The Intergenerational Transmission of Attitudes

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Introduction

Understanding persistent differences in economic performance and material well-being across countries is (and has always been) a central concern of economists and policy makers. Modern economic theories usually model economic outcomes, on the individual level as well as on the aggregate level, as the result of rational decisions made by individuals. Individuals make optimal choices given their attitudes – preferences and beliefs about the environment and the behavior of others – and also their constraints, in order to maximize their well-being or whatever their objective in life is. The potential for differences in attitudes and "culture" to explain cross-country differences in economic outcomes is a long-standing idea in political economy and sociology, as evidenced by the work of Max Weber in the early 20th Century. For conceptual and technical reasons, however, economists have traditionally concentrated on investigating the role differences in constraints play for economic outcomes.

One reason why economists have only recently begun to study the link between attitudes and economic phenomena is that traditionally they have been skeptical about the reliability of measuring attitudes on a large scale using subjective measures, such as survey responses. The typical problems associated with subjective survey responses include a high level of abstraction, dependence of responses on context, as well as biased responses due to considerations about the social desirability of the answers to certain questions. Without (economic) incentives to answer attitude questions accurately and truthfully, and with only a qualitative response scale on which to indicate attitudes, such measures could give very noisy or even misleading results, raising doubts about how meaningful such subjective measures are. Another, conceptual reason for the reluctance in investigating the role of attitudes is that economists regard preferences, and often also beliefs, as exogenously given by nature and immutable in order to be able to make sensible, non-trivial predictions about individual economic behavior. As a consequence, fairly little is known about the determinants of attitudes and their distribution within and across countries.

An increasing body of evidence points to stark differences in the attitudes of individuals, both within and across countries, however, with important implications for economic performance. For example, recent research shows that attitudes, such as the level of trust in a country, play an important role in explaining differences in income growth (see Knack and Keefer 1997). High levels of trust, measured by responses to survey questions asking individuals how much they trust other people, are associated with faster growth. This appears to reflect a causal impact of trust on economic activity rather than the other way around (see, e.g., Algan and Cahuc 2007). There is less research relating other attitudes to macroeconomic outcomes, due mainly to a lack of data, but risk attitudes are also likely to be very important. A recent study comparing the US and Germany shows a large difference in risk attitudes, with Germans being less willing to take risks (Naef et al. 2007). Risk attitudes are known to determine important behaviors at the individual level, such as investment in risky assets, and risky occupational choice, such as entrepreneurship (e.g., Dohmen et al. 2005; Bonin et al. 2007), and migration (Jaeger et al. 2009). Thus, greater willingness to take risks in a population is likely to pay off in the long run, with higher rates of investment and innovation, and a more efficient allocation of resources.

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In light of this evidence and the undisputable role of attitudes in economic decision making, economists are just beginning to depart from the practice of treating attitudes as a black box. Recently, new approaches and instruments have been developed that allow researchers to reliably elicit attitudes in different domains of economic decision making. This, in turn, provides new ways for studying the process through which attitudes are formed, and investigating the determinants of attitudes provides a promising way of bringing culture back on the agenda of mainstream economics.

The measurement of attitudes: risk and trust

As interesting as it might be to find that cross-country differences in economic well-being are related to differences in trust or risk attitudes based on subjective survey responses, this finding would not be sufficient to convince a skeptical economist of the role these attitudes play. The reason is that survey responses could proxy for a host of other variables related to economic growth rather than actually measuring trust or risk attitudes. Hence, the construction of reliable, objective measures of attitudes in the population constitutes a necessary condition for qualifying and quantifying the role of attitudes and attitude transmission across generations for economic outcomes.

