning in political scale ranging from “Left” to “Right” in ten categories.

The first two were highly correlated and the next three were also strongly correlated. Thus, in order to diminish the number of questions instead of selecting one in each group, I performed a principal component analysis (PCA) with the six questions presented above. The results suggested that the first two questions should be grouped, and the same for the triple. Hence, I obtained three variables: one for interest/importance of politics with the mean values of the first two variables; one for action, also with the mean value of the triple; and another for political self-positioning, which was not strongly correlated with the others and remained in the original format. Therefore, the first variable ranges from 0 to 6, from “0 - Not at all interested/important” to “6- Very interested/important”. The second also ranges from 0 to 6 from “0 - Would not do any activity” to “6 - Would do all”. The third ranges from 0 for the farthest right political positioning to 9 for the farthest left.

Table 12 shows the correlations between these three variables and happiness and satisfaction by year. It must be emphasized that correlations are not a sure indicator of causality. Hence the points presented here are suggestive.

First notice, as expected, that the correlations between satisfaction and happiness were all positive and significant and had great magnitude. Second, note that interest in politics was not correlated to happiness or satisfaction, as the six correlations were non-significant. Also interest was not correlated to positioning-- that is, individuals with different political positioning between left and right were equally interested in politics. However, interest was positively correlated with action, as demonstrated by the three positive and significant correlations. More interested individuals tend to be more active. The correlations between leftward positioning and action were all positive, indicating the individuals from the left were more active (or maybe, individuals that are more active became more left-wing). The correlations between action and happiness were negative, of small magnitude or non-significant. More active individuals might become happier because they are acting, but, on the other hand, happier individuals might be less active. Notice that the correlations between satisfaction and action were all negative and significant, suggesting that unhappier individuals are more active or, possibly less probable, that action makes individuals unhappier. Finally, individuals who are more left-wing tend to be less satisfied. The question is: are they left-wing because they are less satisfied or are less satisfied because they are left-wing?

TABLE 12
Correlations between happiness and satisfaction and the variables associated to politics

	Satisfaction	Interest	Action	Positioning
1991				
Happiness	0.416*	0.036	-0.057*	-0.132*
Satisfaction		-0.041	-0.155*	-0.154*
Interest			0.385*	-0.028
Action				0.179*
1997				
Happiness	0.349*	0.015	-0.050	-0.041
Satisfaction		-0.048	-0.132*	-0.107*
Interest			0.323*	-0.046
Action				0.179*
2006				
Happiness	0.342*	0.004	-0.045	-0.010
Satisfaction		0.022	-0.071*	-0.106*
Interest			0.291*	-0.039
Action				0.088*

Source: WVS, 1991, 1997 and 2006

8. ASSOCIATIONS BETWEEN HAPPINESS/SATISFACTION AND FINANCE/WEALTH

In the previous paper, I showed in the econometric models that income was weakly but significantly correlated with well-being. However, income might not indicate precisely how individuals judge their financial situation or wealth. For instance, higher income persons might consider that their financial situation is not comfortable due to high expenses and debts, high living standards, etc. On the other hand, low income individuals may judge that their wealth is enough for a good life. This section presents some variables related to the subjective evaluation of financial situation and attitudes towards wealth.

I selected three questions that discuss these points. The first is the following: “How is your satisfaction with the financial situation of the household?” The possible answers in a ten scale range from “1 – Totally dissatisfied” to “10 – Totally satisfied”. The second one asks if hard work brings success. The answers range from “1 – No” to “10 – Yes”. Finally, the third question for wealth accumulation ranges from “1 - Individuals can get richer only at the expense of others” to “10 - Wealth can grow so as to be enough for everyone”.

