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Bankruptcy Regulation and Self-Employment Entry: The Moderating Roles of Income Share, Parenthood, and Hybrid Entrepreneurship

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Abstract

We investigate how individual factors moderate the impact of bankruptcy exemption levels—that is, the amount of wealth individuals can keep in case of bankruptcy—on entry into self-employment. Conceptually, we combine Prospect Theory’s axiom of diminishing sensitivity with insights from research on entrepreneurial failure. We hypothesize that individuals who face higher financial, social, or psychological costs because of bankruptcy will be less sensitive to higher exemption levels than will those who face lower costs across these dimensions. Our empirical results, which are based on a quasi-natural experiment in the United States, support our theoretical predictions.

Keywords

Entry into self-employment, bankruptcy law, prospect theory, entrepreneurial failure

JEL Classification: L26, L51

Introduction

Individuals who enter self-employment support economic growth, employment, and innovation (e.g., Decker et al., 2014), so knowing what hinders individuals from starting businesses has value for their local, regional, and national environments. A critical deterrent to entry into self-employment is the fear of bankruptcy, as indicated by survey evidence according to which bankruptcy represents one of the biggest fears that individuals in the United States and Europe consider when starting a business (European Commission, 2012). Consequently, prior research

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finds that bankruptcy law, which regulates the costs an individual faces in case of bankruptcy, is conducive to individuals' deciding to start their own businesses, as a more lenient bankruptcy law limits potential losses (Eberhart et al., 2017; Fan & White, 2003). Because of its importance for entry into self-employment and entrepreneurship in general, bankruptcy law receives widespread attention across the fields of economics (Fan & White, 2003), finance (Cerqueiro et al., 2017), management (Eberhart et al., 2017; Lee et al., 2007), and entrepreneurship (Damaraju et al., 2021; Fu et al., 2020; Lee et al., 2011; Peng et al., 2010).

However, prior research does not focus on the individual factors that may moderate bankruptcy regulations' effect on the decision to enter self-employment. As a notable exception, Eberhart et al. (2017) draw on institutional theory to show that the introduction of a more lenient bankruptcy regulation in Japan disproportionately stimulated top university graduates' entry into self-employment. Eberhart et al.'s (2017) argument is that such elites are generally less likely to enter self-employment than non-elites are because elites face higher financial and reputational costs of bankruptcy, and these costs are mitigated more strongly by the introduction of more lenient bankruptcy regulation. Eberhart et al. (2017) also refer to prospect theory (PT; Kahneman & Tversky, 1979) in suggesting that elites have more aversion to substantial losses than non-elites do, so they are more receptive to a bankruptcy reform that reduces such losses.

Yet, Eberhart et al. (2017) refrain from drawing further on PT's axiom of diminishing sensitivity, which states that individuals' sensitivity to a change in potential losses decreases as the size of their overall loss increases (Holmes et al., 2011; Kahneman & Tversky, 1979). In the context of changes in bankruptcy costs, then, diminishing sensitivity suggests that, in a group of individuals who face *the same decrease in bankruptcy costs* because of a reform, those who would face overall higher bankruptcy costs are less likely to respond to the decreased costs by entering self-employment. The implications of diminishing sensitivity are likely to be irrespective of the specific reform or group under study, making it relevant to all types of bankruptcy reforms (and, in fact, even beyond for other types of institutional change). However, we lack theory on how individual-level factors moderate bankruptcy costs' impact on entry into self-employment that takes the notion of diminishing sensitivity into account.

The present paper draws on PT to examine how individual characteristics moderate the relationship between bankruptcy law and entry into self-employment by shaping individuals' sensitivity to losses. Specifically, we focus on the impact of bankruptcy exemption levels—that is, the amount of wealth individuals can keep in case of bankruptcy—because modifications of these levels provide a measurable change in bankruptcy costs that is equal across individuals. Consistent with the axiom of diminishing sensitivity, we argue that individuals who face higher overall bankruptcy costs are less sensitive to bankruptcy exemption levels than those who face lower overall bankruptcy costs are. Since bankruptcy is a clear indicator of failure (Josefy et al., 2017), we focus on individual-level moderating factors derived from research on entrepreneurial failure, which highlights that individuals' overall costs from failure are financial (e.g., loss of personal income), social (e.g., stigma), and psychological (e.g., reduced well-being) (Fisch & Block, 2021; Ucbasaran et al., 2013). In turn, we hypothesize that the impact of bankruptcy exemption levels on entry into self-employment is negatively moderated by three factors: the individual's *share of household income*, as a higher share indicates higher financial costs; *parenthood*, as having children increases social costs; and *hybrid entrepreneurship*, as already engaging in self-employment while being employed increases psychological costs.

To estimate how the impact of bankruptcy exemption levels on entry into self-employment varies based on individual-level factors, we rely on state-level changes in bankruptcy exemption levels in the United States from 2005 to 2011 as a quasi-natural experiment (Cerqueiro & Penas, 2017).¹ We supplement this data with information from the Current Population Survey, an individual-level panel survey in the US conducted by the US Census Bureau. Consistent with our

theory, we find that the positive effect of bankruptcy exemptions on entry into self-employment decreases when the individual has a higher individual share of household income, has children, and is already engaged in hybrid entrepreneurship. The results show that a change in exemption levels from \$206,000 to \$506,000, such as occurred in Montana in 2007, leads to a change in the individual propensity to start a business that varies between 0 and 3.5 percent, depending on individual-level factors.

We offer two main contributions. First, we contribute to research on the impact of bankruptcy regulation on entry into self-employment (e.g., Fan & White, 2003; Fu et al., 2020; Lee et al., 2007, 2011; Peng et al., 2010) by studying the moderating role of individual-level factors, which most prior studies did not focus on. We advance Eberhart et al. (2017) by showing that, because of diminishing sensitivity, the impact of bankruptcy law on the decision to enter into self-employment is contingent on individual-level factors *independent of the specific reform or group under study*. We also advance the broader literature on institutions and entrepreneurship (e.g., Gohmann, 2012; Urbano et al., 2019) by showing that the impact of institutional changes on entrepreneurial decision-making varies significantly based on the potential outcomes individuals face.

Second, we contribute to the growing literature on entrepreneurship and failure (e.g., Eklund et al., 2020), in which the costs of failure are a major theme (e.g., Cope, 2011; Fisch & Block, 2021; Ucbasaran et al., 2013). We show that the importance of a reduction in the financial costs of failure is highly person-specific and can be counteracted by individual-level factors. Our study also shows that PT can deliver useful insights into why and how individuals are affected differently by failure.

Conceptual Framework

Bankruptcy Law and Entry Into Self-Employment

The individual decision to enter self-employment involves estimating potential gains and costs (Parker, 2018). Consequently, the anticipation of higher costs in case of bankruptcy can deter entry into self-employment because self-employed individuals may have to file for bankruptcy in the case of severe business failure (Haynie et al., 2009; Peng et al., 2010).² In most countries, bankruptcy regulations enable self-employed individuals to discharge business and personal debt in exchange for giving up any assets they have that are above a set exemption level. Bankruptcy regulation determines the speed and costs of the bankruptcy procedure, the possibility of being discharged from debt, the consequences for future earnings, and the exemption levels (Fan & White, 2003). Consistent with the argument that bankruptcy law determines the costs that self-employed individuals face in case of failure, empirical evidence widely confirms that bankruptcy regulations influence individual entry into self-employment (Armour & Cumming, 2008; Fan & White, 2003; Fu et al., 2020; Lee et al., 2011). More lenient bankruptcy regulations cap potential costs, which encourages individuals to enter self-employment.

In addition to the comprehensively documented positive association between more lenient bankruptcy regulations and increased entry into self-employment, some studies contextualize this relationship. For example, Damaraju et al. (2021) argue that the impact of bankruptcy regulations on entry into self-employment is contingent on national culture, a macro-level context factor. They find that stricter bankruptcy regulation can even encourage entrepreneurial activity in countries whose cultures score high in masculinity, uncertainty avoidance, and power distance. Fu et al. (2020) examine the relationship between insolvency regulation (time, cost, and recovery) and entrepreneurial activity and how this relationship varies by different types of

entrepreneurship (i.e., necessity-, opportunity-, innovation-driven, and growth-oriented entrepreneurship).

Focusing on individual-level contingencies, Eberhart et al. (2017) argue that elite individuals see larger drops in bankruptcy costs after a bankruptcy reform than non-elites do. Drawing on institutional theory, they suggest that a bankruptcy reform that limits liability in the case of bankruptcy and decreases the stigma of failure leads to a steeper drop in elites' financial and social costs of bankruptcy, who have more wealth and legitimacy to lose. Eberhart et al. (2017) enrich their argumentation by drawing on PT's rationale of loss aversion to argue that, because elites have more to lose in the case of bankruptcy, they are more sensitive than non-elites are to a bankruptcy reform that reduces such losses.

We build on Eberhart et al.'s (2017) initial application of PT by drawing on PT's axiom of diminishing sensitivity, which states that individuals' sensitivity to a change in losses decreases as their overall loss increases (Holmes et al., 2011; Kahneman & Tversky, 1979). Using PT's axiom of diminishing sensitivity, we study how bankruptcy costs shape an individual's propensity to start a business. Despite the initial evidence that a bankruptcy reform has a stronger effect on individuals who experience a deeper drop in bankruptcy costs after a reform (Eberhart et al., 2017), little is known about whether individuals also differ in their sensitivity to bankruptcy regulation if a change in bankruptcy costs is equal across individuals.

