



Are equality of opportunity and equality of outcome substitutable? Individual based evidence

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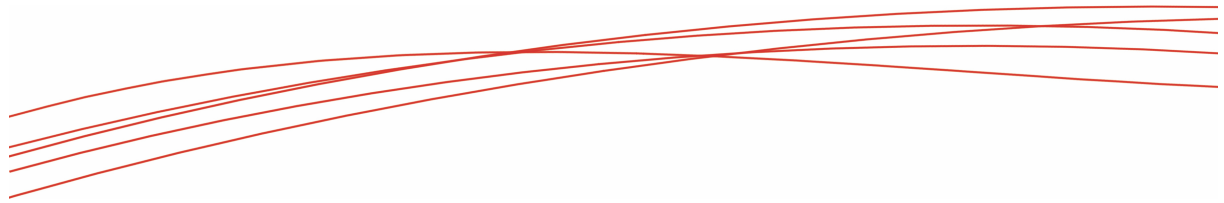
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Sciences Po Grenoble working paper n.1

**Are equality of opportunity and equality of outcome
substitutable? Individual based evidence.**

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Partners //

DYNEGAL



Are equality of opportunity and equality of outcome substitutable? Individual based evidence.

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According to some political economists, equality of outcome and equality of opportunity are substitutable. Assuming that people wish to equalize their opportunities in life, their level of demand for equalizing outcomes depends on their perception of social mobility in their society. On the other hand, substitutability can be criticized because equalizing opportunities introduces higher risk for an individual's future rank in their society, and this causes yet more demand for equalizing outcomes. Evidence based on the French Survey "Dynegal" shows that both expectations are correct and that the relationship between perceived equality of opportunity and preference for equality of outcomes is robustly U-shaped.

1. Introduction

In 1906, Werner Sombart suggested that high rates of social mobility in the US contribute to explaining why socialism had barely developed in this country. His reasoning was roughly the following: when people can move up the social ladder, they give up on any desire for more

equality of outcome. On the contrary, when people do not have the opportunity to improve their own life themselves, they tend to demand that the state equalize resources.

This idea has enjoyed considerable success and many scholars from Hartz (1955) to Lipset and Marks (2001) have explored this hypothesis. In political economy literature, most theoretical and empirical accounts have focused on the effect of individual expectations about their future upward or downward mobility on support for equality (Piketty 1995, Ok and Benabou 2001). Several studies have confirmed at least one of these models, in cross-country studies (Suhrcrke 2001, Corneo and Grüner 2002, Guillaud 2012) but also in country-specific studies: in the US (Alesina and La Ferrara 2005, Fong 2006, Alesina and Giuliano 2011), Germany (Rainer and Siedler 2006, Pfarr 2012), Russia (Ravaillon and Lokshin 2000) and in Spain (Jaime-Castillo 2008). Experimental evidence also confirms this hypothesis (Checchi and Filippin 2004, Krawczyk 2010). Even though favorable evidence is quite abundant, some findings are less consistent with the theoretical expectations (Corneo 2001, Clark and D'Angelo 2010). This study, based on French individual data, further confirms the Benabou and Ok model, but not the Piketty model.

However, these models do not directly predict the existence or the nature of the relationship between social mobility (which measures equality of opportunity) and demand for equality of outcome. Of course, people who expect upward mobility oppose equality. But this does not mean that in a mobile society the demand for equality decreases. After all, in this society, downward mobility exists as well. In fact, the specific impact of social mobility on demand for equality has been little studied. This is due, partly, to the lack of appropriate questions to measure perceptions of social mobility in survey data, since most of them are quite indirect (Alesina and Glaeser 2004, Dorsch 2009). The only available empirical account is provided by Alesina and La Ferrara (2005) and measures social mobility with contextual US data, avoiding using individual perceptions. They find that social mobility decreases the demand

for redistribution. Also, the experimental results of Grimalda et al. (2010) reveal a non linear relationship between equality of opportunity and wealth distribution. They argue that people deem opportunities to be a fundamentally symbolic good. No evidence based on individual perceptions of social mobility has been provided so far.

The recent French survey developed by the Dynegal project¹ offers a direct way to measure perceptions of social mobility. France is a particularly interesting case study. According to the OECD Revenue Statistics in 2011, French total taxation as a percentage of GDP is among the highest in Europe, just behind Denmark and Sweden, but, unlike them, the trend over the last decade has been for increased taxation. In this respect, France could be viewed as completely different to the US social system, which is the most studied. Moreover, Lefranc et al. (2006) studying France over the period 1979-2000, find that the degree of equality of opportunity is tending to increase. For the same period, according to the European Values Survey, the percentage of French people who prefer equality to freedom also increased by 10 points. This suggests that equality of opportunity and preference for equality of outcomes not necessarily oppose each other. On the contrary, Wilkinson and Pickett (2009) show that, empirically, outcomes and opportunities tend to go in the same direction, as in the example of France.