Table 13 shows the correlations between these three variables and happiness/satisfaction in the three years. First, notice that the correlations between financial situation and happiness and satisfaction with life were all positive, significant and of high magnitude in all three years. In the first paper “An

introduction to the determinants of happiness in Brazil”, the results indicated that money matters for happiness. Maybe this finding can be partly explained through the subjective evaluation of personal financial situations. Second, notice that the correlations between the belief that hard work can bring wealth and the self-assessed financial situation were all positive and significant, although with smaller magnitude. Individuals who present a tendency to consider that is possible to achieve success with hard work have a better subjective financial situation or, conversely, the ones with a better subjective financial situation might consider that hard work can bring wealth. A vicious/virtuous circle might exist. However, the effect of believing in hard work on well-being seems small, but some of the correlation between this variable and happiness/satisfaction were positive and significant. Here there may be circular causality: happier and more satisfied individuals tend to believe that hard work brings success, as probably they are more productive; and/or the reverse: due to the greater feeling of self-determination, represented here by believing that hard work brings success, individuals become happier. Most correlations for wealth accumulation and happiness/satisfaction were non-significant and a few were of small magnitude, indicating that this variable is a weak determinant of well-being. Nevertheless, there is the possibility that the variable of wealth should be included differently in happiness studies conjointly with other variables creating a different perspective on affluence.

TABLE 13
Correlations between happiness, satisfaction and the variables associated with finance and wealth

Variables	Financial satisfaction	Hard work	Wealth accumulation
	1991		
Happiness	0.264*	0.076*	0.038
Satisfaction	0.324*	0.089*	0.005
Financial satisfaction	-	0.096*	-0.023
Hard work	-	-	-0.073*
	1997		
Happiness	0.213*	0.034	0.047
Satisfaction	0.421*	0.054	0.048
Financial satisfaction	-	0.128*	-0.022
Hard work	-	-	0.011
	2006		
Happiness	0.194*	0.057*	0.040
Satisfaction	0.284*	0.034	0.063*
Financial satisfaction	-	0.054*	-0.013
Hard work	-	-	0.048

Source: WVS, 1991, 1997 and 2006

The previous sections presented some descriptive statistics concerning some variables that might affect happiness and satisfaction levels with an uncontrolled analysis. Next section discusses these same variables with econometric models.

9. ECONOMETRIC MODELS

In my previous paper “An introduction to the determinants of happiness in Brazil”, I presented some variables that might influence the levels of happiness and satisfaction. I observed that: healthier individuals tended to be happier; males tended to be slightly happier than females; the age group of 55 years old and above was to some extent happier than younger individuals, but with small differences; married individuals were the happiest; the different ethnic groups showed similar values for happiness and satisfaction. Moreover, for income, I verified that both well-being indicators increased significantly along with income for low-income individuals, but not for higher-income individuals. Education showed some initially unexpected results. Individuals with only a high school degree were the unhappiest/least satisfied, while the happiest/more satisfied were the ones with no education at all or with an incomplete tertiary schooling level. Individuals with a higher degree did not show higher levels of well-being. The unemployed were the unhappiest among all employment status categories.

In this second paper of the series I presented some other variables that may also impact well-being. Here I summarize the main results showed in the previous sections. Family relationships are among the most important features that impact the individual well-being. I verified that individuals who assign more importance to the family, to marriage and to raising children in a two-parent household tend to be happier than others are. I also discussed the importance of friends and community as determinants of happiness and satisfaction. Levels of trust and confidence are very low in Brazil, in particular for the justice system, the police and the parliament. Individuals that trust others and have more confidence in institutions tend to be happier. Moreover, more religious people, those who attend religious services more often, consider themselves religious and/or think God is very important, tend to be happier and more satisfied than others. Individuals tend to be happier if they consider they have more personal freedom and more self-determination. The self-evaluated financial situation was highly positively correlated with happiness and satisfaction with life.