Prospect Theory and the Axiom of Diminishing Sensitivity

PT is a highly influential theory that models individual decision-making in the presence of risk (Kahneman & Tversky, 1979). While PT was initially developed in the field of behavioral economics, it is now widely used in management (for a review, see Holmes et al., 2011). PT pays particular attention to how individuals evaluate losses and argues that "losses loom larger than gains" (Kahneman & Tversky, 1979, p. 279). Therefore, PT is especially appropriate for describing how individuals perceive bankruptcy in terms of dealing with losses (Estrin et al., 2017).

A concept at the core of PT relates to diminishing sensitivity to losses (Holmes et al., 2011; Kahneman & Tversky, 1979), that is, that a reduction in a potential loss is of less value if the individual faces a higher overall loss. Hence, individuals may be comparatively indifferent to changes in losses if the overall loss is high. The concept of diminishing sensitivity is also illustrated in the convex curve of PT's value function to which individuals adhere when they evaluate potential losses (Kahneman & Tversky, 1979).

The concept of diminishing sensitivity is empirically documented. For example, research on the individual evaluation of financial losses substantiates that individuals judge changes in financial losses relative to their overall financial loss (Holmes et al., 2011). This diminishing sensitivity suggests that the effect of the same financial change differs across individuals because the overall financial loss is specific to the individual. This notion is consistent with research from other domains that study individual choices, such as marketing, economics, and political sciences. For example, Mazar et al. (2017) find that, as the overall price rises, the effect of changes in price on consumers decreases. Similarly, Hunton et al. (1998) and Paddock et al. (2015) show that individuals care more about changes in their opportunity to have a voice in public debates if their overall opportunity to have a voice is low.

In the following, we apply the concept of diminishing sensitivity to the nexus of changes in bankruptcy regulations and entry into self-employment.

Hypotheses

We posit that the effect of bankruptcy exemption levels on entry into self-employment is moderated by the overall costs that individuals expect to incur in case of bankruptcy. To grasp an individual's overall costs of bankruptcy, we draw on research on entrepreneurial failure, which highlights that the costs individuals face in bankruptcy are financial, social, and psychological (Fisch & Block, 2021; Ucbasaran et al., 2013). We provide hypotheses on why individuals who face higher financial costs (because they have a higher share of household income), social costs (because they have children), or psychological costs (because they are already engaged in the business as hybrid entrepreneurs) from bankruptcy are less sensitive to increases in exemption levels than are those who face lower costs in these dimensions. We first explain the direct effect of the moderators on entry into self-employment (the dependent variable). Then, we explain how each moderator changes the relationship between bankruptcy exemption levels (the independent variable) and entry into self-employment.

The Moderating Effect of an Individual's Share of Household Income

Prior research widely agrees that self-employment is associated with a greater income risk than wage work is (e.g., Åstebro & Chen, 2014; Hartog et al., 2010). A higher income risk deters entry into self-employment because self-employment requires surrendering a steady income in favor of riskier earnings (Brachert et al., 2020; Kihlstrom & Laffont, 1979). This notion is also highlighted in survey evidence, which indicates that the risk of an irregular income is the second biggest fear when individuals in the United States consider starting a business, following only the fear of bankruptcy (European Commission, 2012). However, this income risk is mitigated if the individual contributes a low share of his or her household's income, as others who live in the household can cover essential expenses (Carter et al., 2017). In contrast, the risk is amplified if the household primarily relies on the individual's income. Hence, a higher share of responsibility for household income should be associated with a lower probability of entry into self-employment.

We argue that individuals who contribute a higher share of household income incur higher financial costs in bankruptcy because of the loss of income and accumulation of personal debt. Implications of the ensuing financial distress include the necessity to sell assets, engage in personal bankruptcy proceedings, take on loans, and abandon a current lifestyle (Cope, 2011; Singh et al., 2007; Ucbasaran et al., 2013). The financial costs of bankruptcy are related to the self-employed individual's share of income because the household's current expenses can also be (partially) paid by other members of the household if the individual's business income is too low (Carter, 2011; Parker et al., 2005). In contrast, if the business income of the self-employed individual represents the households' major source of income, the financial consequences of bankruptcy are more severe (Cope, 2011). This argument is mirrored by qualitative evidence from Thorne (2010, p. 189), who describes the importance of an interviewee's income in terms of the ability to pay bills as her husband's business income became less reliable: "I have \$1200 every month that I know I'm going to have. [...] I know I can make the house payment, a small light payment, pay the water bill, and buy food. Now we might lose everything else, but myself, I got this covered."

Against this background, we argue that the share of household income an individual provides moderates the impact of exemption levels on his or her decision to enter self-employment by shaping the financial costs of bankruptcy. Drawing on PT's axiom of diminishing sensitivity, this higher overall loss suggests decreased sensitivity to a reduction in the overall loss. Applied to increased bankruptcy exemption levels, which reduce the loss the individual faces

in case of bankruptcy, this axiom suggests that individuals who face higher financial costs are less sensitive to increased exemption levels than are those who face lower financial costs. It follows that individuals who contribute a high share of household income perceive bankruptcy as such a severe event that increased exemption levels have less relevance to them than they do to individuals who contribute a lower share of their household income. In sum, we hypothesize:

***Hypothesis 1:** The positive impact of bankruptcy exemption levels on an individual's propensity to enter self-employment weakens as the individual's share of household income increases.*

The Moderating Effect of Parenthood

Prior research widely documents a positive association between parenthood (i.e., having children) and entry into self-employment (e.g., Lin et al., 2000; Wellington, 2006). While this finding may seem counter-intuitive, self-employment is associated with more independence than is offered by wage work, leading to more flexibility, which can be an advantage for those who have children (Simoes et al., 2016). Thus, having children should be associated with a higher probability of entry into self-employment.

However, we argue that individuals who have children also incur higher social costs in the case of bankruptcy. Social costs arise from bankruptcy-induced damage to personal and professional relationships (Singh et al., 2007; Ucbasaran et al., 2013). For example, such social costs include a decreasing quality of relationships with family, friends, and business contacts (Fisch & Block, 2021). Social costs also emerge from the social stigma associated with bankruptcy, which can lower the individuals' social standing and clout (Ucbasaran et al., 2013). Social costs also include the attendant difficulty in finding new employment or accessing new loans when one's reputation and relationships are damaged (Singh et al., 2007). In addition, research on entrepreneurial failure points out that the social costs of bankruptcy can also affect other household members, especially children (Cope, 2011; Shepherd, 2019), who may suffer from their parents' reduced social standing and social stigma, not to mention the bankruptcy-induced loss of income that will affect a child's social life (Cope, 2011; Thorne & Anderson, 2006). Bankruptcy entails fewer opportunities to go on holidays and impedes the child to pursue leisure activities that require financial support. Hence, parenthood increases the social costs that the entrepreneur faces in bankruptcy. Cope (2011, p. 612) quotes an entrepreneur's comment about these social costs: "Because you are dealing with not only your own money but [...] your children's future, you don't expect to feel very good and you don't expect your family to feel very good." Similarly, Singh et al. (2015) cite an entrepreneur who states that "I felt the pressure of my wife and kids and that was hard to live with [...]."

Therefore, we argue that having children moderates the impact of bankruptcy exemption levels on an individual's decision to enter self-employment by shaping the social bankruptcy costs. Having children amplifies the social burdens of bankruptcy and so the overall loss that the individual incurs. PT's axiom of diminishing sensitivity posits that this higher overall loss implies a decreased sensitivity to increases in bankruptcy exemption levels such that an individual who has children sees bankruptcy as such a severe event that higher exemption levels are largely irrelevant. Using these arguments, we hypothesize:

***Hypothesis 2:** The positive impact of bankruptcy exemption levels on an individual's propensity to enter self-employment weakens if the individual has children.*

The Moderating Effect of Hybrid Entrepreneurship

Hybrid entrepreneurship refers to employees who engage in self-employment along with a wage-earning job before transitioning to full-time self-employment (Folta et al., 2010; Schulz et al., 2016). An important reason for pursuing hybrid entrepreneurship before entering full-time self-employment is the need to assess the viability of the self-employment endeavor if leaving the paid job has high sunk costs (Folta et al., 2010; Raffiee & Feng, 2014). An initial engagement in hybrid entrepreneurship may also smooth the opportunity costs of forfeiting the earnings from wage employment (Folta et al., 2010; Raffiee & Feng, 2014). Both aspects mitigate the risk associated with entry into self-employment. In turn, hybrid entrepreneurship increases the probability to enter self-employment, as Folta et al. (2010) document empirically.

We argue that by already engaging in their business, employees who are involved in hybrid entrepreneurship incur high psychological costs if they enter full-time self-employment and subsequently experience bankruptcy. Psychological costs refer to the affective consequences of failure and describe failure's emotional consequences that decrease individual well-being (Ucbasaran et al., 2013). For example, the diversified research on failure's psychological costs documents grief, stress, exhaustion, depression, anxiety, and anger in the aftermath of failure (Cope, 2011; Fisch & Block, 2021; Shepherd, 2003). Psychological costs can also lead to a negative motivational response that hinders the individual's possibilities of future success (Jenkins et al., 2014). Shepherd (2009) and Shepherd et al. (2009) argue that the psychological costs of failure are more pronounced as more time and effort are invested in a venture. These investments are often emotional, and they increase with the amount of time the individual works on the venture. Following a similar logic, Yamakawa and Cardon (2017) describe an increasing psychological ownership over time. Those who engage in hybrid entrepreneurship before entering full-time self-employment have, by definition, invested more time and effort in their ventures than employees who do not engage in hybrid entrepreneurship before full-time entry. These investments can lead to an emotional attachment that amplifies the psychological costs of bankruptcy. This argument is also consistent with the endowment effect, an extension of PT that describes that individuals attach an increased value to goods they possess (Kahneman et al., 1990). This endowment effect is partly produced by an ownership effect, a value-enhancing association between an item and the self that makes separation from the item more costly (e.g., Dommer & Swaminathan, 2013; Morewedge et al., 2009).

