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In the name of my parents:

Entrepreneurship and the intergenerational transmission of values[1]

Michael Wyrwich

Abstract

Mounting empirical evidence shows that kids of self-employed parents are very likely to become entrepreneurs themselves. These findings are often attributed to the intergenerational transmission of parental norms and values. However, many papers in the field are not that explicit about parental values. Furthermore, nearly all studies neglect potential heterogeneity of entrepreneurial parents and their values. I argue that values of entrepreneurial parents can be quite different due to context factors like their motivation for being self-employed (e.g., necessity- vs. opportunity driven). I also think that *direct* information on values should be exploited to understand their intergenerational transmission. To this end, I fill research gaps and contribute to the literature by making use of a natural experiment. This allows identifying a group of entrepreneurial parents with a distinct value orientation and detecting a transmission of these parental values.

Keywords: Entrepreneurship, Intergenerational transmission, Values

JEL codes: L26; J13; J62; P37; Z13

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1 Introduction

One of the most fascinating findings of entrepreneurship research is that parental self-employment is positively linked to entrepreneurial choice. This result is attributed to the transfer of tangible and intangible resources (e.g., Dunn and Holtz-Eakin, 2000), genetic inheritance (e.g., Nicolaou et al., 2008; Nicolaou and Shane, 2010), and the transmission of taste for entrepreneurship (e.g., Dohmen et al., 2012; Chlosta et al., 2012; Lindqvist et al., 2013). The intergenerational correlation of entrepreneurial taste suggests there is a transmission of values in favor of entrepreneurship which is the focus of this paper and that of which is understood here as deeply held convictions and beliefs about the world that are crucial for preference formation (Tabellini, 2008).

Economists are increasingly aware of the importance of intergenerational value transmission (e.g., Bisin and Verdier, 2000, 2001; Doepke and Zilibotti, 2008, 2012; Tabellini, 2008) but there are no studies that have empirically tested the effect of parental self-employment on individual value orientation. One problem is that it is not clear which values self-employed parents actually have. Parents that have been self-employed out of necessity might have an entirely different value orientation than those ones who introduce an innovative product.

This study makes use of a historical natural experiment to overcome the value identification problem. The idea is inspired by the Schumpeterian notion that entrepreneurs have to overcome manifold resistance in their (institutional) environment for creating something new but also for pursuing deviant economic practices in general (Schumpeter, 1912; 118-121). Against this background, I put forward the following argument. In environments where institutional approval of entrepreneurship is low, only parents with a distinct value orientation select into self-employment. Thus, only people that put emphasis on challenging existing conditions which is defined as mastery in the psychological theory on value priorities (e.g., Schwartz and Bardi, 1997; Schwartz, 1999) run an entrepreneurial venture. Simply stated, if overcoming environmental resistance makes an entrepreneur, it needs a die-hard entrepreneur in an institutional environment where the dose of resistance is extremely high. Hence, institutions not only affect the level of entrepreneurship as argued by Baumol (1990) but also determine *who* is selecting into it.

The idea is tested by analyzing the value orientation of East and West Germans. The institutional environment is more or less the same in both parts of the country but East Germans had been exposed to four decades of socialism which was an extremely anti-entrepreneurial institutional environment (Earle and Sakova, 2000). Only parents with an extreme emphasis on mastery should have selected into entrepreneurship in the German Democratic Republic (GDR) and if value transmission takes place then their kids should also reveal a priority for mastery in post-unification Germany.

The dataset allows inferring whether East Germans had self-employed parents in the GDR. The results indicate that such children put much more emphasis on mastery today compared to East Germans without parental role models in their adolescence in socialism. Thus, a transmission of values seems to take place despite radical anti-capitalistic indoctrination. There is no parental self-employment effect on the revealed priority for mastery for West Germans where parents could have selected into entrepreneurship for a variety of reasons other than pursuing mastery experience (e.g., necessity).

The remainder of this paper is as follows: first, in Chapter Two a brief overview of entrepreneurship and intergenerational transmission is presented. Against this background, it is argued how institutional approval affects selection into entrepreneurship (Chapter Three). The fourth chapter introduces the empirical strategy of this study. Fifth, results are presented before a final discussion concludes the paper.

2 Entrepreneurship and Intergenerational Transmission: Review

There have been several papers on entrepreneurship and intergenerational transmission. Pioneers in this field are Dunn and Holtz-Eakin (2000) who explicitly modeled the role of parental self-employment on entrepreneurial choice (DH2000 in the following). In their account, expected utility depends on income Y and a set of individual characteristics X (e.g., human capital, age, gender).

$$
\begin{aligned}
&E\left\{U\left[\theta_i(E_i^P)\, f(k_i^*)\varepsilon + r(A_i + \varphi A_i^P - k_i^*); X_i\right]\right\} > E\left\{U\left[w_i + r(A_i + \varphi A_i^P); X_i\right]\right\} \\
&E\left\{U\left[\theta_i(E_i^P)\, f(k_i^*)\varepsilon - rk_i^*; X_i\right]\right\} > E\left\{U\left[w_i; X_i\right]\right\}
\end{aligned} \tag{1}
$$

A crucial element in this model is entrepreneurial ability (θ_i) which measures individual productivity with respect to entrepreneurial tasks. DH2000 presume that this ability is a function of parental self-employment (E_i^P).[2] Thus, parents are role models that demonstrate entrepreneurship which allows children to observe and acquire entrepreneurial capabilities. The ability measure is multiplied with a production function using the initial capital investment ($f(k_i^*)$) and a random error term (ε) which yields the individual gross earnings. Capital income depends on the individual resources remaining after the initial investment ($A_i - k_i^*$) and access to parental wealth (A_i^P) and (φ) as an exchange rate between own assets and wealth holdings of parents. Access to parental assets is not depending on entrepreneurial choice. Therefore, the decision to start a firm is guided by evaluating the (expected) utility of starting an entrepreneurial venture ($\theta_i(E_i^P) f(k_i^*)\varepsilon - rk_i^*$) and the alternative of (expected utility) from income when working as dependent employee (w_i).[3]