All the results of this second paper were obtained descriptively with an uncontrolled analysis. In order to further discuss the effects of all these variables on happiness and satisfaction, this section discusses all the variables discussed in the previous paper and the ones presented here jointly with the use of econometric models. As already discussed, the happiness variable has three categories: not happy, quite happy and very happy. Hence, given that the data is categorical with a clear ordered structure, I applied ordered logistic models, as in the previous paper. The second dependent variable is the satisfaction one with ten different levels. Also similarly to the first paper, I considered it as a continuous one and used an OLS model.

The explanatory variables are the ones presented in the previous paper. Moreover, I included in the models some of the variables discussed in this second paper in the previous sections. Many of them represent a similar reality and are positively correlated. Therefore, they were not included in the models or were modified as detailed below.

Initially, I obtained five variables related to religion: two dummies for importance of religion and God (1 – very important, 0 – not very important); another dummy for “How do you consider yourself?” (1- religious, 0 – non-religious); a categorical variable for “How often do you attend religious service?” (1 – less than once a month, 2 – once a month; 3 – once a week, 4 – more than once a week); and a dummy for confidence in the church (1 – a great deal/quite a lot, 0 – not very much/not at all). This last variable is discussed with the others related to confidence, as it is closely linked to them. Given that the three first variables were highly correlated, I created a variable for religiosity grouping them. Hence, I included two categorical variables related to religion in the models: a religiosity variable, ranging from 0 –low to 3 – high; and the other one associated to frequency of church attendance.

Some other dummies are related with importance given for different subjects, as family, friends, leisure and work (1 – very important, 0 – not very important). These variables were also highly correlated. The tetrachoric correlations showed a value of over 0.67 between family and friends, and over 0.59 for family and work. The other correlations were between 0.35 and 0.44. The dummy for importance of religion was also strongly correlated with these variables. These findings suggest that individuals who tend to assign importance to one variable also assign importance to others, although they might represent different realms in life. Despite these associations, all these four dummies were included in the models.

Initially I also built 10 dummies for confidence in institutions: church, armed forces, major companies, press, civil services, justice system, labor unions, television, police and parliament (1 – a great deal/quite a lot, 0 – not very much/not at all). All of them were positive and significantly correlated. Based on the results of tetrachoric correlations and PCA, I created three new variables: one for media, grouping the dummies for press and TV; another for conservatism, combining the dummies for armed forces and church; and a third for social order, with the dummies for police and justice. Moreover, I created another variable merging all confidence dummies in a variable that represents confidence in general. In the models, I included these four new variables and the dummies which were not grouped: major companies, civil services, labor unions and parliament.

I also included in the models some other dummies related to values: “child needs a home with father and mother” and “marriage is an outdated institution” (1 – agree, 0 – disagree); “woman as a single parent” (1 – approve/depends, 0 – disapprove) and “most people can be trusted” (1 – Yes, 0 – No). Besides, the models include another categorical variable: “How often do you think about the meaning and purpose of life?” (1- never/rarely, 2 – sometimes, 3 – often). Finally, I included some continuous variables: “How much freedom of choice and control do you have over your life?” (1 – a little, 7 – a great deal); political interest (0- not at all, 6 – a lot); political action (0- not at all, 6 – a lot); political positioning (0 - totally right, 9 - totally left); financial situation (1- totally dissatisfied, 10 - totally satisfied); and “hard work brings success” (1 – no, 10 – yes). These variables were not strongly correlated. Only one pair, political interest and political action, did show a correlation of 0.33.

I present in the following two tables different models for each dependent variable. Table 14 shows the results for happiness, and table 15 for satisfaction. Each model has a different set of explanatory variables in each table. Coefficients with two asterisks were not significant, and with one asterisk were significant only at 10%. All other variables were significant at 5%. First, I will focus on the variables discussed in this paper and then I will include the variables of the previous paper.