Next to this attachment to their businesses, hybrid entrepreneurs' higher psychological costs in the case of full-time entry and bankruptcy are also related to their motives for being hybrid entrepreneurs. Folta et al.'s (2010) argument that sunk costs are the main motive for individuals to engage in hybrid entrepreneurship suggests that the decision to "take the plunge" and enter full-time entrepreneurship signifies a high personal investment. These sunk costs of full-time entry may further be aggravated by the fact that hybrid entrepreneurship implies the security of two income sources, which is given up in case of full-time entry. The resulting strong personal investment at entry into full-time self-employment amplifies the psychological costs hybrid entrepreneurs experience in case of full-time entry and bankruptcy.

Against this background, we argue that being engaged in hybrid entrepreneurship moderates the impact of bankruptcy exemption levels on an individual's decision to enter full-time self-employment by shaping the psychological bankruptcy costs. Specifically, hybrid entrepreneurship leads to an emotional attachment to the venture and implies that the individual makes a strong personal investment when entering full-time self-employment. Both aspects lead to higher psychological costs and increase the overall loss the individual faces in the case of full-time entry and bankruptcy over that of employees who do not engage in hybrid entrepreneurship. PT's axiom of diminishing sensitivity suggests that a higher overall loss that is due to increased

psychological costs decreases the sensitivity to a reduction of this overall loss by increased bankruptcy exemption levels. Individuals who engage in hybrid entrepreneurship perceive the costs of full-time entry and subsequent bankruptcy as so severe that an increase in exemption levels is less relevant to them than to those who do not engage in hybrid entrepreneurship. In sum, we hypothesize:

***Hypothesis 3:** The positive impact of bankruptcy exemption levels on an individual's propensity to enter self-employment weakens if the individual is already engaged in hybrid entrepreneurship.*

Method

Data

We test our hypotheses with data from the Current Population Survey (CPS), a rotating monthly individual-level panel survey conducted by the US Bureau of Labor Statistics. The CPS is the source of the official monthly employment statistics at the state level in the United States and is used by various studies to assess individuals' entry into self-employment (e.g., Gumus & Regan, 2015; Levine & Rubinstein, 2017). Participants in the CPS are interviewed in eight waves over a span of sixteen months. The interviews are conducted monthly, but there is a break of eight months between the fourth and fifth interview. For example, an individual that enters the survey in March 2006 is interviewed in March, April, May, and June 2006. Then, after a break of 8 months, the individual is again interviewed in March, April, May, and June 2007, resulting in eight waves per individual. Because household and individual identifiers in the CPS have changed slightly over time, we follow studies like Gumus and Regan (2015) and Levine and Rubinstein (2017) in employing Madrian and Lefgren's (2000) recommendations for ensuring robust links between observations and individuals across waves.

The CPS asks its core questions in every wave, such as information on the participant's main job, and additional questions only in waves four and eight, such as information about second jobs. Because our research model requires information on second jobs to identify hybrid entrepreneurship in t , as well as information on subsequent transitions into full-time self-employment in $t + 1$, we use data from wave four as independent variables to estimate the propensity to be self-employed in a main job in wave five, as the dependent variable.³ Due to the rotating nature of the CPS, these waves relate to different points in time, depending on when an individual entered the survey. Since we also require information on income streams, we consider only those who participated in the March supplemental survey, which contains additional information on each household member's earnings in the preceding year. We follow Cerqueiro and Penas (2017) in drawing on data from 2005 to 2011, because many states revised their exemption level in these years, making this setting a suitable quasi-natural experiment.

We restrict our sample to individuals aged 25–59, which ensures that issues related to education and retirement are mitigated (Lofstrom et al., 2014). This restriction also ensures that our moderators, such as having children or engaging in hybrid entrepreneurship, are meaningful options for those in our sample. In addition, because hybrid entrepreneurship is possible only for employees, we restrict our sample to those who work as employees in their main job in t (Folta et al., 2010).

Finally, a change in bankruptcy exemption levels is meaningful only to those who have assets that they could lose. Since information on individual wealth is not included in the CPS, we draw on suggestions in prior research that wealth correlates with an individual's interest income (Saez & Zucman, 2016; Taylor, 1999). Therefore, we use CPS data that captures the interest that

participants received from earning accounts, funds, savings, and bonds *in the entire year* preceding the survey. The question in the CPS asks respondents to include “small amounts credited to accounts” in their response (Bureau of Labor Statistics, 2006). We used only those who received at least \$1 in interest from these sources.⁴ While this approach does not exclude all those who have less wealth than the average exemption level of \$148,000, it is likely to exclude a large fraction of them. Because wealthy people may also invest in other assets, such as real estate and stocks, we drop only the participants who had no income from interests, rentals, or dividends. We also ensured that changes in the bankruptcy exemption levels would affect all those in our sample equally by considering only states that do not allow individuals to opt for federal bankruptcy procedures.

Variables

Dependent Variable: Entry Into Self-Employment

Our dependent variable, *entry*, takes a value of 1 if an individual enters self-employment as his or her main job between t and $t + 1$, and 0 otherwise.

Independent Variable: Bankruptcy Exemption Levels

Our main independent variable, *exemption level*, is the bankruptcy exemption level of the state in which the individual lived in t (in \$100,000). We follow Cerqueiro and Penas (2017) in considering exemptions in homestead and personal property,⁵ along with wildcard exemption levels, between 2005 and 2011, because the related legal codes determine a specific dollar amount for these categories.⁶ In addition, most states allow married couples to file for bankruptcy jointly, which gives them higher exemption levels (up to 200% higher) than single people get. Therefore, we considered the individual’s marital status when we established exemption levels (Fan & White, 2003).

To determine each change in exemption levels in a given state and the month it became effective, we hand-collected the legal codes on changes in exemption levels from the legislative archives of the respective states. Table 1 shows how the exemption levels for those in our sample vary across states and over time. For example, in 2005, married and unmarried individuals in Delaware were not allowed to exempt a homestead or any personal property, while those in Montana were able to exempt \$103,100 if they were unmarried and \$206,200 if they were married. Reforms in the years between 2005 and 2011 generally increased exemption levels (e.g., by \$150,000 for married couples in Delaware and by \$300,000 in Montana). Thus, the exemption levels vary across and also within states, which enables us to apply a state-fixed-effects approach that partials out unobserved heterogeneity across states that is constant over time. That is, our estimates for the impact of bankruptcy exemption levels on an individual’s propensity to enter self-employment stem from within-state variations in exemption levels, which controls for differences in self-employment rates across states.⁷

To verify the exogeneity of these changes in exemption levels for the decision to enter self-employment, we conducted an extensive search of the debates on each reform but found no evidence of stimulating economic growth or entry into self-employment as motives for introducing these reforms. Instead, and consistent with prior research (Cerqueiro & Penas, 2017), we found that these changes in exemption levels were made for reasons like protecting consumers, preventing poverty, mimicking exemption levels in other states, or offsetting inflation. These factors are exogenous to an individual’s propensity to enter self-employment and to other confounding factors at the state level, which makes these reforms a reliable setup to estimate the impact of exemption levels on individuals’ and firms’ behavior (Cerqueiro & Penas, 2017; Cerqueiro et al., 2017).⁸

Table 1. Bankruptcy Exemption Levels and Years of Changes.

State	Exemption level married		Exemption level not married		Year of change
	2005	2011	2005	2011	
Alaska	81,000	84,200	74,250	77,250	2008
California	83,375	109,875	58,375	84,125	2007, 2010
Colorado	98,000	134,000	49,000	67,000	2007
Delaware	0	150,000	0	125,000	2005, 2010, 2011
Idaho	59,600	117,600	54,800	108,800	2006, 2008, 2010
Illinois	21,400	42,800	10,700	21,400	2006
Indiana	20,000	51,400	10,000	25,700	2005, 2010
Iowa	1,010,200	1,020,000	1,005,100	1,010,000	2006
Louisiana	35,000	45,000	30,000	40,000	2009
Maine	82,300	107,300	41,150	53,650	2008
Maryland	22,000	43,625	11,000	32,625	2010
Montana	206,200	506,200	103,100	253,100	2007
Nebraska	12,500	60,000	2,500	2,500	2007
Nevada	230,000	592,000	215,000	571,000	2005, 2007
New York	29,800	319,250	14,900	159,600	2005, 2011
North Carolina	24,000	78,000	12,000	39,000	2006, 2009
North Dakota	82,400	105,900	81,200	102,950	2009
Ohio	11,600	36,775	8,300	29,200	2008, 2010
Oklahoma	1,006,000	1,021,000	1,003,000	1,010,500	2005
Oregon	55,800	75,400	36,400	52,700	2006, 2009
South Carolina	13,400	120,300	6,700	60,150	2006, 2008, 2010
Tennessee	15,500	27,500	9,000	15,000	2010

Note. This table only includes information on states who are included in our empirical analysis (i.e., those who revised their exemption levels between 2005 and 2011). We follow the specific recommendations of prior research (Cerqueiro et al., 2019; Cerqueiro et al., 2017; Cerqueiro & Penas, 2017) and set the homestead exemption to \$1,000,000 in states providing an unlimited homestead exemption (i.e., Iowa and Oklahoma).