Apart from expected income utility DH2000 presume the relevance of taste for entrepreneurship captured by a vector of individual characteristics (X_i). The authors are not specific about taste for entrepreneurship. However, other empirical studies find that job and life satisfaction can be important non-pecuniary incentives for running one's own venture that can compensate pecuniary rewards. This can be attributed to the "procedural" utility of generating income by being one's own boss (e.g., Benz and Frey, 2008; Croson and Minniti, 2012; Hyytinen et al., 2013).[4]

It is likely that the formation of preference for independence and non-pecuniary taste for entrepreneurship is affected by parents much like they exert an influence on entrepreneurial ability and financial constraints. The idea is guided by approaches that demonstrate the role of family socialization for the transmission of norms and values (e.g., Bisin and Verdier, 2000, 2001; Doepke and Zilibotti, 2008, 2012; Tabellini, 2008). Values are understood here as "…deeply held convictions about religious or moral principles or beliefs about the long-run consequences of

[2] This is not modeled explicitly by DH2000 but they presume that θ_i is affected by parental self-employment.

[3] Necessity start-ups out of unemployment can be regarded as an extension of the income decision problem where an individual evaluates the pay-off of remaining unemployed or increase efforts to enhance the probability to find waged work.

[4] For a utility function that considers both kinds of rewards, see Westlund and Bolton (2003). The authors note further that non-pecuniary income can become negative since entrepreneurship is associated with loss of leisure which might level out procedural utility.

alternative patterns of behavior that likely apply to everyone" that are crucial for preference formation (Tabellini, 2008, 918). Preference for independence, for instance, reflects priority for autonomy which is defined in the psychological theory on value priorities as "…emphasis on promoting and protecting the independent ideas and rights of the individual to pursue his or her own intellectual directions and the individual's independent pursuit of affectively positive experience" (Schwartz and Bardi, 1997, 396; see also Schwartz, 1999). The transmission of values like autonomy might explain evidence on the intergenerational correlation of risk preferences and entrepreneurship (Dohmen et al., 2012).[5]

The conceptual foundation of intergenerational value transmission is that parents get utility from the well-being of their offspring. The general trigger mechanisms are paternalistic altruism and imperfect empathy. Parents can exert socialization effort (e.g., spending time with their kids), want to socialize their children in accordance to their own value system, and have technology to affect the preference formation of their children (for details, see Bisin and Verdier, 2000, 2001). So, if parents share values, such as autonomy that drives taste for entrepreneurship, then they can transmit them to their offspring.

I want to add to the discussion of values and entrepreneurial choice that putting emphasis on autonomy is not necessarily sufficient to form a preference for entrepreneurship. Therefore, it is argued in the following that institutional approval of entrepreneurship determines which values "are required" to be an entrepreneur. Against this background, I then exploit a historical experiment to detect intergenerational value transmission.

3 Institutional Approval and Intergenerational Transmission of Entrepreneurship

3.1 Approval of entrepreneurship

In his *Theory of Economic Development* Schumpeter (1912, 118-121) stresses the resistance an individual has to overcome if she wants to deviate from common economic practices. He mentions the social disapproval a peasant would encounter in his

[5] For a recent theoretical account on the role of parenting for the formation of preferences, see Doepke and Zilibotti (2012). The role of *values* that underlie the decisions of parents to influence their children's preferences is, however, not explicitly assessed in their approach.

community when changing his subsistence strategy. More generally, Schumpeter claims that economic agents in all social and economic spheres will feel enormous crosscurrents from their peers if they leave trodden paths. Schumpeter (1912, 118) further argues that most people cannot withstand the social pressure to abstain from deviant behavior, but some agents do. They put tremendous effort into overcoming the multifaceted resistance that they are confronted with.

Schumpeter already talks implicitly about differences in approval of entrepreneurial behavior across social groups.[6] Weber (1958) and McClelland (1961) are more explicit and argue that certain value orientation of members of a society, namely Protestant work ethic and need for achievement, drive cross-national differences in entrepreneurial activity. Varying degrees of approval for entrepreneurship are also documented by economic history research. Landes (1949), for instance, describes the social pressure that inhibited entrepreneurship in the economic history of France. Furthermore, entrepreneurial activities *in general* can generate social disapproval under particular social and economic conditions. Baumol (1990), for instance, illustrated that in Ancient Rome—even though it was rewarding with respect to personal wealth—entrepreneurial effort in the economic sphere was regarded with low prestige. Gerschenkron (1953, 6-9) describes that entrepreneurs in tsarist Russia in the 19th century have been at variance with the dominating feudal values.

In general, the sources of approval or "societal legitimation" are the values among members of a society. Legitimation then shapes the demand and supply of entrepreneurship as well as the resources that are allocated to the entrepreneurial function (Etzioni, 1987). From an institutional perspective, approval of entrepreneurship refers to humanly devised constraints that shape the extent and perception of entrepreneurship. These constraints can be found in codified formal rules like legal as well as informal arrangements which are defined by rules of conduct, norms of behavior, and conventions (North, 1990) that drive entrepreneurial choice.

3.2 Approval of Entrepreneurship and Occupational Choice

Approval can affect the individual gross earnings from pursuing an entrepreneurial career as they are modeled in the aforementioned DH2000 utility function. So, approval can affect the number of opportunities to shift ability into productive entrepreneurship. Individuals with a high ability might have low opportunities to relate

[6] For an exegesis of the original paragraphs, see Westlund and Bolton (2003).

their talent to entrepreneurship, for instance, due to prohibitive market entry regulation.[7] According to Baumol (1990) individuals might opt for pursuing unproductive and destructive activities to disclose their entrepreneurial talent. Approval could also affect the productivity of capital and the respective production function (e.g., capital tax). There might also be a specific effect of approval on the parental wealth access, for instance, via unfavorable business inheritance regulation. Such regulation reduces the attractiveness of entrepreneurial choice based on income prospects. Thus, one should expect a lower average share of entrepreneurs in environments with entrepreneurship-deterring formal institutions.[8]

Informal institutions play their part by influencing non-pecuniary income. Disapproving values mighty adversely affect life and job satisfaction stemming from being an entrepreneur due to the crosscurrents people face in their environment. This might prompt individuals with entrepreneurial values like autonomy to search for alternative outlets for acting out their values. In the terminology of Baumol (1990), one might think of unproductive and destructive entrepreneurial activities as rent-seeking or engagement in black markets. Apart from that, there may be a direct effect of approval on the adaptation of individual values as it is indicated by evidence on the long-run effect of informal institutions on preferences (e.g., Alesina and Fuchs-Schuendeln, 2007) which may, in turn, be reinforced by parental socialization. Thus, disapproval of entrepreneurship on the societal level might crowd out entrepreneurial values on the individual level.