The discussion begins with the models in table 14. Model 1 incorporates the main findings of the descriptive analysis of this paper and is the basis for all the other models. This model includes the dummy for family importance. Notice that the coefficient was positive and significant, i.e., family relationships had a positive impact on happiness. Note that models 2 to 10 and model 12 in this same table showed a similar result, indicating that these results are robust. The models from 1 to 10 also contain the dummies for trust, finance, freedom and hard work. The coefficients for all variables in all models were positive and significant, indicating that these variables also affected happiness positively. Hence, individuals tend to be happier if they have better family relationships or value them more highly, trust others, judge they have a better financial situation, and feel they have more personal freedom and self-life control. Moreover, as observed in models 1 to 10, more religious people tend to be happier and this was confirmed by the variable religiosity and frequency of attending religious services. For the first of these variables, all coefficients were positive and most were significant. For frequency, individuals who attended religious service once a week, and especially more than once a week were happier than others.

These variables of model 1 are the core of all other models and give an overall perspective for the determinants of happiness. Notice that the results do not change much if the variables discussed in the previous paper are included in the model, as in model 12, only one variable changed slightly, trust continued to be positive, but turned out to be non-significant. Below I discuss the results for the other variables presented in table 14.

Model 2 includes the dummies for importance of friends, work and leisure. The models 7 to 10 also include these variables with similar results. First, notice that these variables are correlated with the family one. The two first had non-significant coefficients, while the third had negative and significant ones. That is, individuals who value leisure more highly were unhappier. Possibly they value it more because they are unhappier.

Model 3 is the only one with the variable confidence. The coefficient was non-significant, indicating that after controlling for the other variables in the model, individuals with more confidence in institutions were not happier. Notice that the uncontrolled analysis pointed to a positive association.

The next model incorporates the confidence for the different types of institution. Most coefficients were non-significant. For police/justice the coefficients were positive and significant, and for labor unions they were negative and significant. Notice that the results in table 7 show that the uncontrolled correlations for this first variable were positive and for the second non-significant. Even after controlling for the effect of the other variables in the model, having confidence in police/justice, bearing in mind the high levels of criminality and corruption in Brazil, increases happiness. On the other hand, individuals who have confidence in labor unions tend to be unhappier. What are the mechanisms

that bring unhappiness to these persons? I further discuss this point while comparing models 10, 11 and 12.

Model 5 includes the variables for political interest, action and positioning. The coefficients were positive and significant for the first and non-significant for the others. The results for these coefficients in models 8 and 10 were the same. That is, political action and positioning seem not to impact happiness, although interest in politics apparently does.

Model 6 incorporates four value variables: “child needs a home with father and mother”, “marriage is an outdated institution”, “woman as a single parent” and “how often do you think about the meaning and purpose of life”. These same variables were included in models 7 to 10 and in model 12. All the coefficients of the first and the third were non-significant. For this second variable, notice that in most models the coefficients were negative and significant. When the models included the variable for marital status, the variable for marriage was non-significant. This reflects the higher level of happiness of married individuals and/or the ones that believe in marriage. Finally, the coefficients for the last variable were positive and significant for individuals who think often about the meaning of life, as is shown in models 6, 7 and 9. The coefficients of this variable in the models that included political interest, models 8, 10 and 12, were non-significant, suggesting that reduced alienation, whether brought about by thinking often about the meaning of life or by having interest in politics, brings happiness.

The models 7 to 10 include different sets of explanatory variables, all of them already discussed, and they indicate the robustness of the results. Model 11 is similar to the last one presented in the previous paper and is not discussed here. The main purpose of including this model here is to compare its results with model 12.

This last model concludes the discussion for happiness. First notice, comparing models 11 and 12, that some results did not change. Even after controlling for the effects of the variables in model 10, married and healthier individuals were happier, and the unemployed were amongst the least happy. Wealthier individuals were also happier even though model 12 included the variable finance with the subjective judgment of financial situation, i.e., both aspects count for happiness. For education, there is one difference: the coefficient for high school level that was negative in model 11 became non-significant in model 12. Another difference observed while comparing these models is that the coefficient for the dummy ‘white’ became positive and significant. Further research is needed to address these two last points.