The paper is organized as follows: section 2 presents and discusses the arguments provided by the political economy literature about the impact of social mobility on preference for equality. Section 3 presents the data and the variable used. Section 4 shows the empirical results before concluding.

2. Theoretical arguments

¹ For more information, visit http://www.agence-nationale-recherche.fr/en/anr-funded-project/?tx_lwmsuivibilan_pi2%5BCODE%5D=ANR-11-INEG-0007

In which way does social mobility affect preference for equality? Basically, the political economy argument starts with the simple idea that the rich oppose redistribution, while the poor support it, formalized among others by Meltzer and Richards (1981). Without social mobility, the rich expect to continue to be rich, so do the poor. Thus, the preferences in terms of redistribution are clearly defined. However, under the assumption of full or partial social mobility, some poor people can expect to become rich, and vice versa. This complicates the situation. Current incomes are not the only determinant of preference for redistribution, and the expected income has to be taken into account. However, there are at least two arguments at our disposal to conceptualize the impact of social mobility on demand for redistribution. The first argument, developed by Benabou and Ok (2001) is known as the prospect of upward mobility (POUM) hypothesis which states that when people expect upward mobility or, say, expect to cease to benefit from redistribution, they do not support equality of outcome. A variant of this argument is provided by Piketty (1995) and states that when people have experienced past upward mobility, they extrapolate that they will further improve their situation in the future. In this case, past mobility influences individual support for redistribution, simply because it serves as a proxy for the direction of people's future mobility. However, the POUM hypothesis does not establish the idea initially advocated by Sombart. Even though upward mobility reduces people's preference for equality, social mobility (which is both upward and downward) should not. Globally, the "optimistic poor" are offset by the "pessimistic rich" and the support for redistribution should remain unchanged, when compared to a situation without social mobility. Worse, assuming that people tend to be risk averse, it could even be expected that in a situation of full social mobility, people tend to prefer equality, because they overestimate the risk of downward social mobility. In short, social mobility is a particular case of the broader effect of the risk of future income loss on

preferences for redistribution, as are exposure to unemployment (Cusack et al., 2006, Rehm 2009), openness to trade (Rodrik 1998) or immigration (Magni Berton 2013). Unlike the Sombart conjecture, the POUM hypothesis, associated with risk aversion, predicts that in the “land of opportunities”, socialism should be popular².

The second argument is provided by Alesina and La Ferrara (2005). It argues that when opportunities are not equal, people tend to not accept other people’s individual success, as if the odds were stacked against them. For this reason, they wish to offset their lack of opportunity with redistribution. This argument is quite similar to that of Sombart. Formally, it is very simple. People have a preference for “equality of opportunity” which in fact means “equality of expected income”. Therefore they wish to minimize the standard deviation-to-mean (σ) of the probability (p) of earning the highest income (i) in their society. If p is too unequal, σ can be reduced by decreasing i . This argument stresses that equality of outcomes is a specific case of equality of opportunity: it is simply the way to reduce σ when p varies across individuals. Let us call this hypothesis the Sombart effect.

All in all, there are two ways of supporting equality: on the one hand, equality is a way of protecting people from risks and, on the other hand, equality is a way of compensating for a disadvantage. Assuming moderate risk aversion, the POUM hypothesis predicts that people support more equality when social mobility is high. In this case, equality is a kind of insurance against the individual risk of downward mobility. On the contrary, the Sombart effect predicts that social mobility has a negative impact on support for equality. Equality, in this situation, is viewed as a way of offsetting an individual’s lack of opportunity.

Both explanations are compatible and may be true. People like to benefit from opportunity, but they reject the risk associated with social mobility. Let me assume that demand for

² This prediction is formulated by Benabou and Ok (2001), although they assume that agents are not too risk averse. Without this assumption, they admit that social mobility leads to more demand for redistribution.

equality is a convex function of the risk of downward mobility (due to risk aversion) and a negative convex function of opportunity (Sombart effect). This double effect means that the demand for equality is a U-shaped function of the available opportunities. Too low levels of social mobility lead people to demand equality of outcome, as compensation, and too high levels of social mobility increase demand for equality, because individuals prefer to be insured. This double effect is described in figure 1.