Moderators: Share of Income, Parenthood, Hybrid Entrepreneurship

We calculate the *share of income* of the household that comes from the individual by dividing the individual's total income by the sum of income provided by all household members in the entire year preceding the survey.⁹ The variable *has children* equals 1 if the individual has a child who is younger than age 18, and 0 otherwise. The variable *hybrid entrepreneur* equals 1 if the individual is a hybrid entrepreneur in t (Folta et al., 2010).

Control Variables

We leverage the CPS's focus on responses from individuals by employing a set of controls at the individual level. We control for gender (*female* = 1, other = 0) and *age* and employ a set of dummy variables related to educational level (*high school degree*, including professional degrees; *associate degree*; *bachelor's degree*; *master's degree*; and *doctoral degree*). Those with no

diploma serve as the reference group. We also consider ethnicity (*Caucasian* = 1, others = 0) and *labor income* (in \$1,000) in the year preceding the survey.¹⁰

Since bankruptcy exemption levels vary at the state level, we employ a set of state-specific control variables in t to capture a range of environmental conditions. We employ a chained quarterly *index of the gross domestic product* provided by the US-Bureau of Economic Analyses¹¹ and the *unemployment rate* to control for economic conditions that might drive the individual to enter self-employment. We also control for state-specific levels of *home prices* obtained from the Federal Housing Finance Agency as another potential determinant of both start-up and state-level exemptions. In addition, to ensure that other state-level reforms do not influence the impact of exemption levels on entry into self-employment, we control for state-level regulatory freedom using the three sub-indices *government spending*, *taxation*, and *labor market freedom* of the Economic Freedom of North America Index. Because of their time-varying and state-specific nature, these indices enable us to tease out the impact of other reforms in our empirical analysis.¹² Next, we control for average *human capital* in the respective state by considering the share of the population that has tertiary education, and to control for individual's exposure to innovation and entrepreneurial culture, we control for the sum of *R&D expenditures* of companies in the state in t . Finally, we follow Bruhn (2011) in controlling for a change in the state governor's *political party* (Republican = 1, Democrat = 0), which is often correlated with the nature of reforms implemented in a state (e.g., liberal deregulation policies).

We also employ a set of fixed effects to ensure the reliability of our empirical estimation. Next to the above-mentioned state-level controls which capture heterogeneity across states that varies over time, we include *state fixed-effects* to control for state-specific impacts on self-employment entry that were constant in the period we observe. Doing so ensures that the identification of the impact of exemption levels on self-employment entry is due only to the exogenous reforms of bankruptcy exemption levels in the respective state. To control for macroeconomic changes, we also include *year fixed-effects*.

Results

Descriptive Statistics

Table 2 presents the means, standard deviations, and bivariate correlations for our variables. Three percent of the observations refer to a transition into self-employment. The average personal property exemption level across all observations is \$148,000. As for individual-level characteristics, the mean of individuals' share of household income is 61 percent, 45 percent have children, and 3 percent are engaged in hybrid entrepreneurship. Women make up half of the sample, 88 percent of our respondents are Caucasian, and the average age is 44 years. Except for the bivariate correlation between the control variables *labor market freedom* and *government spending*, correlations are below the common threshold of 0.7 for multicollinearity (Anderson et al., 2016). To ensure that this correlation does not affect our results, we ran additional regressions in which we omitted both variables jointly and separately, and the results remained robust.

Main Analysis

To estimate an individual's propensity to enter self-employment in $t + 1$, we employ binary logistic regression analyses as our main analysis and cluster standard errors at the state level. Table 3, Column 1 reports the results on the general impact of the exemption level on the likelihood of entry into self-employment without our moderating effects. The results indicate that the propensity to enter self-employment is lower among women, younger people, and more educated

Table 2. Summary Statistics and Bivariate Correlations.

	Mean	Std. Dev.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1 Entry _{t+1}	0.03	0.16																									
2 Exemption level _t	1.48	2.6	0.01																								
3 Share of income _t	0.61	0.28	-0.01	-0.04																							
4 Has children _t	0.45	0.5	0.02	0.02	-0.08																						
5 Hybrid entrepreneur _t	0.03	0.16	0.05	0.02	0	0																					
Individual-level controls																											
6 Female	0.5	0.5	-0.03	0	-0.33	-0.03	-0.02																				
7 Caucasian	0.88	0.32	0.01	0.04	-0.04	-0.02	0.02	-0.02																			
8 Age _t	44.08	9.27	0.02	0	0.02	-0.3	0.01	0	0.05																		
9 No degree _t	0.03	0.16	0.03	-0.01	-0.01	0	-0.02	-0.03	-0.01	0.02																	
10 High school degree _t	0.39	0.49	-0.01	0.02	-0.06	-0.06	-0.02	-0.02	0.03	0.07	-0.13																
11 Associate degree _t	0.12	0.33	0	0.03	-0.03	0	0.01	0.03	0.01	0	-0.06	-0.3															
12 Bachelor degree _t	0.31	0.46	0.01	-0.01	0.04	0.05	0	0.01	-0.01	-0.09	-0.11	-0.54	-0.25														
13 Master degree _t	0.13	0.33	-0.01	-0.03	0.05	0.02	0.01	0.03	-0.01	0.01	-0.06	-0.31	-0.14	-0.26													
14 Doctoral degree _t	0.02	0.14	0.01	-0.01	0.05	0.01	0.03	-0.04	-0.03	0.02	-0.02	-0.11	-0.05	-0.1	-0.05												
15 Labor income _t	56.12	54.16	0.03	-0.04	0.34	0.06	0.01	-0.24	0.02	0.05	-0.08	-0.2	-0.07	0.16	0.13	0.11											
State-level controls																											
16 GDP-index _t	100.61	4.77	0	0.04	0.01	-0.01	-0.02	-0.01	-0.01	0	0.01	-0.01	-0.01	0	0.01	0.01	0.02										
17 Unemployment rate _t	6.24	2.48	-0.01	-0.12	0.02	-0.01	-0.02	-0.01	-0.06	0	0.01	-0.04	0	0.02	0.03	0	0.06	0.03									
18 Houseprice-index _t	212.22	38.95	0.02	-0.07	0.01	-0.01	0.01	0	0	0	0.01	-0.03	-0.02	0.03	0.01	0.02	0.02	-0.06	-0.38								
19 Government spending _t	5.79	1.82	0.01	0.16	-0.02	-0.01	0.01	0	0.06	0.01	-0.01	0.01	0	0.01	-0.02	0	-0.05	0.1	-0.53	0.14							
20 Taxation _t	5.22	1.02	0	0.18	-0.01	-0.01	0.03	0.01	0.05	0.02	-0.02	0.03	0.01	-0.01	-0.03	0.01	-0.05	-0.15	-0.02	-0.01	0.31						
21 Labor market freedom _t	5.6	1	0.01	-0.04	-0.01	0	0.01	0	0.01	0	-0.02	0.01	0	0.01	-0.02	0.01	-0.04	0.01	-0.49	0.12	0.73	0.48					
22 Human capital _t	38.55	4.36	0	-0.14	0	0	0	0	-0.01	0	-0.01	-0.07	0	0.04	0.04	0.01	0.06	-0.23	-0.11	0.31	0.04	-0.3	0.02				
23 R&D expenditures _t	16,863	25,483	0.01	-0.17	0.03	0.01	-0.02	-0.02	-0.14	-0.03	0.05	-0.07	-0.03	0.04	0.03	0.02	0.1	0.16	0.25	0.09	-0.33	-0.46	-0.28	0.11			
24 Political party _t	0.46	0.5	-0.01	-0.2	0.01	0.02	0.02	0	-0.03	-0.01	0.03	0	0.01	0	-0.02	0	0	-0.08	-0.04	0.01	-0.14	-0.07	0.01	-0.1	0.35		

Note: N = 23*966

Table 3. Moderators of the Impact of Exemption Levels on Entry Into Self-Employment.

	(1)	(2)	(3)	(4)	(5)
	Entry _{t+1}	Entry _{t+1}	Entry _{t+1}	Entry _{t+1}	Entry _{t+1}
Exemption level _t	0.249*** (0.088)	0.221** (0.095)	0.174** (0.086)	0.159* (0.087)	0.254*** (0.096)
Share of income _t		-0.503** (0.251)	-0.671*** (0.245)	-0.673*** (0.245)	-0.491* (0.252)
Has children _t		0.233*** (0.080)	0.328*** (0.097)	0.232*** (0.080)	0.334*** (0.098)
Hybrid entrepreneur _t		1.203*** (0.132)	1.197*** (0.134)	1.338*** (0.145)	1.340*** (0.145)
Exemption level _t *Share of income _t		-0.118** (0.057)			-0.122** (0.060)
Exemption level _t *Has children _t			-0.060* (0.033)		-0.065* (0.036)
Exemption level _t *Hybrid entrepreneur _t				-0.085*** (0.033)	-0.088*** (0.031)
<i>Individual-level controls</i>					
Female	-0.274*** (0.062)	-0.374*** (0.070)	-0.365*** (0.071)	-0.369*** (0.071)	-0.374*** (0.070)
Caucasian	0.320*** (0.118)	0.286** (0.116)	0.285** (0.115)	0.286** (0.115)	0.287** (0.115)
Age _t	0.010* (0.005)	0.014*** (0.005)	0.013*** (0.005)	0.014*** (0.005)	0.013*** (0.005)
High school degree _t	-0.801*** (0.193)	-0.825*** (0.188)	-0.825*** (0.187)	-0.827*** (0.186)	-0.831*** (0.187)
Associate degree _t	-0.710*** (0.214)	-0.755*** (0.212)	-0.751*** (0.212)	-0.755*** (0.210)	-0.757*** (0.212)
Bachelor degree _t	-0.687*** (0.211)	-0.723*** (0.207)	-0.722*** (0.206)	-0.724*** (0.206)	-0.726*** (0.207)
Master degree _t	-0.933*** (0.236)	-0.976*** (0.232)	-0.971*** (0.232)	-0.971*** (0.232)	-0.976*** (0.232)
Doctoral degree _t	-0.495 (0.301)	-0.609** (0.302)	-0.614** (0.303)	-0.617** (0.302)	-0.621** (0.303)
Labor income _t	0.002*** (0.001)	0.003*** (0.001)	0.003*** (0.001)	0.003*** (0.001)	0.003*** (0.001)
<i>State-level controls</i>					
GDP-index _t	-0.020 (0.016)	-0.020 (0.015)	-0.020 (0.015)	-0.020 (0.015)	-0.020 (0.015)
Unemployment rate _t	-0.172*** (0.040)	-0.160*** (0.042)	-0.160*** (0.042)	-0.158*** (0.042)	-0.157*** (0.042)
Houseprice-index _t	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)
Government spending _t	0.044 (0.166)	0.051 (0.164)	0.049 (0.164)	0.058 (0.163)	0.056 (0.163)
Taxation _t	0.500* (0.257)	0.470* (0.265)	0.468* (0.265)	0.473* (0.264)	0.470* (0.264)