Altogether, approval can reduce the pecuniary income and the non-pecuniary rewards of entrepreneurship, therefore, only few people select into entrepreneurship when disapproval is high. But who are these people that opt for an entrepreneurial career in hostile environments like Ancient Rome or late 19th century Russia?

Key to answer this question is focusing on values that are complementary to autonomy; values that motivate people to withstand and master the enormous social pressure to strive for independence. Having a priority for challenging existing conditions is defined as mastery in accordance to the psychological theory on value priorities; more precisely it “is putting emphasis on getting ahead through active self-

[7] Entrepreneurial ability might be a function of approval if the institutional context affects the level of opportunities to acquire such ability and the incentive to invest in entrepreneurial abilities.

[8] There might be also an effect of informal institutions on pecuniary income. To this end, Westlund and Bolton (2003) develop a theoretical model where they show that also informal social approval of entrepreneurship can directly feed back into the willingness to finance entrepreneurial projects and raises liquidity constraints.

assertion, and through changing and mastering the natural and social environment" (Schwartz and Bardi, 1997, 396). The entrepreneurship literature is more or less silent in the role of this value which is surprising since mastering external resistance is the core of the Schumpeterian argument on the meaning of entrepreneurship. The silence may be explained by the fact that most of the previous literature focused on North America and Western Europe where approval of starting a firm is relatively high compared to, for instance, Ancient Rome. This paper breaks the silence by exploiting a historical natural experiment which demonstrates the relevance of institutional approval in the discussion of entrepreneurial values and reveals intergenerational transmission of a value priority for mastery.

3.3 Approval of Entrepreneurship and Value transmission: an Experiment

There are two areas, *A* and *B*, and the time periods, *t* and *t+1*. In both areas and periods people can select into entrepreneurship with the incentives to do so depending on the degree of approval. In the first period the generation of parents faces the occupational choice whereas their offspring makes the decision in the second period. In *t* region *A* is characterized by a high degree of formal and informal approval of entrepreneurship (*H*). It is an entrepreneurship-facilitating environment. Region *B* is an entrepreneurship-inhibiting environment marked by low approval of entrepreneurship (*L*).[9]

There are fewer parents in *B* who are self-employed than in *A*. In *t+1*, an exogenous increase of formal approval is introduced to region *B* which makes it much more rewarding to be self-employed. Both areas are facilitating in the second period. Thus, entrepreneurship among region *B* offspring should be more widespread than among their parents. I further expect that parents that opt for an entrepreneurial career in the inhibiting environment B_t value mastery which is needed to cope with disapproval of entrepreneurship. No such value orientation is needed in the facilitating environment of *A* and in *t+1*. If value transmission takes place then children of people that have been entrepreneurs in the inhibiting environment should have a relatively high priority for mastery.

The historical natural experiment reflects the German re-unification process in the late 20th century. Until 1989 the country was split up into the Federal Republic of Germany (FRG) in the West and the German Democratic Republic (GDR) in the

[9] The terms eship-facilitating/inhibiting were coined by Westlund and Bolton (2003).

East. The FRG was an established market economy whereas the GDR was a socialist centrally-planned economy. Over the course of re-unification the ready-made formal institutional framework of the FRG was transferred to the ex-GDR.

The approval of entrepreneurship in the socialist GDR was extremely low compared to the FRG and post-unification Germany since it is hard to imagine a system that has more explicit and implicit barriers for entrepreneurial activities than socialism, to put it with Earle and Sakova (2000) who cite extremely low opportunities to expand a business, high taxes, wage and price controls, centralized allocation of key inputs along with legal and bureaucratic obstacles all of which reduce the incentive for and pecuniary rewards of entrepreneurship. Mass collectivization of private property and the promotion of large-scale socialist conglomerates constituted a building block for socialist economic policy and prompted the emergence of anti-entrepreneurial values and engendered an erosion of entrepreneurial spirit (e.g., Ageev and Kuzin, 1990; Sztompka, 1993; Koch and Thomas, 1997).

There have been cross-country differences with respect to the tolerance of entrepreneurship and the enforcement of anti-entrepreneurship policy but the GDR was one of the more rigid systems at the advent of the Iron Curtain's demise compared to countries like Hungary and Poland (e.g., Earle and Sakova, 2000). There was little scope for the private sector in the GDR. The number of active business owners in 1989 was about 185,000 (about 1.8% of the workforce). Self-employment was tolerated mainly in handicraft and manufacturing trades industries aimed at the private consumer market. People in craft businesses, for example, were supposed to join the state-promoted socialist handicraft cooperatives but could not be forced legally to do so (for details on self-employment in the GDR, see Pickel, 1992). So, private business owners have decided to challenge disapproval in their environment and stuck to a deviant economic practice despite low pecuniary rewards.

The resistance of the self-employed is astonishing because adapting to life circumstances in socialism negatively affected the priority that individuals put on mastery in the sense of challenging the existing conditions (for a detailed discussion and empirical evidence, see Schwartz and Bardi, 1997). Consequently, self-employment indicates that people have not adapted to socialism but internalized values different than those of the average "socialist citizen." In this respect, being self-employed can be understood as an opportunity to act out priority on mastery and a source of non-

pecuniary procedural utility.[10] If one would *just* have had a preference for entrepreneurship one could have engaged in unproductive forms, such as rent-seeking within socialist organizations or moonlighting.