Figure 1 about here

To sum up, five hypotheses are empirically tested here. First, expected upward mobility decreases support for equality (POUM hypothesis). Second, past upward mobility decreases support for equality when the probability of future mobility is unknown (Piketty hypothesis). Third, perceived social mobility increases support for equality (risk aversion hypothesis). Fourth, perceived social mobility decreases support for equality (Sombart effect). And fifth, perceived social mobility is a U-shaped function of support for equality (Sombart effect combined with risk aversion). The three last hypotheses cannot all be true. Unlike the two first hypotheses, which have already been tested, the test of a psychological link between perceived social mobility and support for equality constitutes the principal novelty of this paper.

3. Data and variables

The data used are based on the Dynegal survey, conducted in France in 2013 on 4049 individuals. This survey features a specific question that measures the perceived social mobility in France. As far as I know, no previous study has directly measured individuals' perception of social mobility. On a ten-point scale, respondents indicate whether they believe

that “social success is a foregone conclusion and depends only on the social background of people” (1) or that “people all have the same opportunities to succeed in life regardless of their social origin” (10).

To measure the prospect of upward mobility, a more classic question is used: “About your own future, would you say you are: very optimistic, rather optimistic, don’t know, rather pessimistic or very pessimistic”.

The current situation is measured with an individual self-ranking: “in our society there is a hierarchy of social status: groups situated at the top of society and others which are rather low. Currently where do you rank yourself?” Ten items range from “at the bottom” to “at the top”.

Finally, past upward mobility which, according to Piketty (1995) produces expectations about future upward mobility, is the difference between the current rank in society cited above and an identical question in which people have to rank themselves “when they stopped their full-time education”. The variable ranges from -9 to 9³.

Figure 2 describes the distributions of answers given for the four questions. Note that regarding the past and expected upward mobility, people are optimistic. Around 58% of people have climbed the social ladder, vs. 16% having experienced a downward mobility. Also, in spite of the economic crisis, 65% remain optimistic about their own future, vs. 31% who are pessimistic.

Figure 2 about here

³ Note that this question concerns only the respondents aged 30 or more. The sample is then restricted when this question is included in our analysis.

In contrast, the perceived social mobility and the ranking on the social ladder seem quite realistic, since they have a mean of 5.3 in both cases, which is very close to the middle score 5.5.

Let us now focus on the dependent variable which measures the support for equality.

Respondents have to agree (1) or not (0) with the statement: “Income should be equal in France, there should be no difference”. This formula could appear quite radical, but 1/3 of the sample agree with this statement (33.8).

Finally, multivariate estimations take into account several control variables, described in the appendix. They consist of demographic and attitudinal variables. Demographic variables include gender, age, agglomeration size, employment, health, religion and social connection. Attitudinal variables measure individual opinions and attitudes that can influence support for equality. They include sociotropic optimism, life satisfaction, left-right placement and perceived intensity of inequalities that, according to Meltzer and Richards (1981), increase demand for equality (see their definition in appendix).

4. Results

4.1. Linear relationships

Before proceeding to a multivariate analysis, polychoric correlations are computed between the main variables. Table 1 informs us about the nature of the relationships between Preference for equality of outcome, Perceived social mobility, Past upward mobility and Forecast upward mobility.

Table 1 about here

Past and expected upward mobility are both significantly and negatively correlated with preference for equality and positively associated with each other. This is coherent with both the Benabou and Ok (2001) and the Piketty (1995) hypotheses. On the other hand, perceived social mobility is not correlated with preference for equality. Thus, using a simple pairwise analysis, neither the risk aversion hypothesis nor the Sombart effect are observed.

Table 2 reports the coefficients of a probit regression on the individual determinants of preference for equality of outcome. In specifications (1-3), only the Current ranking in the social hierarchy is controlled. Demographic variables are added in specifications (4-6) and the complete model, including attitudinal variables, is specified in columns (7-9).

Table 2 about here

Whatever the specification used, the determinants of preference for equality are current status and prospects of upward mobility, exactly as the POUM hypothesis predicts. The effect of past upward mobility, suggested by the pairwise analysis, is entirely absorbed by the current status and becomes insignificant. Finally, the lack of influence of the perceived social mobility is confirmed in all specifications.

4.2. U-shaped relationship

A brief look on figure 3 allows us to observe that the relationship between preferences for equality and perceived social mobility is U-shaped, as the fifth hypothesis, represented in figure 1, suggests. Equality of outcome is strongly supported when social mobility is deemed null or full.