(Continued)

Table 3. Continued

	(1)	(2)	(3)	(4)	(5)
	Entry _{t+1}	Entry _{t+1}	Entry _{t+1}	Entry _{t+1}	Entry _{t+1}
Labor market freedom _t	0.088 (0.189)	0.065 (0.185)	0.064 (0.185)	0.062 (0.185)	0.067 (0.184)
Human capital _t	-0.130*** (0.049)	-0.129*** (0.046)	-0.127*** (0.046)	-0.128*** (0.047)	-0.126*** (0.046)
R&D expenditure _t	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Political party _t	-0.245 (0.192)	-0.250 (0.196)	-0.254 (0.196)	-0.254 (0.195)	-0.258 (0.195)
Log-likelihood	-2,784.84	-2,748.82	-2,748.92	-2,749.73	-2,745.74
Pseudo-R ²	0.020	0.033	0.033	0.032	0.034
AIC	5,611.68	5,539.63	5,539.84	5,541.46	5,533.48
N	23,966	23,966	23,966	23,966	23,966

Note. This table displays coefficients and (state-level) clustered standard errors of logistic regression analyses, including state- and year fixed effects and a constant. Significance levels: *** $p < .01$, ** $p < .05$, * $p < .1$.

people.¹³ At the state level, we observe that increases in the unemployment rate make it less likely that employees transition into self-employment, but increases in regulatory freedom related to taxation make entry into self-employment more likely.

Focusing on our independent variable, our analysis suggests that the likelihood of entry into self-employment increases with more lenient exemption levels ($\beta = .249$, $SE = .088$, $p = 0.004$). The marginal effect indicates that a \$100,000 increase in the exemption level increases the propensity to enter self-employment by 0.6 percentage points. This increase is sizable, given the average propensity for entry of 3% in our sample (Table 2). The marginal effect of 0.6 percentage points is comparable to the estimates of Fan and White (2003), who find that the propensity for entry was between 0.46 and 0.77 percentage points higher in states with exemption levels above \$50,000 than it was in states with exemption levels below \$5,000.

Table 3 also reports results for our moderators. Concerning the exemption level's impact on an individual's propensity to enter self-employment based on the share of household income they contribute (H1), we find that the positive impact of the exemption level on entry into self-employment weakens as an individual's share of household income increases ($\beta = -0.118$, $SE = .057$, $p = 0.039$). To supplement the numerical information, we plot the interaction effect. Figure 1 confirms a weaker impact of exemption levels on entry into self-employment among those who contribute a high share of household income (solid line), than among individuals who contribute a low share (dashed line).

Table 3 reports the estimation results of the impact of the exemption level on entry into self-employment based on whether the individual has children (H2). We observe that having children weakens the exemption level's impact on entry into self-employment; that is, those who have children are less sensitive to higher exemption levels than are those who do not ($\beta = -0.060$, $SE = .033$, $p = .066$). Therefore, and consistent with H2, being a parent weakens the impact of bankruptcy exemption levels on entry into self-employment. Figure 1 indicates that a higher exemption level leads to a weaker increase in the propensity for entry among those who have children (solid line) than it does for those who do not (dashed line). However, the effect is most pronounced for medium levels of exemption levels, yielding only partial support for H2.

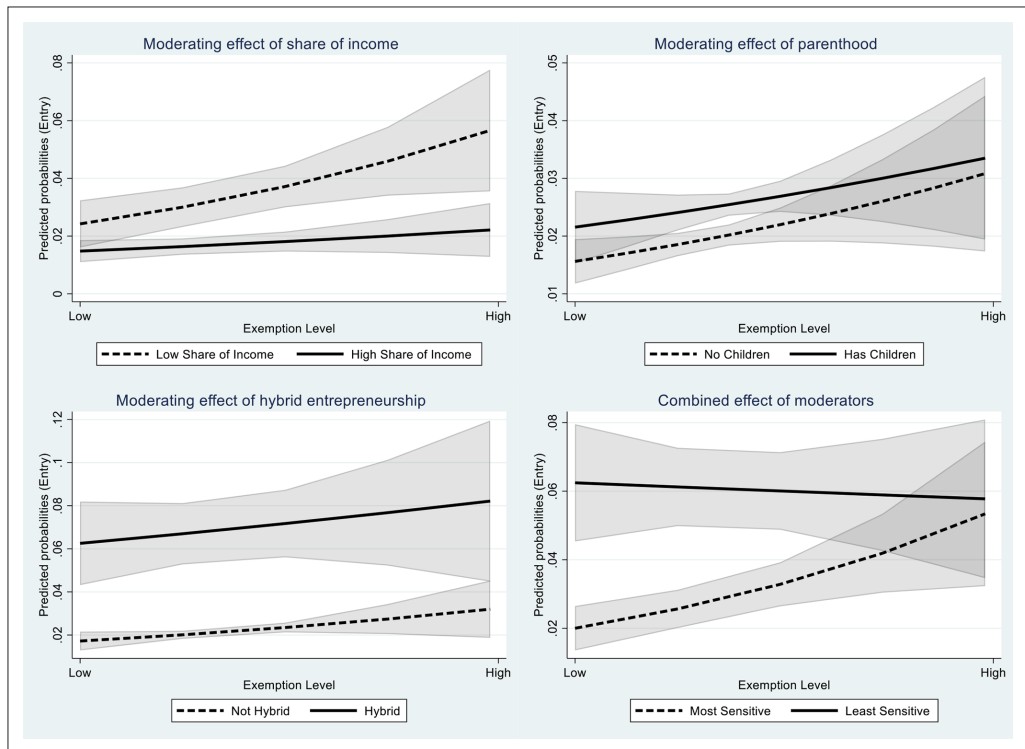


Figure 1. These figures plot the interaction effects of our moderator variables share of income, parenthood, and hybrid entrepreneurship at low and high values (i.e., 0 and 1) across low (1 standard deviation below the mean) and high (1 standard deviation above the mean) exemption levels, along with 90%-confidence intervals.

Column 4 (Table 3) displays results on the moderating role of hybrid entrepreneurship on the relationship between bankruptcy exemption levels and entry into self-employment (H3). We observe that hybrid entrepreneurship negatively moderates the baseline relationship ($\beta = -0.085$, $SE = .033$, $p = .009$), providing support for H3. Figure 1 confirms a weaker impact of increased exemption levels on entry into self-employment among hybrid entrepreneurs (solid line), than among those who are not hybrid entrepreneurs (dashed line).

Column 5 (Table 3) reports the full model that includes all interaction terms. The results are consistent with the estimates in columns 2 to 4. Thus, our results largely support our theoretical predictions that bankruptcy exemption levels affect individuals' propensity to enter into self-employment differently, depending on individual-level factors in terms of their share of household income, parenthood, and hybrid entrepreneurship.

To illustrate the effect size of these boundary conditions, we estimate the marginal effects of the impact of exemption levels on entry into self-employment separately for two hypothetical individuals, one who should be *most* sensitive to high exemption levels and one who should be *least* sensitive to these levels. We consider an individual as most sensitive when he or she contributes the minimum share of household income (i.e., 0%), has no children, and does not engage in hybrid entrepreneurship, and as least sensitive when he or she contributes the maximum share of household income (i.e., 100%), has children, and is engaged in hybrid entrepreneurship. Plotting the results reveals that the propensity to enter self-employment increases with

Table 4. Robustness Check on Lagged Entry Effect.