The comparison between models 10 and 12 show rather similar results for the other variables: individuals who valued family, trusted others, had a better subjectively evaluated financial situation, had greater freedom and self-determination, and were more religious were happier. Some aspects that apparently had no or a small effect on happiness were confidence in institutions (net of trust in others), formal education (net of income), political interest, action or positioning, tendency to think about the meaning of life, and different values placed on child raising, leisure or friends. Some results differed between the models. After controlling for income, education level and employment status, individuals

who value work were unhappier, and confidence in labor unions and belief in the importance of leisure became non-significant. Finally, the observed difference in the variable marriage has already been emphasized.

TABLE 14
Econometric models for happiness – ordered logistic – part A

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Family	0.66	0.69	0.66	0.67	0.67	0.64
Trust	0.25	0.26	0.25	0.25	0.22*	0.24*
Finance	0.15	0.15	0.15	0.15	0.15	0.15
Freedom	0.14	0.14	0.14	0.14	0.14	0.14
Hard work	0.05	0.05	0.05	0.05	0.06	0.05
Religiosity	0.12	0.13	0.13	0.12	0.08	0.09
Less than once a month	Ref.	Ref.	Ref.	Ref.	Ref.	Ref.
Once a month	0.00**	0.01**	0.01**	0.01**	0.01**	0.00**
Once a week	0.15	0.15	0.15*	0.14*	0.16*	0.12**
More than once a week	0.56	0.55	0.56	0.54	0.63	0.51
Friends	-	-0.04**	-	-	-	-
Work	-	-0.04**	-	-	-	-
Leisure	-	-0.16	-	-	-	-
Confidence	-	-	-0.01**	-	-	-
TV/Press	-	-	-	-0.05**	-	-
Church/Armed forces	-	-	-	0.03**	-	-
Police/Justice	-	-	-	0.08*	-	-
Major companies	-	-	-	-0.02**	-	-
Civil service	-	-	-	-0.04**	-	-
Labor unions	-	-	-	-0.15	-	-
Parliament	-	-	-	0.05**	-	-
Political interest	-	-	-	-	0.04	-
Political action	-	-	-	-	-0.02**	-
Political position	-	-	-	-	-0.01**	-
Child	-	-	-	-	-	-0.03**
Marriage	-	-	-	-	-	-0.31
Woman	-	-	-	-	-	-0.01**
Never/Rarely	-	-	-	-	-	Ref.
Sometimes	-	-	-	-	-	-0.03**
Often	-	-	-	-	-	0.17
Cut-off 1	1.00	0.91	0.98	0.95	0.94	0.84
Cut-off 2	3.89	3.81	3.87	3.85	3.85	3.74

Log likelihood	-3864	-3848	-3864	-3859	-3249	-3692
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Source: WVS, 1991, 1997 and 2006

Note: * p < 0.10, **p < 0.05.