If entrepreneurs in socialism put emphasis on pursuing mastery experience and if an intergenerational transmission of values takes place their children should also attach a high priority to mastery compared to other people that have been socialized in the socialist system. Pickel (1992) reports that in the socialist GDR a good proportion of the self-employed came from entrepreneurial families. This intergenerational continuity is a precondition for the transmission of value priority for mastery among the offspring of GDR entrepreneurs. This pattern is the basis for developing my hypotheses.[11]

3.4 Hypotheses

I compare the value orientation of the treatment group of East Germans in re-unified Germany which had self-employed parents (*P*) in the low approval environment of the GDR (*L*) to the values of those East Germans with no parental role models before 1989 (*NL*). It is assumed that the socialization effort of self-employed parents was at least as strong as those of non-entrepreneurs. In accordance with the previous line of argumentation, it is to expect that the latter group reveals a much lower emphasis on mastery (H1).[12] A further hypothesis is that East Germans with parental role models reveal a stronger priority for mastery than Germans with parental role models in the high approval environment of West Germany (group: *PH*).

The logic behind this second hypothesis (H2a) is as follows: if priority on mastery is not that crucial for being an entrepreneur in non-hostile environments like

[10] Remaining self-employed in socialism requires mastery as well (e.g., organizing resources against the background of material shortages). Enactive mastery experience, in turn, may feed back into self-efficacy which, in turn, is crucial for conducting entrepreneurial activities since being confident in one's own capabilities is a prerequisite to perform various entrepreneurial tasks in risky and uncertain situations (e.g., Rauch and Frese, 2007). Thus, mastery experience might work as self-affirmation of the own value priority for mastery. It might also reinforce the emphasis one puts on mastery. Be that as it may, an investigation of the source of value formation is beyond the scope of this paper. The point I want to drive home is that a priority for mastery was needed for being a business owner in the GDR.

[11] Parents might talk their children out of entrepreneurial choice due to fear of social exclusion of children. This does, however, not rule out the transmission of values like mastery.

[12] It should certainly be kept in mind that in the GDR only people in professions and industries where self-employment was tolerated, like the manufacturing trades, had the opportunity to gain procedural utility from being a business owner and acting out priority for mastery. Consequently, respondents of the control group *NL* in table 1 might also have parents with such a value orientation that worked in fields where self-employment was not a legal option. This might reduce the treatment effect associated with group *PL*.

market economies, then people with low and modest priorities for mastery also select into entrepreneurship. Accordingly, parental self-employment should be less clearly associated with transmission of a value priority for mastery compared to people with parental role models in inhibiting environments. Similarly, West Germans without parental role models in self-employment (group: *NH*) should not be that different with respect to the rating of mastery than those with parental role models. Hence, I hypothesize that the treatment group *PL* reveals a much higher emphasis of mastery than the *NH* group (H2b). Table 1 summarizes the hypotheses.

		Approval in *t*		Hypotheses (*t+1*)
		High (Region A)	Low (Region B)	H1: Mastery PL > Mastery NL
Parental role model in *t*	P (Yes)	PH	**PL**	H2a: Mastery PL > Mastery PH
	N (No)	NH	NL	H2a: Mastery PL > Mastery NH

Table 1: Hypotheses

4 Empirical Strategy

The data was collected from October 2010 to February 2011 from 1,105 founders in Germany using a computer-assisted telephone interviewing software. The businesses in the sample were founded between 1990 and 2008 and are active in manufacturing and knowledge-intensive business services. The survey includes personal information about founders and information about firm characteristics. The sample was based on data provided by the Establishment History Panel (BHP) at the Institute for Employment Research of the German Federal Employment Agency. The BHP comprises all establishments that employ at least one person obliged to pay Social Insurance contributions. The sample comprises establishments in six German regions that hired their first employees between 2003 and 2008. Altogether, 1,000 establishments per region have been contacted which is approximately 80% of all establishments that had their first hire in this period. In this time period the level of self-employment

had been approximately the same in both parts of the country and the influence of transition-specific catching up processes should be modest compared to the 1990s.

One important feature of the sample is that it does not comprise necessity entrepreneurs since building a workforce at some stage of the venture development serves as an indication that these founders identified and seized an opportunity. In addition, the construction of the questionnaire ensured that the firm is not part of a larger company. Furthermore, only new firms in the sense of having created new capacities were considered. This rules out that the respondents just continue a family business. The respondents established themselves with an entirely new firm.

People with non-German nationality and those respondents that had not been living in East and West Germany in 1989 were excluded. Further, only individuals that had been born in 1945 or later were kept in the sample. So, all East Germans in the sample had been socialized throughout the time of soviet occupation or after the foundation of the GDR.[13]

The respondents were asked whether parents were self-employed when the respondent was 15 years old. According to empirical findings by Sørenson (2007) transmission of entrepreneurship is only noteworthy for children before the age of 16. Further, I have information on the birth year of the founder and know where he or she was living in 1989. If an East German born prior to 1975 had self-employed parents, this by definition meant that they had been so in the communist GDR.

The incremental anti-entrepreneurship policy throughout socialism allows for a further test. To be more precise, the last radical wave of expropriation took place in 1972. Entrepreneurial activities since then have been allowed in very few occupations, mainly in the manufacturing trades and consumer oriented craft services (for details, see Pickel, 1992). Thus, the period from 1972 to1989 can be regarded as the Dark Age for entrepreneurship in the former GDR, an extremely hostile environment. Therefore, attention is also paid to those persons born between 1957 and 1974 who were 15 years old during this Dark Age.

There is only information on the rating of mastery among entrepreneurs but no firm argument why there is not systematic value transmission to children that will not choose entrepreneurship in their post-socialization professional career. Further, if one takes the previous findings on the effect of parental self-employment on entre-

[13] After dropping missing values 974 observations remained in the final sample.

preneurial choice seriously then the group of children that is investigated here is a substantial share.[14]

Respondents were asked to indicate the importance of different reasons for running their venture. One of the items was whether they are self-employed in order "to make a change in our world, to create something new" (1: "not important" to 7: "very important") which is employed as the variable of interest and can be referred to "challenging the existing conditions" and which comes close to the definition of mastery. It is important to note that entrepreneurs could rate other reasons simultaneously. They did not have to decide for or against mastery. Other reasons that could be indicated are autonomy, financial motives, opportunity perception, and necessity.