Figure 3 about here

This suggestive result is confirmed in Table 3, which reports the coefficients of probit regressions testing this U-shaped effect. Specifications with demographic and complete controls (the three first columns) stress the robustness of the U-shaped effect. This is coherent with the fifth hypothesis according to which there are two different channels linking social mobility and equality in two opposite directions: people like equality of opportunities, but they hate the risk, which, in turn, stems from full equality of opportunities. Neither channel depends on the position that people hold in society. Both high and low social status people share the same preferences for opportunities and for safety. This prediction is observed in the two last columns of Table 3. They deliver the coefficients in two subsamples: respondents who consider themselves as being rather high on the social ladder (6-10) and those who regard themselves as quite low (1-5). The U-shaped relationship holds in both subsamples. This means that the impact of perceived social mobility on preference for equality does not differ with people's social status, which corresponds to hypothesis five.

Using subsamples is also useful to better confirm the POUM hypothesis, according to which the prospect of upward mobility should only affect the opinion of low-ranked people, because the latter expect to cease to benefit to redistribution in the future. The findings are consistent with this prediction: only low-ranked respondents' opinions about equality are negatively affected by their prospects of upward mobility (column 4). However, this also means that the prospects of downward mobility do not influence high-ranked respondents to the same extent. Also, past upward mobility remains irrelevant in explaining opinions about equality, and the current ranking on the social ladder, which is a strong determinant, loses its significance when only the high-ranked respondents are taken into account. This suggests that the effect of ranking on support for equality has a logarithmic form.

Finally, let me comment on the coefficients of the other control variables. Among the demographic variables, gender has the impact already observed in other countries (Luttmer and Singhal 2011). The other factors which lead people to support equality of outcome are youth, being employed in a private firm, being Muslim and living in small or medium-sized cities. Among attitudinal variables, being right-wing and, more surprisingly, perceiving severe inequality lead to less support for equality. Also, people who do not place themselves on the left-right scale at all have a clear preference for equality.

All in all, table 3 suggests that, if an individual believes that opportunities are equal, she will support more equality of outcome exactly as if she believed that opportunities are genuinely unequal.

5. Conclusion.

The degree of equality of opportunity affects people's preference for equality. However, this relationship is more complex than that suggested by Sombart in his seminal book. The Sombart effect predicts a linear and negative relationship. When people yearn to leave behind their social group to reach a higher place in their society, they cease to desire equality. In other words, individuals see substitutability between equality of opportunity and equality of outcome. This mechanism has been empirically observed in this article, but also in other accounts, such as Alesina and La Ferrara (2005). But this is only a part of the story.

Indeed, equality of opportunity through life, known as intragenerational mobility, introduces high levels of risk for people's future. Since people, generally, do not like risk, in order to reduce it, they tend to demand more redistribution. This argument is well known in political economy literature, which is why turbulence in the market – whatever its cause – tends to induce individuals' preference for equality of outcome. This risk aversion hypothesis is also confirmed in this study.

In fact, people have to arbitrate between reducing the burden of their social background and increasing the risk linked to their future place in the society. This leads them to reduce their support for equality when opportunities grow up to a given threshold of equality of opportunity. Beyond that threshold, they get back to their initial belief in equality of outcome, in order to fight the risk that equality of opportunity introduces.

This U-shaped effect is probably difficult to observe when the explanatory variable is an aggregate measure of equality of opportunity, as in the Alesina and La Ferrara study. Indeed, the equality of opportunity variance within a given country is quite low, and, for this reason, the effect can appear linear. That is why using perceived social mobility in surveys is a better strategy. Note, however, that this U-shaped relationship has been already observed in experimental studies (Grimalda et al. 2010) in which it is possible to simulate the extreme situations of full or null equality of opportunity.

Overall, the findings are compatible with the findings from Sombart (1906) to Alesina and la Ferrara (2005), but also can explain why the most equal states in Europe (which are Denmark and Sweden), are those in which social mobility is the highest (Wilkinson and Pickett 2009). In fact, it is plausible that at the end of the nineteenth century, social mobility was higher in the US than in most European countries, even though, in absolute terms, it was low in both places. Therefore, in the land of “moderate” equal opportunities, people oppose more equality of outcome. However, as social mobility has increased in western democracies since that time, in the most mobile countries, equality of outcome has also increased. In few words, high levels of social mobility lead to socialism, unlike what Sombart thought.