TABLE 14
Econometric models for happiness – ordered logistic – part B

	Model 7	Model 8	Model 9	Model 10	Model 11	Model 12
Family	0.67	0.67	0.67	0.67	-	0.49
Trust	0.25	0.24	0.26	0.24	-	0.17**
Finance	0.15	0.15	0.15	0.15	-	0.11
Freedom	0.14	0.14	0.14	0.14	-	0.11
Hard work	0.05	0.06	0.04	0.06	-	0.04
Religiosity	0.10	0.06**	0.09	0.06**	-	0.10
Less than once a month	Ref.	Ref.	Ref.	Ref.	-	Ref.
Once a month	0.01**	0.02**	0.02**	0.02**	-	-0.05**
Once a week	0.12**	0.11**	0.11**	0.11**	-	0.04**
More than once a week	0.50	0.59	0.48	0.58	-	0.48
Friends	-0.02**	-0.01**	-0.01**	0.00**	-	0.09**
Work	-0.05**	-0.08**	-0.06**	-0.09**	-	-0.14*
Leisure	-0.16	-0.16	-0.15	-0.15	-	-0.09**
TV/Press	-	-	-0.05**	-0.05**	-	-0.05**
Church/Armed forces	-	-	0.01**	-0.01**	-	-0.01**
Police/Justice	-	-	0.09	0.06**	-	0.01**
Major companies	-	-	-0.04**	-0.02**	-	-0.04**
Civil service	-	-	-0.02**	0.09**	-	0.10**
Labor unions	-	-	-0.15	-0.15	-	-0.09**
Parliament	-	-	0.06**	0.06**	-	0.11**
Political interest	-	0.04	-	0.04	-	0.03**
Political action	-	-0.02**	-	-0.02**	-	-0.04**
Political position	-	-0.01**	-	-0.01**	-	-0.01**
Child	-0.02**	0.03**	-0.02**	0.03**	-	0.10**
Marriage	-0.30	-0.26	-0.30	-0.25	-	-0.13**
Woman	-0.01**	0.02**	0.01**	0.02**	-	-0.03**
Never/Rarely	Ref.	Ref.	Ref.	Ref.	-	Ref.
Sometimes	-0.03**	-0.08**	-0.03**	-0.08**	-	-0.14**
Often	0.17	0.09**	0.18	0.09**	-	0.00**
Male	-	-	-	-	0.07**	-0.01**
White	-	-	-	-	0.07**	0.15
Age	-	-	-	-	0.00**	0.00**

Married	-	-	-	-	Ref.	Ref.
Cohabitation	-	-	-	-	-0.51	-0.39
Separated/Divorced	-	-	-	-	-0.46	-0.32
Widowed	-	-	-	-	-0.49	-0.77
Single/Never married	-	-	-	-	-0.57	-0.47
Poor and fair health	-	-	-	-	Ref.	Ref.
Good health	-	-	-	-	0.63	0.59
Very good health	-	-	-	-	1.42	1.29
Unemployed	-	-	-	-	Ref.	Ref.
Students	-	-	-	-	0.39	0.30**
Housewife	-	-	-	-	0.16**	0.02**
Retired	-	-	-	-	0.50	0.43
Self-employed	-	-	-	-	0.15**	0.15**
Part time	-	-	-	-	0.31	0.22**
Full time	-	-	-	-	0.26	0.21
Income 1	-	-	-	-	Ref.	Ref.
Income 2	-	-	-	-	0.01**	0.06**
Income 3	-	-	-	-	0.09**	0.19**
Income 4	-	-	-	-	0.07**	0.10**
Income 5	-	-	-	-	0.44	0.33
Income 6	-	-	-	-	0.13**	0.19**
Income 7	-	-	-	-	0.10**	0.05**
Income 8	-	-	-	-	0.40	0.44
Less than elementary school	-	-	-	-	Ref.	Ref.
Elementary school	-	-	-	-	0.10**	0.20**
Less than high school	-	-	-	-	0.12**	0.13**
High school	-	-	-	-	-0.23	-0.11**
Some university level	-	-	-	-	-0.05**	-0.09**
University degree	-	-	-	-	-0.11**	0.06**
1991	-	-	-	-	Ref.	
1997	-	-	-	-	0.17	0.32
2006	-	-	-	-	0.75	0.73
Cut-off 1	0.75	0.70	0.69	0.69	-0.68	0.89
Cut-off 2	3.65	3.61	3.60	3.61	2.24	4.01
Log likelihood	-3679	-3116	-3673	-3111	-3861	-2769

Source: WVS, 1991, 1997 and 2006

Note: * p < 0.10, **p < 0.05.

Table 15 shows the results for the OLS models with the satisfaction variable as the dependent one. The table presents four models, which are similar to models 1, 10, 11 and 12 discussed in the previous one.