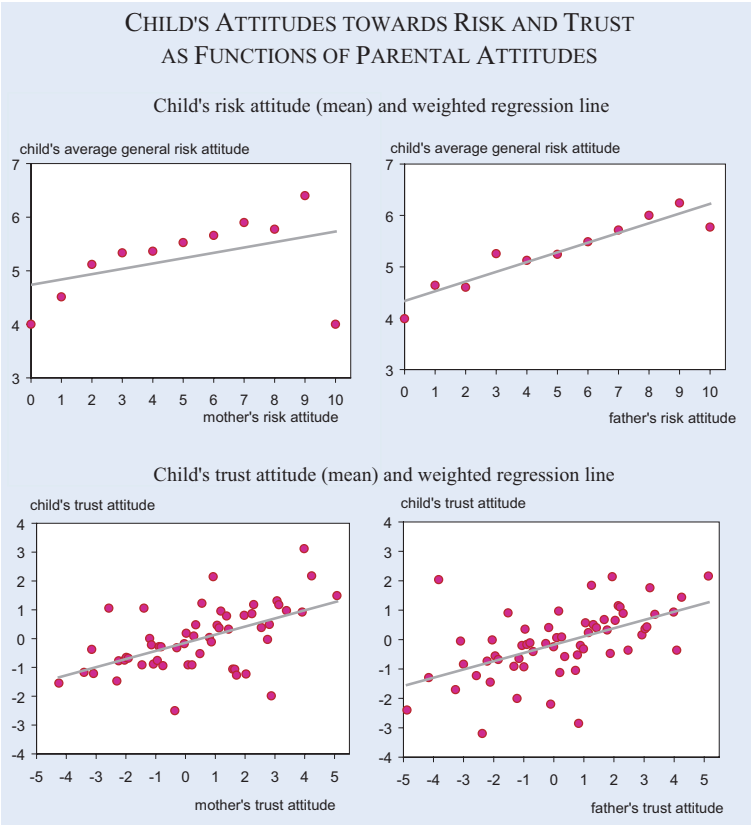
Recent research uses techniques from experimental economics to try to assess the validity of attitude measures. The idea behind this approach is to have subjects answer survey questionnaires that include standard attitude questions, and then have them participate in carefully constructed choice experiments that involve real economic payoffs. The experiments aim to isolate a specific attitude, for example towards trust or risk, and rule out other motives by design. For example, an experiment done with a representative sample of about 450 Germans found that a set of three standard trust questions reliably predicted trusting behavior in the so-called trust game (Fehr et al. 2003). One of our own studies involved an experiment about risk taking with a different representative sample of almost 500 Germans. In this study, it turned out that a simple question asking people to rate their general willingness to take risks on an eleven-point scale reliably predicted their willingness to play risky lotteries involving real money (Dohmen et al. 2005). This evidence lends credence to the interpretation of previous studies, in which the relationship between attitude measures and growth is actually based on the impact of specific attitudes.

Culture: intergenerational transmission of attitudes

If attitudes play such an important role for economic decision making and individual and aggregate outcomes, how are attitudes determined? How do attitude differences across regions or countries come to exist, and how do they persist over time? One explanation is that, due to some differences in the environment, or because of major historical events, attitudes diverge between nations at some point in time. These differences in attitudes are then passed on from one generation to the next, through a channel of parents inculcating children with their own values and attitudes (Tabellini 2008), through imitation of parents by children, or even, perhaps, through genetics. Departing from the usual practice in economics of taking preferences, or attitudes, as given, a wave of recent theoretical models have made attitudes endogenous by explicitly assuming that parents have a preference for endowing children with attitudes similar to their own and exert effort in order to shape their children's endowments (see, e.g., Fernandez 2007). This preference also affects parents' marriage choices, causing them to seek out a spouse with similar attitudes, in order to avoid distortions in the child's attitudes. Parents pass on their attitudes to their children, perpetuating differences in economic behavior between populations with different attitudes or cultures. Some models also allow for an influence of other role models in the surrounding environment, in addition to, or instead of, the parents, which tends to reinforce and perpetuate regional differences in attitudes (see Bisin and Verdier 2000). Moreover, there might be an interaction between parents' effort in inculcating their children with certain attitudes, and the economic or technological environment (see Doepke and Zilibotti 2008).

While assuming a transmission of attitudes from parents to children is plausible and allows theoretical models to explain an important set of facts, there has been little systematic empirical evidence on the intergenerational transmission at the level of attitudes. Some of our recent work tests whether children end up with similar trust, and similar risk attitudes as their parents (Dohmen et al. 2006). We use the experimentally validated survey measures discussed above, for a sample of more than 3,000 children and their parents. The data are drawn from the 2003 and 2004

Figure



Notes: The upper graphs in the figure show children's average self-reported willingness to take risks, from 0 (completely unwilling) to 10 (completely willing), for a given willingness to take risks on the part of the parent. The bottom graphs in the figure show children's average principal component "trust", a summary measure of the level of agreement with three different statements about trustworthiness of people in general, for a given principal component "trust" of the parent.

waves of the SOEP, a representative panel survey of the adult population living in Germany. Our approach involves using direct measures of attitudes for individuals as well as for their parents. We control for detailed characteristics of parents, such as income and education, which are important for addressing potential issues of omitted variables (see Fernandez 2007).

The main findings are illustrated in the Figure. The upper two panels of the Figure depict the child's average general risk attitude, measured on a scale from 0 to 10, conditional on the risk attitude of the mother (left graph) and father (right graph). The scatter plot, as well as the regression line, which is weighted by cell-size, provide a strong indication that parents who state they are more willing to take risks have children with similar attitudes. The correlation between children's risk attitudes with those of both mothers' and fathers' is statistically significant, quantitatively important when looking at outcomes like income or regional mobility, and of about similar size for both parents. The lower panel of the figure provides a similar plot for trust. The child's mean trust attitude, measured by a standardized principal component obtained from the responses to three trust-related survey questions, is plotted against the mother's (left graph) and father's (right graph) trust attitudes. Again, there is a significant and sizable correlation. However, in the context of trust, the mothers appear to play a somewhat more important role for the children's attitudes than fathers do.