	Entry in reform year or first year after reform	Entry in second or third year after reform	Entry in fourth to sixth year after reform
Exemption level _t	0.277** (0.112)	0.252** (0.100)	0.656*** (0.231)
Share of income _t	-0.777*** (0.202)	-0.252 (0.310)	-0.468 (0.355)
Has children _t	0.359*** (0.102)	0.503*** (0.149)	0.591*** (0.156)
Hybrid entrepreneur _t	1.392*** (0.161)	1.284*** (0.145)	1.361*** (0.135)
Exemption level _t	-0.095 (0.085)	-0.162*** (0.052)	-0.176*** (0.051)
*Share of income _t	-0.143*** (0.043)	-0.068* (0.036)	-0.110** (0.044)
Has children _t	-0.052 (0.029)	-0.072** (0.034)	-0.130*** (0.041)
<i>Individual-level controls</i>			
Female	-0.336*** (0.084)	-0.497*** (0.082)	-0.418*** (0.084)
Caucasian	0.191** (0.093)	0.479* (0.262)	0.276 (0.204)
Age _t	0.010* (0.005)	0.015* (0.008)	0.019* (0.010)
Highschool degree _t	-0.748*** (0.245)	-0.924*** (0.264)	-0.668* (0.384)
Associate degree _t	-0.708*** (0.236)	-1.045*** (0.259)	-0.788** (0.385)
Bachelor degree _t	-0.696*** (0.247)	-0.765*** (0.273)	-0.651* (0.333)
Master degree _t	-0.937*** (0.268)	-1.194*** (0.295)	-1.071*** (0.348)
Doctoral degree _t	-0.614 (0.374)	-0.685* (0.356)	-0.622 (0.413)
Labor income _t	0.004*** (0.001)	-0.000 (0.001)	0.002** (0.001)
<i>State-level controls</i>			
GDP-index _t	-0.028 (0.023)	0.010 (0.037)	0.032 (0.036)
Unemployment rate _t	-0.140** (0.060)	-0.161 (0.100)	-0.047 (0.119)
Houseprice-index _t	-0.002 (0.003)	-0.010*** (0.004)	0.005 (0.009)

(Continued)

Table 4. Continued

	Entry in reform year or first year after reform	Entry in second or third year after reform	Entry in fourth to sixth year after reform
Government spending _t	0.046 (0.189)	-0.294 (0.218)	-0.308 (0.220)
Taxation _t	0.250 (0.376)	0.975** (0.398)	1.246* (0.687)
Labor market freedom _t	0.217 (0.204)	0.133 (0.262)	1.035** (0.505)
Human capital _t	-0.113 (0.089)	-0.153 (0.132)	0.252 (0.254)
R&D expenditure _t	-0.000 (0.000)	-0.000* (0.000)	-0.000 (0.000)
Political party _t	-0.301 (0.289)	0.015 (0.384)	-0.524 (0.417)
Log-likelihood	-2,065.73	-1,401.89	-1,110.87
Pseudo-R ²	0.041	0.043	0.054
AIC	4,173.45	2,845.78	2,263.74
N	17,811	12,438	9,783

Note. This table displays coefficients and (state-level) clustered standard errors of logistic regressions, including state- and year fixed effects and a constant. Significance levels: *** $p < .01$, ** $p < .05$, * $p < .1$.

exemption levels only for the most sensitive hypothetical individual, while the least sensitive individual does not experience a significant change in the propensity to enter self-employment (Figure 1). For example, our results suggest that a reform that increases exemption levels from \$206,200 to \$506,200, as in Montana in 2007, increases the most sensitive individual's propensity to start a business by 3.5 percent, while the propensity of the least sensitive individual does not increase, even though both individuals experience the same increase in exemption levels (\$300,000). This result is consistent with our theorizing that individuals perceive the same change in exemption level differently depending on their personal circumstances.

Robustness Checks

We perform several robustness checks to test the reliability of our findings. First, we assess whether the years following the subprime crisis influence our results, as house prices and economic conditions changed markedly thereafter. While we employ several state-level controls that capture related effects, such as a state's gross domestic product and an index of house prices, we probe further into this issue by running our analyses on a subsample that excludes the years 2010 and 2011. Our hypotheses are also supported in this alternative specification.¹⁴

Then, as increases in bankruptcy exemption levels may take time to unfold their impact on entry into self-employment, we explore various temporal structures. To this end, we conduct three regressions of our full model on subsamples that relate to three time frames after the reform. In the first regression, we only include observations that pertain to the years preceding the reform, to the reform year, or to 1 year after the reform. The second regression only includes observations that pertain to the years preceding the reform or to the second or third year after the reform. The

Table 5. Robustness Check on Wealth Threshold (\$100).

	(1)	(2)	(3)	(4)	(5)
	Entry _{t+1}	Entry _{t+1}	Entry _{t+1}	Entry _{t+1}	Entry _{t+1}
Exemption level _t	0.273*** (0.097)	0.299*** (0.104)	0.213** (0.100)	0.201** (0.102)	0.339*** (0.097)
Share of income _t		-0.241 (0.284)	-0.517* (0.296)	-0.516* (0.293)	-0.225 (0.285)
Has children _t		0.234** (0.108)	0.359*** (0.123)	0.231** (0.107)	0.370*** (0.123)
Hybrid entrepreneur _t		1.168*** (0.198)	1.154*** (0.201)	1.341*** (0.233)	1.339*** (0.234)
Exemption level _t		-0.184*** (0.032)			-0.190*** (0.033)
*Share of income _t			-0.080*** (0.018)		-0.088*** (0.021)
Exemption level _t				-0.105*** (0.038)	-0.105*** (0.040)
*Has children _t					
Exemption level _t					
*Hybrid entrepreneur _t					
<i>Individual-level controls</i>					
Female	-0.242*** (0.088)	-0.323*** (0.083)	-0.308*** (0.082)	-0.313*** (0.082)	-0.324*** (0.084)
Caucasian	0.195 (0.160)	0.162 (0.167)	0.165 (0.167)	0.165 (0.167)	0.165 (0.167)
Age _t	0.011** (0.005)	0.016*** (0.005)	0.016*** (0.005)	0.016*** (0.005)	0.015*** (0.005)
High school degree _t	-0.733** (0.288)	-0.757*** (0.274)	-0.762*** (0.271)	-0.770*** (0.267)	-0.776*** (0.272)
Associate degree _t	-0.653** (0.278)	-0.712*** (0.264)	-0.706*** (0.262)	-0.712*** (0.260)	-0.722*** (0.266)
Bachelor degree _t	-0.539* (0.279)	-0.576** (0.259)	-0.577** (0.258)	-0.589** (0.255)	-0.590** (0.259)
Master degree _t	-0.912*** (0.298)	-0.964*** (0.276)	-0.958*** (0.275)	-0.964*** (0.273)	-0.971*** (0.278)
Doctoral degree _t	-0.792** (0.320)	-0.918*** (0.298)	-0.941*** (0.301)	-0.944*** (0.299)	-0.951*** (0.303)
Labor income _t	0.002** (0.001)	0.002*** (0.001)	0.002** (0.001)	0.002** (0.001)	0.002** (0.001)
<i>State-level controls</i>					
GDP-index _t	-0.011 (0.020)	-0.012 (0.019)	-0.011 (0.019)	-0.011 (0.019)	-0.011 (0.019)
Unemployment rate _t	-0.190** (0.074)	-0.187** (0.077)	-0.184** (0.077)	-0.182** (0.077)	-0.184** (0.076)
Houseprice-index _t	0.001 (0.003)	0.000 (0.003)	0.000 (0.003)	0.000 (0.003)	0.000 (0.003)
Government spending _t	0.214	0.212	0.204	0.225	0.216

(Continued)

Table 5. Continued

	(1)	(2)	(3)	(4)	(5)
	Entry _{t+1}	Entry _{t+1}	Entry _{t+1}	Entry _{t+1}	Entry _{t+1}
Taxation _t	(0.232) 0.414 (0.269)	(0.227) 0.375 (0.281)	(0.228) 0.375 (0.282)	(0.226) 0.382 (0.280)	(0.225) 0.373 (0.281)
Labor market freedom _t	-0.202 (0.248)	-0.213 (0.237)	-0.205 (0.237)	-0.212 (0.237)	-0.204 (0.235)
Human capital _t	-0.156** (0.068)	-0.149** (0.072)	-0.147** (0.073)	-0.150** (0.072)	-0.147** (0.073)
R&D expenditure _t	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Political party _t	-0.301* (0.175)	-0.294 (0.183)	-0.296 (0.183)	-0.300* (0.182)	-0.304* (0.182)
Log-likelihood	-1,739.43	-1,717.48	-1,718.70	-1,719.68	-1,714.11
Pseudo-R ²	0.027	0.039	0.039	0.038	0.041
AIC	3,520.86	3,476.96	3,479.40	3,481.36	3,470.23
N	13,858	13,858	13,858	13,858	13,858

Note. This table displays coefficients and (state-level) clustered standard errors of logistic regressions, including state- and year fixed effects and a constant. Significance levels: *** $p < .01$, ** $p < .05$, * $p < .1$.

third regression only includes observations that pertain to the years preceding the reform or to the fourth, fifth, or sixth year after the reform. The results of these three regressions (Table 4) largely confirm our hypotheses. The only deviation occurs with regard to the moderating impact of *share of income* in the first subsample (Column 1), as *share of income* remains negative but decreases in statistical significance ($p = 0.26$), possibly because of the smaller sample size. Overall, these findings indicate that the moderation effects we identify are stable over time.