Model 1 in table 15 has the core explanatory variables. Notice that the results were essentially the same as the ones observed for happiness in table 14. That is, the core determinants of happiness and satisfaction with life had the same effect.

Some differences are noticed when comparing model 10 in table 14 with model 2 from table 15. The coefficient for importance given to work was non-significant for happiness and was negative for satisfaction. The contrary occurred for importance given to leisure. This result tentatively suggests that evaluations of satisfaction might be made with a smaller temporal horizon of analysis. If the focus of importance is work, this brings dissatisfaction with everyday life, although not unhappiness. If the focus is given to leisure, this is an indicative that leisure is missing in life in order to obtain happiness.

The dummies for confidence were mostly non-significant for happiness with one exception, which was the negative sign for labor unions. For satisfaction, three of them had positive coefficients (church/armed forces, parliament and civil service), and one had a negative one (major companies). These results suggest that confidence in institutions is more effective as a determinant of satisfaction than of happiness.

However, the main difference between the models is observed for the political variables. Individuals who were more interested, indicating less alienation, were happier, but not more satisfied. On the other hand, more left wing and active individuals tended to be equally happy, but less satisfied with life. These results suggest that dissatisfaction might tend to promote political action and more left wing points of view. This might also explain in part the positive coefficients observed for church/armed forces and Parliament for satisfaction, both variables indicating conservative views.

The comparison between models 2 and 4 of table 15 indicate that the results are very similar. The main difference is the marriage coefficient that became non-significant, as observed for happiness. Contrasting models 3 and 4 from this same table, notice that married and healthier individuals were more satisfied with life, that the unemployed were among the least satisfied and that income did not matter. In model 3 the most satisfied were the individuals with low levels of education. Differently, model 4 shows non-significant coefficients for all levels of education. The male coefficient became non-significant in this last model. Further research should be done to address these last findings.

TABLE 15
Econometric models for satisfaction – OLS

	Model 1	Model 2	Model 3	Model 4
Family	0.58	0.65	-	0.61
Trust	0.31	0.18**	-	0.07**

Finance	0.26	0.26	-	0.24
Freedom	0.27	0.27	-	0.25
Hard work	0.03	0.02	-	0.02**
Religiosity	0.17	0.12	-	0.16
Less than once a month	Ref.	Ref.	-	Ref.
Once a month	0.06**	0.02**	-	0.09**
Once a week	0.17	0.05**	-	0.09**
More than once a week	0.37	0.28	-	0.30
Friends	-	0.04**	-	0.07**
Work	-	-0.19	-	-0.20
Leisure	-	-0.06**	-	-0.04**
Church/Armed forces	-	0.13	-	0.10
TV/Press	-	-0.03**	-	-0.01**
Police/Justice	-	0.08**	-	0.06**
Major companies	-	-0.19	-	-0.21
Civil service	-	0.18	-	0.19
Labor unions	-	-0.04**	-	0.01**
Parliament	-	0.19	-	0.23
Political interest	-	0.00**	-	0.00**
Political action	-	-0.06	-	-0.06
Political position	-	-0.04	-	-0.03
Child	-	0.01**	-	-0.04**
Marriage	-	-0.22	-	-0.13**
Woman	-	-0.10**	-	-0.02**
Never/Rarely	-	Ref.	-	Ref.
Sometimes	-	-0.16**	-	-0.15**
Often	-	-0.10**	-	-0.10**
Male	-	-	0.26	0.13**
White	-	-	-0.11**	-0.08**
Age	-	-	0.01	0.00**
Married	-	-	Ref.	Ref.
Cohabitation	-	-	-0.60	-0.40
Separated/Divorced	-	-	-0.45	-0.41
Widowed	-	-	-0.24**	-0.59
Single/Never married	-	-	-0.56	-0.51
Poor and fair health	-	-	Ref.	Ref.
Good health	-	-	0.57	0.29
Very good health	-	-	1.16	0.68
Unemployed	-	-	Ref.	Ref.
Student	-	-	0.59	0.32**
Housewife	-	-	0.42	0.24**