These correlations are essentially unchanged when controlling for similarity across generations in personal or environmental characteristics, showing that the relationship between the attitudes of parents and children does not work through these indirect channels. The relationship between parents and child is also present using various additional questions about the same attitudes, with different scales and framings. Additional robustness checks show that the intergenerational correlation is not explained by parents and children collaborating on survey answers, by similar scale use, by reverse causality from children to parents, or by parents and children living in the same geographic region. The results also indicate that children are not just similar to their parents in terms of overall attitudes, or a diffuse disposition towards risk-taking and trusting, but that children are similar to their parents in an even more precise sense. For example, when investigating the transmission of risk attitudes, controlling for the child's and the parents' trust, children's risk attitudes are strongly and significantly associated with those of their parents, but not, or only very weakly, with their trust. The results for more detailed, context-specific measures of risk-taking are similar, with parental attitudes in a particular context (e.g., health, financial matters, career and leisure) being the strongest predictor of the child's attitude in that context. The same holds for trust, where parents' attitudes in a given context are the best predictor of a child's attitudes in that same context.

In addition to this evidence for the direct transmission of attitudes from parents to children, the intergenerational transmission mechanism of attitudes might be reinforced through two additional channels. One is positive assortative mating of parents. If parents marry partly on the basis of attitudes to be transmitted to the child, a child who has one parent with a given attitude is likely to have a second one with that attitude as well. Assuming that both mothers and fathers matter for a child's attitudes, positive assortative mating is an implication of models that assume parents have a preference for children with attitudes similar to their own; in this case parents have an incentive to find similar partners, in order to avoid distortions in the transmission of attitudes to their children (see, e.g., Ichino and Maggi 2000; Bisin and Verdier 2001; and Bisin et al. 2004). Our findings indeed suggest that parents tend to marry individuals with similar trust and risk attitudes.

Another mechanism involves other role models in the environment influencing a child's attitudes, in addition to the parents. This mechanism arises because a child's attitudes are assumed to be susceptible to socialization, and would tend to reinforce regional or ethnic differences. We therefore also investigated whether a child's attitudes are related to the prevailing attitudes in the local geographic region. The findings indicate a role for environment, in that a child's attitudes are similar to the prevailing attitudes in the local geographic region, even controlling for parental attitudes. Of course, these two alternative reinforcing mechanisms interact provided that parents sort themselves into neighborhoods with a population that has attitudes similar to their own.

Nurture or nature?

An important question concerns the precise channel through which attitudes are transmitted. It is still an open question whether attitude transmission works through nurture (i.e., deliberate inculcation or imitation) or nature (i.e., physiological channels like genetics), or both. There is evidence from twin studies that risk attitudes are genetically inheritable. Recent findings suggest that about 20 percent of the variation in individual risk attitudes might be explained by genetic differences (see, e.g., Cesarini et al., 2009). By now, several pieces of evidence suggest that nurture must play also at least some role. For example, Dohmen et al (2006) find that family structure has an impact on children's attitudes. Single-children are more similar to their parents in terms of attitudes than children with siblings are, which is hard to explain with a purely genetic mechanism. It is consistent with single-children receiving more undivided attention and socialization from the parents, however. Likewise, it appears difficult to reconcile the influence of the attitude distribution in the region of residence with a purely genetic transmission mechanism.

Policy implications

To conclude, it appears that the data are strongly consistent with a transmission of economically relevant attitudes from parents to children. An important area for future research is investigating the relative strength of the different transmission channels as well as their interactions. How different parental characteristics and family structures matter for the transmission of attitudes from parents to children has important implications for the potential of policy interventions.

Evidence for the transmission of attitudes from parents to children is highly relevant for understanding why there is a strong persistence in economic outcomes across generations for different families, dynasties and even countries. There is a large literature studying social mobility within countries, which documents substantial correlations between parents and children in terms of income, wealth, education and occupation. Transmission of attitudes could be one mechanism underlying such correlations: one reason that children may end up with outcomes similar to their parents may be that they inherit similar attitudes and thus make similar economic choices. Trust and risk attitudes are both relevant for the types of outcomes that are typically correlated between parents and children, such as wealth accumulation and occupational choice. Other attitudes are also likely to be important, however, for example patience.

A role for attitudes in explaining intergenerational correlation in economic outcomes points to the importance of the child's home environment and parental attitudes as policy levers for addressing lack of social mobility. Interfering with the ways that a family raises its children is of course controversial and problematic from a policy perspective.

Nevertheless, recent evidence points to important correlations between parental characteristics such as education and their attitudes, with more educated

parents being more trusting and more willing to take risks (see, e.g., Dohmen et al. 2006). Recent evidence also documents that risk attitudes and patience are related to cognitive skills (see Dohmen et al. 2007). Evidence by Carniero et al. (2007) shows that influencing mother's education might be a useful way to affect child outcomes like test scores, grade repetition and obesity. Hence, this appears highly relevant as a potential way to affect the transmission of attitudes among certain population groups, regions or countries and to thus improve their economic perspectives. The results cited above suggest one mechanism through which policies focused on parental education could affect a child's outcomes, namely through their cultural transmission: the transmission of economically relevant attitudes from parents to children.

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