Next, because our main analysis considers changes in exemption levels in the month in which the law becomes effective, we additionally consider the month in which the governor approved the law because approval is the last step before a law becomes effective. Hence, some people might not wait for a law to become effective but start their business once the governor signs the increase. The average difference between the time of the governor's approval and the law's becoming effective is 1 month. We re-ran all our analyses using the month of approval as the reference point for the change in exemptions, and our results remained robust to this alternative measurement.¹⁵

Finally, we test the robustness of our results with regard to our sample construction. In our main analysis, we consider individuals who had earnings of \$1 or more from interest, dividends, and net rentals. This comparatively low threshold may still leave us with several individuals in our sample whose wealth is below the exemption level in their states, suggesting that they would not be affected by changes in exemption levels. Therefore, we test alternative, more restrictive thresholds of \$10, \$20, \$50, and \$100, which would make it increasingly likely that an individual owns wealth above the exemption level, thus creating less noise in our data. Consistent with the assumption that these specifications would include more individuals who are affected by the changes in exemption levels, we found our hypotheses supported in all these models. As an illustration, Table 5 reports the results for the most restrictive threshold of minimum \$100 earnings

from interests, dividends, and net rentals. We observe larger effect sizes of the main effect of exemption levels on entry into self-employment, and larger effect sizes of the coefficients on the hypothesized interaction effects than those of the coefficients of our main analyses, reported in Table 3. Furthermore, all hypotheses are supported with statistical significance at the 1% level. These results provide full support for our predictions.¹⁶

Discussion

Discussion and Contributions

With these findings, we contribute primarily to research on the relationship between bankruptcy law and entry into self-employment (e.g., Fan & White, 2003; Fu et al., 2020; Lee et al., 2007, 2011; Peng et al., 2010). Our study is most closely related to recent research that studies the moderating role of national culture (Damaraju et al., 2021), type of entrepreneurship (Fu et al., 2020), and individual elite status (Eberhart et al., 2017) in the relationship between bankruptcy law and self-employment. We continue this line of scholarly inquiry by showing that, even in the same culture and among individuals who experience the same decrease in bankruptcy costs after a reform, how individuals react to higher bankruptcy exemption levels depends on individual-level factors. Specifically, our findings suggest that the impact of bankruptcy law on the decision to enter into self-employment is contingent on individual-level factors *independent of the specific reform or group under study*.

Relatedly, while the majority of prior research examining the role of bankruptcy law for entrepreneurial entry use multi-country data (Damaraju et al., 2021; Fu et al., 2020; Lee et al., 2011; Peng et al., 2010), our paper focuses on bankruptcy regulations within a country. This way, our research is consistent with and expands recent research examining sub-national aspects related to bankruptcy regulation. For instance, Melcarne and Ramello (2020) study the role of bankruptcy law for firm dynamics (entry and exit rates) in Italy. Focusing on Italian SMEs, Arcuri and Levratto (2020) investigate the role of the local context (in terms of financial development and banking concentration) for a firm's probability to file for bankruptcy. We encourage future research to continue the ongoing recent debate and probe more deeply into the topic of bankruptcy regulations within and across countries.

We also contribute to the aforementioned research by applying PT's axiom of diminishing sensitivity to explore how the impact of bankruptcy law on entry into self-employment varies based on individual-level factors. Thus, we provide an integrative conceptual framework on how the impact of changes in bankruptcy law differs across individuals. More broadly, our theoretical considerations and empirical findings add to the literature on institutions and entrepreneurship (e.g., Gohmann, 2012; Urbano et al., 2019). We inform this research by documenting that the impact of institutional changes on entry into self-employment is shaped by the potential outcomes that the individual faces. Our study also suggests that PT can provide a fruitful avenue for anchoring the context-dependence of entrepreneurship theoretically, which is currently one of the grand topics in entrepreneurship research (e.g., Shepherd et al., 2019; Welter, 2011).

Our second main contribution is to the literature on entrepreneurship and failure (Eklund et al., 2020) and, more specifically, the costs of failure (e.g., Cope, 2011; Ucbasaran et al., 2013; Yamakawa & Cardon, 2017). We contribute to this research by documenting that the importance of a reduction in the financial costs of failure is highly individual and can be affected by personal factors. That is, our results show that individuals seem to anticipate the potential financial, social, and psychological costs of bankruptcy when they enter into self-employment. If the overall individual loss potential is high, the person tends to be less sensitive to a reduction in financial costs.

This finding highlights the highly personal nature of the costs of failure and converges with recent research on entrepreneurial failure (Fisch & Block, 2021; Kibler et al., 2017; Liu et al., 2019).

Prior bankruptcy research also implies the notion that a reduction in costs that results from more lenient bankruptcy regulations is traded off against other individual costs of failure. Specifically, Damaraju et al. (2021) suggest that higher financial costs associated with stricter bankruptcy regulation can be offset by a decrease in social costs, and Eberhart et al. (2017) suggest that more lenient bankruptcy regulations are more appealing to elite individuals than they are to non-elites because elites face higher social costs if they file for bankruptcy. Finally, our study suggests that PT's axiom of diminishing sensitivity helps to clarify failure's individual consequences, which is a promising avenue for future research on failure and entrepreneurial well-being (Wiklund et al., 2019).

Our main results and contributions refer to the moderating role of individual factors on the association between bankruptcy law and entry into self-employment. Besides, we also find that the main effect of parenthood on entry into self-employment is positive and significant. This finding may seem counterintuitive at a first glance because self-employment is typically more time-consuming and offers a more unstable income stream than wage-work (e.g., Fairchild, 2009; Simoes et al., 2016). However, self-employment also enables a higher degree of independence and greater flexibility in time management, which can be advantageous when raising children (e.g., Simoes et al., 2016). Also, children add a financial burden to a household. To overcome the added financial strain, individuals may seek higher returns from their employment which are potentially offered in self-employment (e.g., Dawson et al., 2014). In this sense, our result is in line with prior research that documents a positive association between having children and increased entry into self-employment (e.g., Lin et al., 2000; Wellington, 2006). The direct effects for the other moderating variables are also significant and document that a higher income share reduces the likelihood of entrepreneurial entry, while individuals who previously engage in hybrid entrepreneurship are more likely to enter self-employment in full time. These findings are in line with prior research documenting similar effects (e.g., Brachert et al., 2020; Folta et al., 2010).

Finally, our study has practical implications for policymakers who design policies to encourage entry into self-employment (Audretsch et al., 2020). For example, the European Commission often seeks to mitigate individuals' fear of failure and the financial and social losses of failure as impediments to starting businesses (European Commission, 2013). While these policies may be fruitful in stimulating entry (Eberhart et al., 2017), our study suggests that they have a stronger effect on entry by individuals who face lower costs in the case of bankruptcy than they do on those who face higher costs. Hence, our findings suggest that policymakers should consider the moderating influence of individual-level factors when they design bankruptcy regulations to avoid neglecting certain groups.

Limitations and Implications for Future Research

Our study has several limitations. First, our empirical results are based on changes in bankruptcy exemption levels in the United States. While using this setting allows us to isolate our hypothesized effects, it may limit our findings' generalizability. For example, prior research outlines that cultural settings influence the perceptions around bankruptcy and the ensuing negative ramifications (Damaraju et al., 2021; Lee et al., 2011), so a change in bankruptcy regulations may affect entry into self-employment differently in other countries. Future research could validate whether and to what degree cultural settings cause bankruptcy costs to differ and shape entry into self-employment differently. We employ state-fixed effects to account for unobserved heterogeneity

between states, but future research could leverage the U.S.-specific setting to assess the variances between states in more detail.

Another limitation lies in our assessment of the individual's reaction to bankruptcy exemption levels. One may also expect lenders to adapt to higher exemption levels and to counter the effects of related reforms, an outcome that would suggest underestimation of our observed effects. The information in the CPS does not allow us to dive deeper in this direction, so future research may build on our study to investigate in more detail how diminishing sensitivity may also influence whether and how lenders adapt to related reforms.

Focusing on state-level changes in bankruptcy exemptions comes with the advantage of providing a quasi-natural experiment, but a limitation arises from this empirical approach's requirement that we build on the CPS as a sufficiently large dataset to estimate the impact of bankruptcy regulation on individual behavior. The CPS does not contain direct measures of some variables that we would have liked to include, such as personality characteristics (e.g., risk- or loss-aversion) that are known to affect the decision to enter self-employment (Koudstaal et al., 2016). Furthermore, the CPS does not contain information about the individual's exact wealth or how much wealth an individual would lose in case of bankruptcy in conjunction with the respective exemption level. While we control for the individual's labor income, which may capture wealth to some extent, our theory suggests that wealthier individuals are less sensitive to changes in exemption levels, which we cannot test using data from the CPS. Therefore, a useful, immediate avenue for future research is to build on our theory and investigate various other determinants that could moderate the impact of bankruptcy exemption levels on entry into self-employment.

Singh et al. (2015) highlight that the individual decision to file for bankruptcy is a moral dilemma for the entrepreneur. While bankruptcy allows the entrepreneur to discharge debt and perhaps to start over, entrepreneurs also view filing for bankruptcy as an unethical "way out" at the expense of creditors and other stakeholders. In this sense, more lenient bankruptcy regulations could make it easier for entrepreneurs to default to bankruptcy because the entrepreneur's costs decrease, but such regulations would thus increase creditors' costs. Thus, future research could assess whether entrepreneurs' perceptions of bankruptcy as a moral dilemma change in response to changes in bankruptcy regulations. This notion is related to research in strategic management, which critically discusses bankruptcy as an intentional strategy that companies can use to discharge debt and revitalize themselves (Josefy et al., 2017; Moulton & Thomas, 1993).

Finally, we operationalize the financial, social, and psychological costs of failure via share of income, parenthood, and hybrid entrepreneurship. While these measures conceptually relate to the respective costs of failure, prior research on entrepreneurial failure (e.g., Fisch & Block, 2021; Ucbasaran et al., 2013) offers a range of additional variables that may be able to capture the different costs of failure more closely than our proxies. Because of data limitations, we were unable to include such measures. Moreover, the different proxies may not be exclusively related to specific costs. For example, parenthood may imply social costs but also an additional financial burden as previously discussed. To this end, revisiting and extending our findings with other measures may be a particularly fruitful area for future research.