Retired	-	-	0.52	0.34
Self-employed	-	-	0.36	0.25
Part time	-	-	0.36	0.24**
Full time	-	-	0.49	0.30
Income 1	-	-	Ref.	Ref.
Income 2	-	-	-0.05**	0.07**
Income 3	-	-	-0.04**	0.08**
Income 4	-	-	-0.16**	-0.11**
Income 5	-	-	0.00**	-0.17**
Income 6	-	-	-0.03**	-0.12**
Income 7	-	-	0.26**	0.12**
Income 8	-	-	0.16**	-0.24**
Less than elementary school	-	-	Ref.	Ref.
Elementary school	-	-	-0.22	-0.13**
Less than high school	-	-	-0.31	-0.08**
High school	-	-	-0.48	-0.21**
Some university level	-	-	-0.14**	0.04**
University degree	-	-	-0.64	-0.12**
1991	-	-	Ref.	Ref.
1997	-	-	-0.32	-0.42
2006	-	-	0.10**	0.00**
Constant	3.51	4.07	6.80	4.07

Source: WVS, 1991, 1997 and 2006

Note: * p < 0.10, **p < 0.05.

10. CONCLUSIONS

Happiness is nowadays a quite popular field of inquiry among economists and social scientist. This paper discussed the determinants of happiness in Brazil using the World Values Survey (WVS) as a database; it complements the discussion presented in the paper “An introduction to the determinants of happiness in Brazil.”

First, the paper presented some descriptive statistics with some variables that might influence the levels of happiness and satisfaction. Family relationships are among the most important features that impact individual well-being. I verified that individuals who ascribe more importance to the family, to marriage and to raising children in a two-parent household tend to be happier than others are. I also discussed the importance of friends and community as determinants of happiness and satisfaction. Levels of trust and confidence are very low in Brazil, in particular for the justice system, the police and Parliament. Individuals who trust others and have more confidence in institutions tend to be happier. Moreover, people who are more religious, attend religious services more often, and/or think God is very

important tend to be happier and more satisfied than others are. Besides, individuals tend to be happier if they consider they have more freedom and more self-determination. Finally, self-evaluated financial situation was highly positively correlated with happiness and satisfaction with life.

Then I discussed the determinants of happiness and satisfaction with life with the use of econometric models. Given that the data for happiness is categorical with a clear ordered structure, I applied ordered logistic models. For satisfaction, given the high number of categories, I assumed that the variable could be considered as a continuous one and used an OLS model. The main general results for happiness and satisfaction are detailed below.

Individuals tend to be happier and more satisfied if they value family relationships more highly, trust others more, judge they have a better financial situation, and feel they have more personal freedom and self-life control. Moreover, more religious people tend to be happier, especially those who attend religious services more than once a week.

Individuals who thought that marriage is an outdated institution tended to be unhappier and less satisfied with life. When the civil status variables were included in the model, this first variable lost its significance. This reflects the higher level of happiness of married individuals and/or people who believe in marriage.

Individuals who were more interested in politics were happier, but not more satisfied. On the other hand, more left-wing and politically active individuals tended to be less satisfied with life. These results suggested that dissatisfaction might tend to promote political action and more left-wing points of view.

To conclude, as stated by Laynard (2005), economists commonly equate changes in happiness with changes in purchasing power, which might be considered a very narrow perspective on reality. The insights of the psychology of happiness, presented in the previous paper and in this one, make it possible to develop new visions of lifestyle, well-being and social policies.

This second paper of the series is complemented by three others. The third paper presents the determinants of happiness in Brazil in more detail using only the most recent database. The fourth paper uses data from three WVS waves with the main objective to analyze the dynamics of happiness and satisfaction with life using an Age-Period-Cohort (APC) approach. The last paper of the series discusses specifically the most miserable and the most blissful in Brazil in 2006.

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