I take into account socio-demographic characteristics, prior self-employment experience, and business success in the analysis (for definition of variables, summary statistics and correlation matrix, see Table A.1-A.3). Prior self-employment experience is considered since it may have altered or changed the initial reason for becoming self-employed. So, a dummy variable is considered which indicates whether the respondent has been self-employed before starting the actual firm. A control for business success is required to account for "self-justification bias" (Carter et al., 2003). A successful entrepreneur may reveal a different reason for running the firm than initially due to the ventures' development. Therefore, it must be assessed whether the income of entrepreneurs increased after starting the firm.

Another bias is directly related to parental self-employment. Self-employed children may have, for instance, the opportunity to draw on assets and business experience of their parents whenever business-related problems arise. The knowledge of having that option to fall back on tangible and intangible family-specific resources that are not available to entrepreneurs with no parental role models may feed back into the perception that one can successfully master tasks related to run the firm. This, in turn, could affect the priority for mastery. Further, if self-employment of children mirrors simply business inheritance then they might adapt their values. Doepke and Zilibotti (2008), for instance, argue that owners of inherited family firms develop a taste for leisure since their income becomes less elastic with respect to labor effort but is increasingly derived from capital. Thus, the revealed tastes might not reflect initially transmitted values.

[14] For evidence on the effect of parental self-employment on entrepreneurial choice in East Germany, see Fritsch and Rusakova, 2012; Wyrwich, 2013.

A potential value adaptation underlying such changes in preferences is certainly not problematic for the dataset at hand since only new firms in the sense of having created new capacities were considered. Entrepreneurs that inherited their actual business were not considered. Further, one can rule out to a large degree that tangible and intangible family-specific capital was transferred over the course of transition. Capital accumulation in socialism was strongly prohibited (Fritsch, 2004). In essence, children of GDR entrepreneurs have presumably worse access to capital than West German entrepreneurs which rather negatively impacts on mastery.

Moreover, the shock transition put the entire economy of the GDR at risk due to its low competiveness which included: a severe economic dislocation, destruction of business networks, and a depreciation of work experience, etc (e.g., Fritsch, 2004; Wyrwich, 2013). Such problems have been in place for the state-owned economy as well as for the marginal private sector. More than 50% of the private firm stock present in the GDR went out of the market due to coping problems with the requirements of a market economy (Thomas, 1996). Thus, the (potential) transfer of tangible and intangible resources should hardly feed back into an upward self-justification bias that drives the rating. Thus, it is less likely that overconfidence of children of GDR entrepreneurs is higher than the one found for entrepreneurs in general (Koellinger et al., 2007).

5 Results

5.1 Descriptives

The distribution of parental self-employment reveals some interesting insights (Table 2). The share of respondents with self-employed parents is about 20%. There are tremendous differences among age cohorts in East and West Germany. For East Germans born prior to 1975 the share of respondents with parental role models in self-employment is only about 10.2% whereas West Germans in the same age range have a 25.4% share. The spread is similar when restricting the comparison to individuals that had been born between 1957 and 1974 (8.4% in East Germany; 22.7% in West Germany). For those born prior to 1957 the share of West German entrepreneurs with self-employed parents is about 35.4% compared to 16% in the East. There is nearly no East-West difference for those entrepreneurs born after 1974 who had

been 15 years old in the post-unification period. Here, the share of respondents with self-employed parents in the East is 37% in West Germany and 36% in the eastern part of the country.[15]

Table 2: Share of Respondents with Self-employed Parents

	Number of obs	East	West
All	974	20.02	
	East: 495 / West: 479	14.14	26.10
Born <1975	420/ 452	10.24	25.44
Born 1957-1974	320/ 353	8.44	22.66
Born <1957	100/ 99	16.00	35.35
Born >=1975	75/ 27	36.00	37.04

Figure 1 reveals that the share of entrepreneurs with self-employed parents from the sample is much higher than the overall self-employment rates in East and West Germany in different time periods. This suggests that having parental role models affects the decision to become self-employed regardless of the economic system.

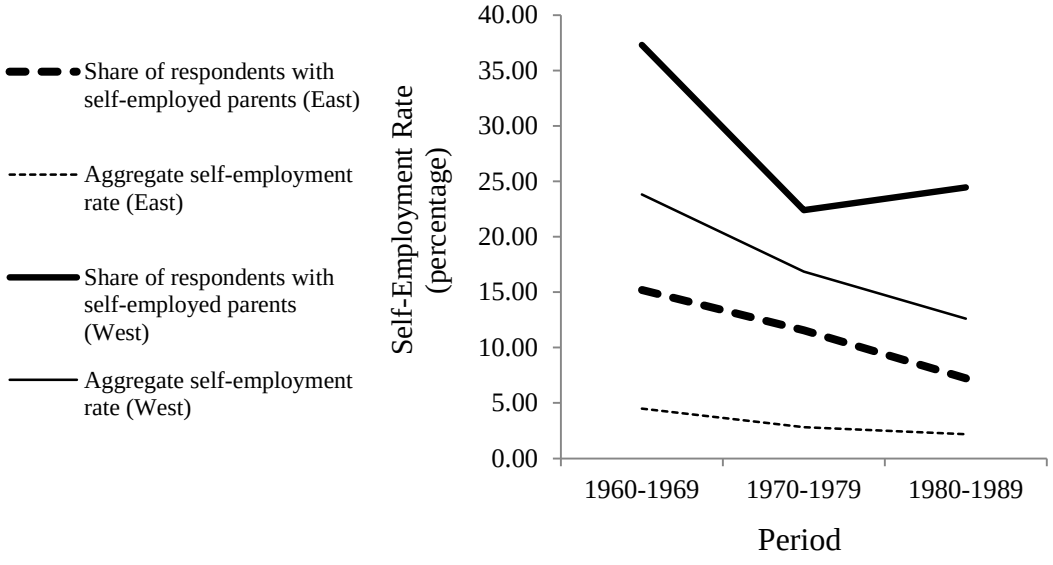

Figure 1: Self-employment in Germany over Time (Aggregate Rates have been calculated with Information from Federal and GDR Statistical Offices)

[15] The astonishingly high share of respondents with self-employed parents among the youngest group suggests that there is an interaction between age and parental self-employment when it comes to the effect on entrepreneurial choice. An investigation of this pattern is beyond the scope of this paper.