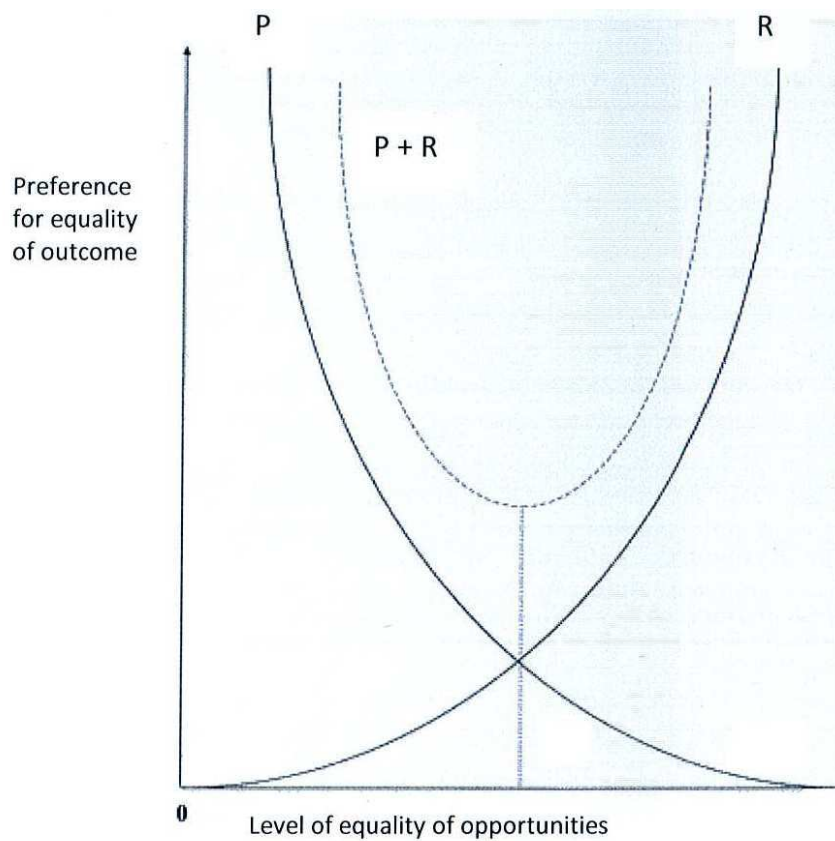
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Figure 1: Hypothesis on the U-shaped relationship between levels of equality of opportunities and preference for equality of outcome.



P = Preference for equality of opportunity

R = Risk of future downward mobility

P + R = relationship between equality of opportunities and preference for equality of outcome.

Figure 2. Distribution of the variables measuring “perceived social mobility”, “current ranking in the social hierarchy, prospective and past upward mobility”