In the next step it is evaluated whether the time period and institutional system makes a difference with respect to how children of self-employed parents rated mastery as a reason for running their venture. Table 3 provides results on the mean comparison between children of self-employed and their peers without self-employed parents.

Table 3: Rating of mastery as reason for running a venture

	Sig	Parent Self	Non-Parent Self
		East	
All	*	4.60	4.16
Born <1975	**	4.77	4.15
Born 1957-1974	**	4.96	4.18
Born <1957	n.s.	4.44	4.05
Born >=1975	n.s.	4.33	4.21
		West	
All	n.s.	3.99	4.16
Born <1975	n.s.	3.98	4.15
Born 1957-1974	n.s.	3.90	4.17
Born <1957	n.s.	4.17	4.08
Born >=1975	n.s.	4.10	4.29
Notes: *** p<0.01, ** p<0.05, * p<0.1, n.s. not significant			

East German respondents that had self-employed parents and spent their adolescence in the GDR rated mastery much higher than their peers without role models. The difference is especially pronounced when restricting the analysis to those respondents who had been 15 years old in the late GDR (1972-1989), the Dark Age of entrepreneurship. There are no significant differences with regard to mastery between respondents with self-employed parents and those without such role models in the post-unification period. Interestingly there are no significant differences at all between West Germans with self-employed parents and those without ones in the different time periods analyzed. The latter group in most cases even rated mastery slightly higher.

Apart from that, East Germans that had self-employed parents in the GDR rated mastery significantly higher than their peers from West Germany that had parental role models prior to 1989 which is most pronounced for respondents born between 1957 and 1974. No differences can be detected for the post-unification period (Table 4).

Table 4: Rating of Mastery among East and West German Entrepreneurs with Self-employed Parents

	Sig	East	West
All	**	4.60	3.99
Born <1975	**	4.77	3.98
Born 1957-1974	***	4.96	3.90
Born <1957	n.s.	4.44	4.17
Born >=1975	n.s.	4.33	4.10

Notes: *** p<0.01, ** p<0.05, * p<0.1, n.s. not significant

Altogether, the mean comparisons already suggest that respondents that had self-employed parents in socialism are distinct in their motivation for running their entrepreneurial venture. This particular motivation seems not to be generally related to having had parental role models but to having them in a hostile environment.

At this stage, one might ask about the value priority for autonomy among the survey respondents. The respondents could indicate whether they are self-employed in order "to be independent" (1: "not important" to 7: "very important"; in German: "Ich bin selbständig, weil ich unabhängig sein will"). I do not expect any differences between parental self-employment and the emphasis the respondents put on autonomy since the strive for independence is expectedly a motivation for running a venture, regardless of institutional approval and rather a precondition for entrepreneurial choice. There are indeed no group differences. Thus, autonomy seems to be a reason for running one's venture that does not depend on parental self-employment and institutional approval. Additionally, the mean rating for autonomy is also much higher than for mastery (see Table A.2 and A.3).

One would like to know whether self-employed people in the GDR have had indeed a distinct value orientation compared to other GDR citizens. This cannot be answered with the dataset at hand. Therefore, I refer to a secondary dataset, the German Socio Economic Panel (GSOEP). The GSOEP is a representative, longitudinal study of private households in Germany (for details, see Haisken De-New and Frick, 2005). The dataset was used by the aforementioned study of Dohmen et al., (2012) on the intergenerational correlation of risk attitudes.

The first survey for East Germany was carried out in May 1990 (*Survey '90 on the social situation of individuals in the GDR*), approximately six months after the fall of the Berlin Wall. This survey wave allows for the disentangling of respondents that have been engaged in self-employment activities in the socialist GDR. To be more precise, it inquires how much income from self-employment in the GDR the

respondent yielded in May 1989. Apart from that, there is also a set of questions about how desirable respondents consider it for people in the society to have various character traits. One of the items is "being independent." Comparing the rating of this item (with 0 meaning "not at all desirable," and 10 meaning "highly desirable") between people that have been self-employed in the GDR and other East German respondents reveal a much stronger emphasis of independence (and so value priority for autonomy) among the group of self-employed.[16] This result might be, of course, affected by hindsight bias. There is also no question in this survey wave that could reveal the priority for mastery. Nevertheless, this secondary analysis suggests that the group of entrepreneurs in socialism had internalized a value that is at variance with those of the average citizen.

5.2 Regression Analysis

The peculiar emphasis on mastery among kids of GDR entrepreneurs found in the dataset might be explained by several individual and environmental characteristics which are controlled for in a regression analysis. The models in Table 5 refer to the East German part of the sample. An initial model presented in column I only assesses a general dummy variable for parental self-employment without distinguishing between having the parental treatment effect in the hostile institutional environment of the GDR. The effect of parenting on the rating of mastery is only weakly significant. In column II the parental self-employment dummy is interacted with a cohort marker indicating whether the respondent was 15 years of age or older in 1989. The interaction effect is highly significant and positive, whereas the constitutive terms are insignificant. Thus, there is an effect of having had self-employed parents in socialism on the rating of mastery as reason for running one's firm. The marginal effect of parental role modeling on the probability of rating mastery as high as possible is about 7%. It is 5.6% for rating the second-highest category and 4.2% for rating the third-highest score.

The significant influence found in the model of column II is confirmed by the model displayed in column III which is restricted to those East Germans born prior to 1975. The effect of parental self-employment seems to be even more pronounced when restricting the sample to those respondents that were adolescents (15 years old)

[16] Results can be obtained upon request.

in the entrepreneurial Dark Age of the GDR between 1972 and 1989 (see column IV).

Table 5: Rating of Mastery: East German Sample (OLogit)

	I	II	III	IV
	Born (1945-1985)		Born (1945-1974)	Born(1957-1974)
Parent self (Yes=1)	0.402*	-0.0912	-	-
	(0.235)	(0.334)	-	-
Parent self (Yes=1) * (Born<1975) (Yes=1)	-	0.742***	0.626***	0.744***
	-	(0.236)	(0.238)	(0.265)
Age (ln)	-1.078	-1.117	-0.906	-0.635
	(0.755)	(0.778)	(0.771)	(1.232)
Male (Yes=1)	-0.336*	-0.333*	-0.466**	-0.484*
	(0.172)	(0.180)	(0.197)	(0.247)
Prior Self (Yes=1)	0.421**	0.443**	0.444*	0.388
	(0.178)	(0.187)	(0.269)	(0.337)
Start-up size (ln)	0.152	0.158	0.141	-0.0231
	(0.153)	(0.155)	(0.150)	(0.216)
Income growth (Yes=1)	-0.00651	-0.0163	0.148	0.249
	(0.193)	(0.196)	(0.208)	(0.305)
East (Born<1975) (Yes=1)	0.354	0.164	-	-
	(0.473)	(0.488)	-	-
Pseudo R2	0.023	0.0241	0.0274	0.0303
Observations	495	495	420	320

Notes: clustered robust standard errors in parentheses/ *** p<0.01, ** p<0.05, * p<0.1. Cuts are not reported for brevity. It is controlled for region- and year-fixed effects (year of first hire and planning regions). All models include NACE 1-digit industry dummy controls.

The control variables do not seem to play a very important role in the motivation for being in business. Prior self-employment matters in the full models but appears to be insignificant in the restricted ones. Surprisingly, males reveal a somewhat weak significantly lower rating of mastery. There is no firm explanation for that. However, restricting the sample to males does not change the overall picture. The case number of women in the sample is unfortunately too low to run reasonable regression analyses. Altogether, the first hypothesis can be confirmed.

For testing H2a and H2b I analyzed the full German sample (see Table 6). The models presented in the first two columns comprise Germans regardless of the year of birth. Column I shows that there is no unconditional effect of parental self-employment on mastery. However, the interaction of parental self-employment with the dummy that indicates whether the respondent was born prior to 1975 is highly significant (column II). The marginal effect of parental role modeling on the probability of rating mastery as high as possible is about 6.6%. It is 6.1% for rating the second-highest score and 4% for rating the third-highest score.

Table 6: Rating of Mastery: All German Sample (OLogit)

	I	II	III	IV	V	VI
	Born (1945-1985)		Born (1945-1974)		Born (1957-1974)	
Parent self (Yes=1)	0.140	-0.0472	0.200	-0.0122	0.126	-0.116
	(0.146)	(0.126)	(0.152)	(0.124)	(0.167)	(0.128)
Parent self (Yes=1) *	-	0.706***	-	0.648***	-	0.798***
East (Born<1975) (Yes=1)	-	(0.187)	-	(0.224)	-	(0.279)
Age (ln)	-0.784**	-0.788**	-0.741**	-0.727**	-0.868	-0.834
	(0.354)	(0.372)	(0.347)	(0.363)	(0.648)	(0.665)
Male (Yes=1)	-0.137	-0.131	-0.202	-0.199	-0.245	-0.256
	(0.170)	(0.172)	(0.166)	(0.167)	(0.159)	(0.159)
Prior Self (Yes=1)	0.398***	0.402***	0.412***	0.411***	0.450***	0.444***
	(0.0931)	(0.0956)	(0.137)	(0.139)	(0.164)	(0.165)
Start-up size (ln)	0.163*	0.167*	0.167*	0.169*	0.0733	0.0704
	(0.0925)	(0.0918)	(0.0902)	(0.0894)	(0.107)	(0.106)
Income growth (Yes=1)	-0.0736	-0.0677	-0.01000	0.000982	-0.103	-0.0776
	(0.118)	(0.119)	(0.121)	(0.122)	(0.185)	(0.182)
East (Born<1975)	-0.433*	-0.519**	-0.438	-0.517**	-0.341	-0.435
(Yes=1)	(0.248)	(0.234)	(0.268)	(0.255)	(0.290)	(0.284)
East (Born>1974)	-0.596*	-0.565*	-	-	-	-
(Yes=1)	(0.313)	(0.320)	-	-	-	-
Observations	974	974	872	872	673	673
Pseudo R2	0.0162	0.0173	0.017	0.018	0.0173	0.0187

Notes: Clustered robust standard errors in parentheses (level of planning regions)/ *** p<0.01, ** p<0.05, * p<0.1. Cuts and constants are not reported for brevity. It is controlled for region- and year-fixed effects (year of first hire and planning regions). All models include NACE 1-digit industry dummy controls.

The models in column III and IV restrict the analysis to respondents that have been at least 15 years old in 1989. The results reveal again a significant GDR effect with respect to parental self-employment. This impact is again most pronounced when restricting the sample to those respondents that had been 15 years old between 1972 and 1989. Thus, the results are in line with the hypotheses H2a and H2b.

Prior self-employment has a significant positive effect in all models. This suggests that previous experience might affect business motivation in general. In all models, age has a negative effect on the rating of mastery which indicates that older persons are getting more conservative with regards to their motivation to challenge existing conditions. Interestingly, the rating of mastery is lower among East Germans which reflect an effect of exposure of socialism on value orientation which is in line with previous evidence (e.g., Alesina and Fuchs-Schuendeln, 2007). The other control variables are insignificant.

The results hardly differ when employing standard OLS regressions. Since the range of rating mastery is determined by the survey design, I also assessed

whether left and right-censoring is an issue. To this end, I ran Tobit regressions which yield slightly differing estimates but did not change the results qualitatively.[17]

Altogether, the models presented in this section demonstrate the pronounced effect that parental self-employment in a hostile environment can have on the motivation for being self-employed among the offspring of these entrepreneurs. There is no general effect of parental self-employment. The findings suggest that assessing the context in which parenting took place reveals intergenerational value transmission processes.