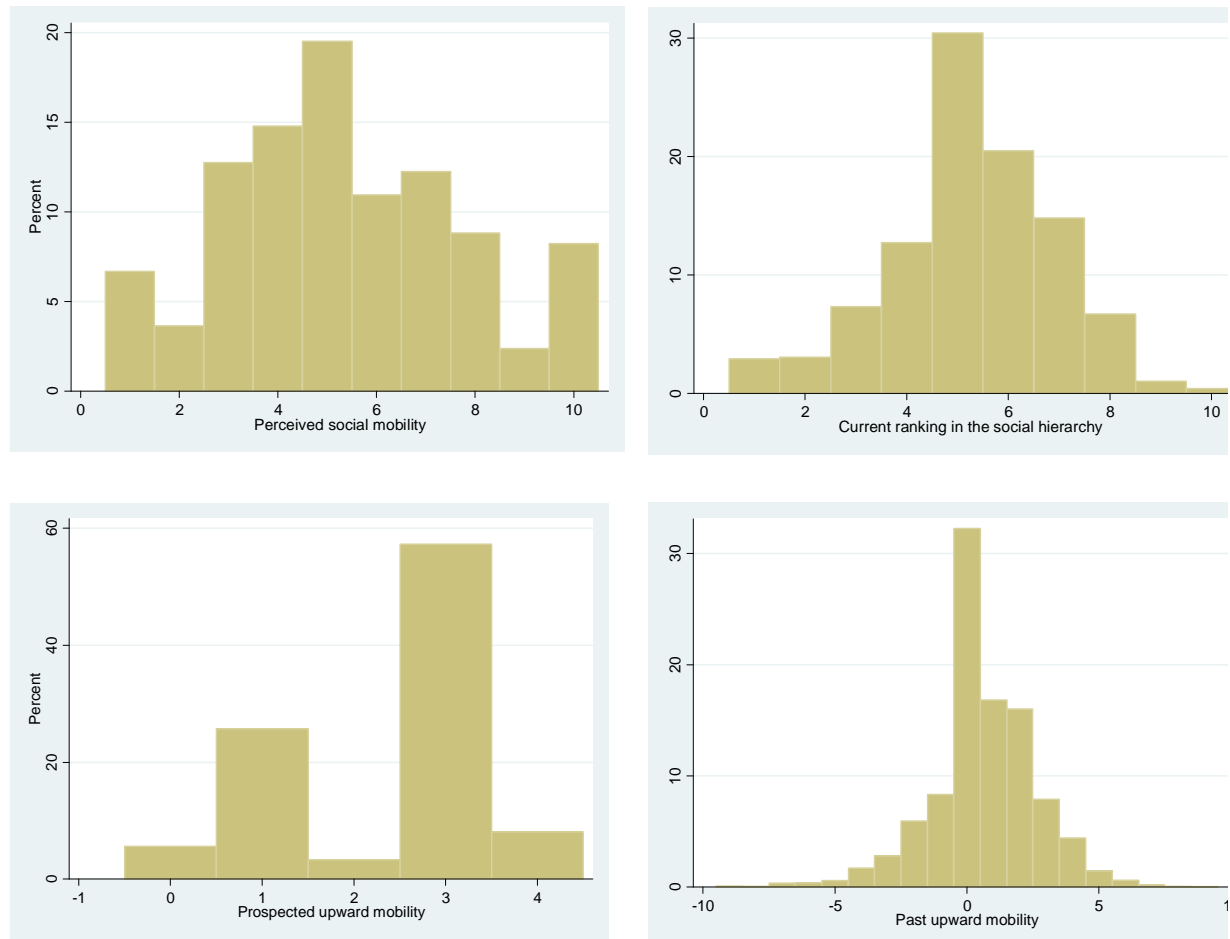


Table 1. Polychoric correlations between preference for equality of outcome, perceived social mobility, past upward mobility and expected social mobility.

	preference for equality of outcome	Perceived social mobility	Past upward mobility	Expected Upward mobility
preference for equality of outcome	1			
Perceived social mobility	-.011	1		
Past upward mobility	-.051*	.021	1	
Prospected upward mobility	-.151**	.048**	.113**	1

Table 2. Individual determinants of preference for equality of outcome

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Perceived social mobility	.013 (.009)			.010 (.009)			.012 (.009)		
Past upward mobility		.020 (.014)			.021 (.014)			.016 (.014)	
Prospected Upward mobility			-.091** (.019)			-.079** (.020)			-.087** (.022)
Current ranking in the social hierarchy	-.093** (.013)	-.102** (.016)	-.078** (.013)	-.065** (.013)	-.073** (.017)	-.054** (.013)	-.056** (.014)	-.059** (.018)	-.046** (.014)
Demographic controls	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Attitudinal controls	No	No	No	No	No	No	Yes	Yes	Yes
N	3919	3163	3947	3917	3162	3945	3878	3131	3902
Pseudo R2	.01	.01	.02	.04	.04	.04	.04	.05	.05
Predicted cases	66.7	67.3	66.7	67.2	68.3	67	67.3	68.5	67.8

Figure 3. Percentage of people supporting equality of outcome according to the perceived rate of social mobility.

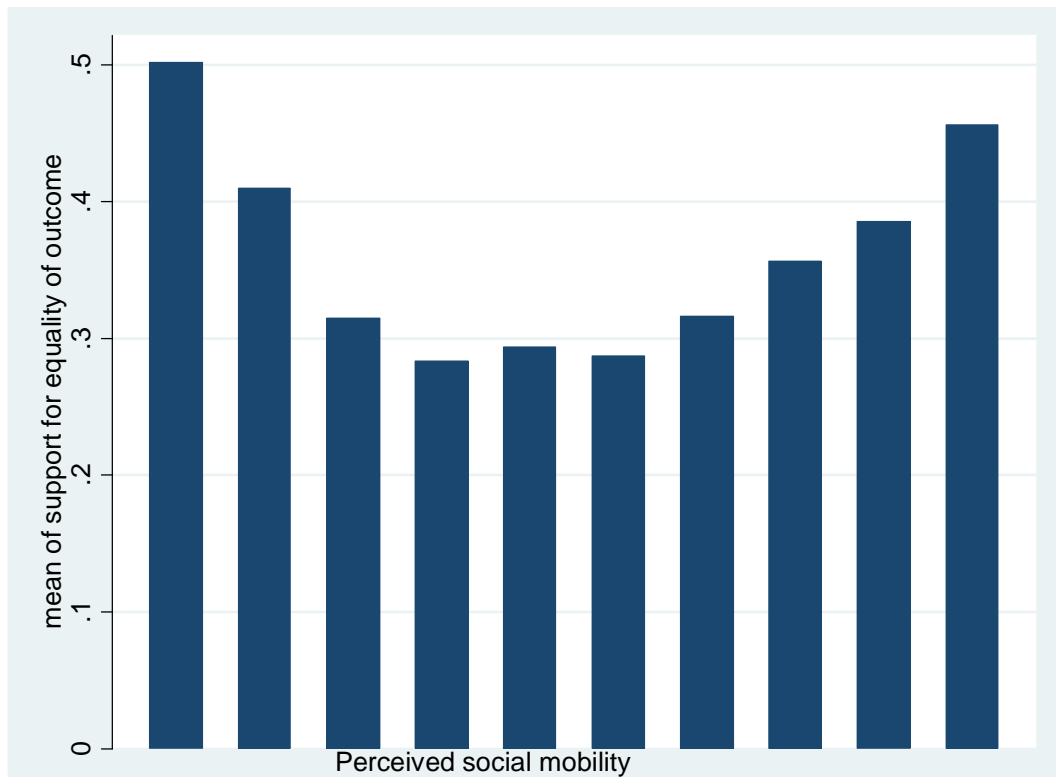


Table 3. Complete results of individual determinants of preference for equality of outcome

	All (1)	All (2)	All (3)	High-ranking (4)	Low-ranking (5)
Perceived social mobility	-.252** (.035)	-.238** (.036)	-.227** (.040)	-.175** (.058)	-.255** (.047)
Perceived social mobility ²	.023** (.003)	.022** (.003)	.021** (.003)	.019** (.005)	.022** (.004)
Past upward mobility			.014 (.014)		
Prospected Upward mobility		-.087** (.023)		-.061 (.038)	-.094** (.029)
Current ranking in the social hierarchy	-.059** (.013)	-.043** (.014)	-.051** (.019)	.072 (.039)	-.057* (.026)
Demographic controls					
Age	-.050** (.017)	-.050** (.018)	-.060* (.023)	-.067* (.029)	-.040 (.023)
Gender (female)	.226** (.042)	.203** (.044)	.244** (.050)	.226** (.069)	.165** (.057)
Civil servant (ref.)					
Temporary civil servant	-.093 (.168)	-.073 (.168)	-.068 (.188)	-.207 (.258)	-.017 (.226)
Permanent employee in a public firm	-.009 (.138)	.035 (.139)	.068 (.143)	-.376 (.211)	.385* (.194)
Permanent employee of a private firm	.120* (.061)	.137* (.062)	.109 (.066)	.017 (.090)	.272** (.088)
Temporary employee of a private firm	.238** (.090)	.261** (.091)	.313** (.106)	.234 (.161)	.354** (.186)
Intern	.184 (.141)	.179 (.142)	.373* (.183)	.497 (.290)	.175 (.169)
Self-employed	-.090 (.090)	-.041 (.091)	-.039 (.096)	-.184 (.131)	.101 (.130)
Other status	.159 (.101)	.158 (.102)	.221 (.113)	.037 (.163)	.273* (.135)
Has never work	.124 (.096)	.114 (.098)	-.035 (.151)	.010 (.160)	.224 (.128)
Catholic (ref)					
Protestant	-.230 (.173)	-.229 (.174)	-.241 (.186)	-.149 (.237)	-.375 (.263)
Jewish	-.664 (.395)	-.681 (.401)	-.940 (.520)	-.471 (.543)	-.730 (.579)
Muslim	.275** (.098)	.232* (.101)	.148 (.131)	.199 (.159)	.218 (.131)
Other religion	.316* (.135)	.273* (.137)	.401* (.156)	.232 (.217)	.287 (.179)
No religion	.098* (.048)	.063 (.050)	.037 (.056)	-.029 (.079)	.105 (.065)
Rural (ref)					
From 2000 to 20000 inhabitants	-.029 (.067)	-.044 (.068)	-.071 (.075)	-.009 (.113)	-.071 (.086)
From 20000 to 100000 inhabitants	-.040 (.073)	-.045 (.074)	-.027 (.072)	.071 (.119)	-.117 (.095)
More than 100000 inhabitants	-.167** (.059)	-.172** (.059)	-.164* (.066)	-.295** (.096)	-.088 (.076)
Paris region	-.099 (.071)	-.102 (.072)	-.114 (.082)	-.148 (.108)	-.034 (.100)