6 Concluding Remarks

This study sustains itself with the idea that it is not only hard to imagine a system more hostile toward entrepreneurship than communism (Earle and Sakova, 2000), but also difficult to imagine a system where being self-employed indicates a stronger entrepreneurial intention. It is found that children of such entrepreneurs also seem to have internalized values of which are especially crucial to "survive" as an entrepreneur in environments where approval of entrepreneurship is low. The analysis is based on a natural experiment that allows interpreting the results as evidence for intergenerational transmission of values.

One shortcoming of the study is that there is no information on values of those children of self-employed parents that are not self-employed. However, apart from a lack of such information there are also no firm arguments why parents should not have transmitted their values to those kids that did not choose entrepreneurship long after family socialization took place. Be that as it may, the point that I want to drive home is that the experiment allows for a group of individuals to isolate a value transmission channel where it is safe to assume that mediation effects are comparatively low.

Another limitation is that there is no information on unsuccessful entrepreneurs that quit the market shortly after entry and never hired employees in order to reach the minimum efficient size for survival. An analysis of the business motivation of these unsuccessful entrepreneurial children of self-employed compared to other unsuccessful entrepreneurs might reveal interesting insights. Further, there might be

[17] Results can be obtained upon request.

channels on how socialism could destroy intergenerational links of entrepreneurship. In this respect, recent results by Fritsch and Rusakova (2012) show that parental self-employment in a socialist environment has no effect on the decision to become self-employed among East Germans that have a tertiary degree which indicates exposure to a particularly strong ideological indoctrination.[18]

Altogether, there might be a more complex relationship between parental self-employment and the intergenerational transmission of values. Understanding the link is crucial. If anti-capitalist indoctrination cannot deter people with above-average entrepreneurial intentions to opt for self-employment and, in turn, transfer their values to their offspring then particular families could be regarded as an important source of the perpetuation of entrepreneurial culture beyond particular institutional environments and disruptive historical change.

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[18] These people might, nonetheless, put emphasis on mastery but simply did not start a firm.

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Appendix

Table A.1: Definition of Variables

Variable	*Operational Definition*
Mastery	Survey item: There are different reasons for being self-employed. I am self-employed because… *"I want to make a change in our world, I want to create something new"* (1: "not important"/ 7: "very important") German original: Es gibt verschiedene Gründe dafür, selbständig zu sein. Ich bin selbständig, weil… *"Ich in unserer Welt etwas bewegen, etwas Neues schaffen will"*
Autonomy	*"I want to be independent" (German original: "Ich unabhängig sein will")*
Parent Self (YES=1)	Indicating whether mother or father have been self-employed when respondent was 15 years old
Age (log)	Age of respondents before starting firm (log)
Male (YES=1)	Indicating wether respondent is male
East German Origin (YES=1)	Indicating whether respondent lived in the German Democratic Republic in 1989
Prior Self (YES=1)	Indicating whether respondent has been self-employed before starting the actual firm
Start-up size (log)	Number of employees in the year of the first hire (log)
Income Growth (YES=1)	Indicating whether income of entrepreneur increased after starting the firm

Notes: Own calculations have been applied.

Table A.2: Rating of Autonomy as Reason for running a Venture

	Sig	Parent Self	Non-Parent Self
		East	
All	n.s.	6.26	6.11
Born <1975	n.s.	6.09	6.06
Born 1957-1974	n.s.	6.00	6.09
Born <1957	n.s.	6.25	5.95
Born >=1975	n.s.	6.52	6.52
		West	
All	n.s.	6.10	6.02
Born <1975	n.s.	6.15	6.04
Born 1957-1974	n.s.	6.28	6.05
Born <1957	n.s.	5.86	5.97
Born >=1975	n.s.	5.50	5.71
Notes: *** p<0.01, ** p<0.05, * p<0.1, n.s. not significant			

Table A.3: Rating of Autonomy among East and West German Entrepreneurs with Self-employed Parents

	Sig	East	West
All	n.s.	6.26	6.10
Born <1975	n.s.	6.09	6.15
Born 1957-1974	n.s.	6.00	6.28
Born <1957	n.s.	6.25	5.86
Born >=1975	**	6.52	5.50
Notes: *** p<0.01, ** p<0.05, * p<0.1, n.s. not significant			

Table A.4: Summary Statistics

	Mean	S.D.	Min	Max
Mastery	4.17	1.79	1.00	7.00
Autonomy	6.09	1.20	1.00	7.00
Parent Self (YES=1)	0.20	0.40	0.00	1.00
Age (log)	3.62	0.22	2.89	4.13
Male (YES=1)	0.84	0.37	0.00	1.00
East German Origin (YES=1)	0.51	0.50	0.00	1.00
Prior Self (YES=1)	0.23	0.42	0.00	1.00
Start-up size (log)	0.47	0.72	0.00	3.00
Income Growth (YES=1)	0.65	0.48	0.00	1.00

Table A.5: Correlation Matrix

		1	2	3	4	5	6	7	8	9
1	Mastery	1								
2	Autonomy	0.184***	1							
3	Parent Self (YES=1)	0.011	0.028	1						
4	Age (log)	-0.046	-0.095***	-0.01	1					
5	Male (YES=1)	-0.009	-0.063*	-0.001	0.076**	1				
6	East German Origin (YES=1)	0.03	0.036	-0.149***	-0.115***	-0.105***	1			
7	Prior Self (YES=1)	0.100***	0.058*	-0.044	0.194***	0.085***	-0.019	1		
8	Start-up size (log)	0.067**	0.008	-0.007	0.018	-0.01	0.02	0.096***	1	
9	Income Growth (YES=1)	-0.024	0.107***	0.036	-0.176***	0.058*	0.001	-0.043	0.064**	1

Notes: *** p<0.01, ** p<0.05, * p<0.1