Health	-.088** (.026)	-.065* (.027)	-.085** (.030)	-.084 (.045)	-.047 (.034)
Social connection	-.073 (.049)	-.060 (.050)	-.060 (.054)	-.228** (.082)	.033 (.064)
Attitudinal controls					
Sociotropic optimism		-.014 (.022)	-.033 (.023)	.013 (.034)	-.025 (.029)
Life satisfaction		.004 (.011)	-.008 (.011)	.012 (.020)	.005 (.014)
Left-right placement		-.046** (.012)	-.056** (.013)	-.071** (.019)	-.035* (.015)
Not self-placed		.292** (.061)	.303** (.070)	.247* (.107)	.299** (.076)
Perceived intensity of inequalities		-.026* (.012)	-.031* (.014)	-.036 (.021)	-.022* (.016)
Constant	.497** (.185)	.958** (.239)	.835** (.264)	.274 (.454)	.844** (.316)
N	3917	3876	3110	1698	2178
Pseudo R2	.05	.06	.06	.07	.08
Predicted cases	67.7	67.8	68.7	73.1	65.1

Appendix.

Variable definition

The following is the list of variables used, with their definition and their statistical properties.

Main variables

Demand for equality. Dummy equal to 1 if respondent agrees with the statement “Income should be equal in France, there should be no difference” (33.8%). Zero otherwise. N = 4000.

Perceived social mobility. Categorical variable varying on a 10 point scale in which 1 means “social success is a foregone conclusion and depends only on the social background of people” and 10 means “people all have the same opportunities to succeed in life regardless of their social background”. Statistical description is in the text.

Prospect of upward mobility. Categorical variable varying on a 5 point scale in which 1 means “being very pessimistic about their own future” and 5 means “being very optimistic about their own future”. The middle category (3) includes people who don’t know or don’t provide an answer. Statistical description is in the text.

Current ranking in the social hierarchy. Categorical variable varying on a 10 point scale in which 1 means that people rank themselves at the bottom of the social ladder and 10 means they rank themselves at the top. Statistical description is in the text.

Past upward mobility. Categorical variable which equals *Current ranking on the social ladder* minus the respondents’ self-ranking in society when they stopped their full-time education (identically formulated). It ranges from -9 to 9 and it is described in the text.

Attitudinal variables

Sociotropic optimism. Categorical variable varying on a 5 point scale in which 1 means “being very pessimistic about French society” and 5 means “being very optimistic about

French society”. The middle category (3) includes people who don’t know or don’t provide an answer. Statistical description is in the text. 29% of people are optimistic (among them 1.6% are very optimistic) and 70% are pessimistic (19% very pessimistic).

Life satisfaction. Categorical variable varying on a 10 point scale in which 1 means that people are not satisfied at all with their own life and 10 means that they are fully satisfied. The mean is 6.9, the median is 7 and the mode is 8.

Left-right placement. Categorical variable varying on a 10 point scale in which 1 means that people place themselves at the far left and 10 means that they place themselves at the far right. The mean is 4, the median and the mode are 5.

Not self-placed. Dummy equal to 1 if people refuse to place themselves on the left-right scale and 0 otherwise. 14% refused or don’t know.

Perceived intensity of inequalities. Categorical variable varying on a 10 point scale in which 1 means that in France the income gap is not wide at all, and 10 means that it is very wide. The mean is 7.7, the median and the mode are 8.

Structural variables

Age. Age of respondent in years.

Gender. Dummy equal to 1 if respondent is female.

Employment. A set of dummy variables taking the value 1 depending on the respondent's employment status: permanent civil servant (17.6%), temporary civil servant (1.9%), permanent employee in a public firm (2.9%), permanent employee of a private firm (42.2%), temporary employee of a private firm (8.6%), intern (2.6%), self-employed (9.1%), other status (6.1%), has never worked (8.1%), Don’t know/refused (0.7%).

Religion. A set of dummy variables taking the value 1 depending on the respondent's religion: Catholic (56.2%), Protestant (1.8%), Jewish (0.5%), Muslim (5.1%), other religion (2.5%), no religion (33.3%), don't know or refused (0.6%).

Agglomeration size. A set of dummy variables taking the value 1 depending on the respondent's living area: rural (23.7%), from 2000 to 20000 inhabitants (16.5%), from 20000 to 100000 inhabitants (12.8%), more than 100000 inhabitants (30.9%) and Paris region (16.2%).

Health. Categorical variable varying on a 5 point scale in which 1 means having very good health and 5 means having very bad health.

Social connection. Dummy equal to 1 if respondent can definitely rely on someone else in case of a serious personal problem (72.7%).