Conclusion

We investigate how individual factors moderate the impact of bankruptcy exemption levels on entry into self-employment. Conceptually, we combine PT's axiom of diminishing sensitivity with insights from research on entrepreneurial failure, the latter of which explains that individuals' overall costs of failure are financial, social, and psychological. We hypothesize that those who face higher financial costs because they are responsible for a higher share of their households' income, social costs because they have children, or psychological costs because they

have already invested time and effort in the business as hybrid entrepreneurs will be less sensitive to increases in exemption levels than will those who face lower costs across these dimensions. Our empirical results, which are based on a quasi-natural experiment in the US, support our theoretical predictions. Thus, our study shows that context not only affects the decision to enter self-employment but also affects this decision based on individuals' personal characteristics.

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Notes

1. In the US, the most frequently used bankruptcy procedure is under Chapter 7 (Cerqueiro, Hegde, et al., 2017; Fan & White, 2003). Chapter 7 requires individuals to give all their assets above a certain level to a bankruptcy officer, who then distributes them among creditors.
2. Since higher costs of failure increase fear of failure, this argument is in line with research that contends that higher fear of failure mitigates entrepreneurial entry (Cacciotti et al., 2016; Wennberg et al., 2013).
3. Hence, our data entails one observation per individual.
4. Our results are robust to more restrictive thresholds, which we address later in a robustness check.
5. For the personal property exemption, we consider exemptions for jewelry, cash and deposits, and motor vehicles (Cerqueiro & Penas, 2017).
6. Since 2005, individuals in the US cannot circumvent losing their assets by buying large homesteads prior to filing or by moving to a state with higher exemption levels. Specifically, for homesteads bought fewer than 40 months prior to filing, the maximum exemption level for that asset is \$125,000, and those who moved to another state within 2 years prior to filing for bankruptcy must file in the state of prior residence.
7. Thus, our sample contains only states that have within-state heterogeneity in exemption levels because of related reforms in our period of observation.
8. One could argue that the impact of changes in bankruptcy exemption levels may be confounded by other reforms that took place in similar timeframes. However, we deem this outcome unlikely, as these other reforms would need to have been in place while the 35 reforms of exemption levels across states and years were in place and would have to be moderated by the same variables as those we consider. To address this issue, we also control for such reforms by employing state-level indices of the Economic Freedom of North America Index.

9. To ensure that this variable ranges between 0 and 1, we drop observations with negative values, which would occur if 1 household member reports a negative income because of financial losses from business- or stock-related income. This affected only 49 observations in our sample. Our results are robust to setting negative values to 0 instead.
10. We do not control for marital status, as the bankruptcy exemption level is, by definition, endogenous to whether an individual is married or not, which could lead to severe multicollinearity that – as recently highlighted by Kalnins (2018) – may bias our analysis.
11. The main advantage of using a chained index of GDP (rather than current GDP) is that it does not vary with price fluctuations. Our results are robust to alternative specifications such as current GDP, the log of GDP, or GPD growth.
12. We also address the possibility that such reforms could have been passed simultaneously with increases in exemption levels. To this end, we examine whether a change in exemption levels in a given state and year correlates with a change in any of the three indices. We observe no statistically significant correlations, which supports our claim that other reforms are unlikely to influence our estimates.
13. To determine whether our results may be influenced by individuals who have no educational degree, we perform a sample split and focus on those who transition into self-employment. Among entrants into self-employment, only 5 percent have no educational degree, 36 percent have a high school degree, 12 percent have an associate degree, 33 percent have a bachelor's degree, 11 percent have a master's degree, and 3 percent have a doctoral degree.
14. Results are available from the authors on request.
15. Full results are available from the authors on request.
16. We also tested the extreme case of considering only individuals with related earnings above the 99th percentile (i.e., \$25,000 or more). While this approach restricts our sample to only 169 observations, we still find support for our hypotheses. Only the moderating effect of having children drops (slightly) in statistical significance (p-value 0.128), perhaps because of the small sample size, but the coefficient remains negative.

References

- Anderson, D. R., Sweeney, D. J., Williams, T. A., Camm, J. D., & Cochran, J. J. (2016). *Statistics for business & economics* (13th ed.). Cengage Learning.
- Arcuri, G., & Levratto, N. (2020). Early stage SME bankruptcy: does the local banking market matter? *Small Business Economics*, 54(2), 421–436. <https://doi.org/10.1007/s11187-018-0042-4>
- Armour, J., & Cumming, D. (2008). Bankruptcy law and entrepreneurship. *American Law and Economics Review*, 10(2), 303–350. <https://doi.org/10.1093/aler/ahn008>
- Åstebro, T., & Chen, J. (2014). The entrepreneurial earnings puzzle: Mismeasurement or real? *Journal of Business Venturing*, 29(1), 88–105. <https://doi.org/10.1016/j.jbusvent.2013.04.003>
- Audretsch, D., Colombelli, A., Grilli, L., Minola, T., & Rasmussen, E. (2020). Innovative start-ups and policy initiatives. *Research Policy*, 49(10), 104027. <https://doi.org/10.1016/j.respol.2020.104027>
- Brachert, M., Hyll, W., & Sadrieh, A. (2020). Entry into self-employment and individuals' risk-taking propensities. *Small Business Economics*, 55(4), 1057–1074. <https://doi.org/10.1007/s11187-019-00173-6>
- Bruhn, M. (2011). License to sell: The effect of business registration reform on entrepreneurial activity in Mexico. *Review of Economics and Statistics*, 93(1), 382–386. https://doi.org/10.1162/REST_a_00059
- Bureau of Labor Statistics. (2006). *Current population survey, 2006 annual social and economic (ASEC) supplement*. Bureau of the Census for the Bureau of Labor Statistics, Washington.
- Cacciotti, G., Hayton, J. C., Mitchell, J. R., & Giazitzoglu, A. (2016). A reconceptualization of fear of failure in entrepreneurship. *Journal of Business Venturing*, 31(3), 302–325. <https://doi.org/10.1016/j.jbusvent.2016.02.002>

- Carter, S. (2011). The rewards of entrepreneurship: Exploring the incomes, wealth, and economic well-being of entrepreneurial households. *Entrepreneurship Theory and Practice*, 35(1), 39–55. <https://doi.org/10.1111/j.1540-6520.2010.00422.x>
- Carter, S., Kuhl, A., Marlow, S., & Mwaura, S. (2017). Households as a site of entrepreneurial activity. *Foundations and Trends in Entrepreneurship*, 13(2), 81–190. <https://doi.org/10.1561/03000000062>
- Cerqueiro, G., Hegde, D., Penas, M. F., & Seamans, R. C. (2017). Debtor rights, credit supply, and innovation. *Management Science*, 63(10), 3311–3327. <https://doi.org/10.1287/mnsc.2016.2509>
- Cerqueiro, G., & Penas, M. F. (2017). How does personal bankruptcy law affect startups? *The Review of Financial Studies*, 30(7), 2523–2554. <https://doi.org/10.1093/rfs/hhw081>
- Cerqueiro, G., Penas, M. F., & Seamans, R. (2019). Debtor protection and business dynamism. *The Journal of Law and Economics*, 62(3), 521–549. <https://doi.org/10.1086/704956>
- Cope, J. (2011). Entrepreneurial learning from failure: An interpretative phenomenological analysis. *Journal of Business Venturing*, 26(6), 604–623. <https://doi.org/10.1016/j.jbusvent.2010.06.002>
- Damaraju, N. L., Barney, J. B., & Dess, G. G. (2021). Do stringent bankruptcy laws always deter entrepreneurial activities? A study of cultural influences. *Entrepreneurship Theory and Practice*, 45(2), 418–439. <https://doi.org/10.1177/1042258720913017>
- Dawson, C., Henley, A., & Latreille, P. (2014). Individual motives for choosing self-employment in the UK: Does region matter? *Regional Studies*, 48(5), 804–822. <https://doi.org/10.1080/00343404.2012.697140>
- Decker, R., Haltiwanger, J., Jarmin, R., & Miranda, J. (2014). The role of entrepreneurship in US job creation and economic dynamism. *Journal of Economic Perspectives*, 28(3), 3–24. <https://doi.org/10.1257/jep.28.3.3>
- Dommer, S. L., & Swaminathan, V. (2013). Explaining the endowment effect through ownership: The role of identity, gender, and self-threat. *Journal of Consumer Research*, 39(5), 1034–1050. <https://doi.org/10.1086/666737>
- Eberhart, R. N., Eesley, C. E., & Eisenhardt, K. M. (2017). Failure is an option: Institutional change, entrepreneurial risk, and new firm growth. *Organization Science*, 28(1), 93–112. <https://doi.org/10.1287/orsc.2017.1110>
- Eklund, J., Levratto, N., & Ramello, G. B. (2020). Entrepreneurship and failure: Two sides of the same coin? *Small Business Economics*, 54(2), 373–382. <https://doi.org/10.1007/s11187-018-0039-z>
- Estrin, S., Mickiewicz, T., & Rebmann, A. (2017). Prospect theory and the effects of bankruptcy laws on entrepreneurial aspirations. *Small Business Economics*, 48(4), 977–997. <https://doi.org/10.1007/s11187-016-9810-1>
- European Commission. (2012). *Entrepreneurship in the EU and beyond*. European Commission.
- European Commission. (2013). *Entrepreneurship 2020 action plan: Reigniting the entrepreneurial spirit in Europe*. European Commission.
- Fairchild, G. B. (2009). Residential segregation influences on the likelihood of ethnic self-employment. *Entrepreneurship Theory and Practice*, 33(2), 373–395. <https://doi.org/10.1111/j.1540-6520.2009.00295.x>
- Fan, W., & White, M. J. (2003). Personal bankruptcy and the level of entrepreneurial activity. *The Journal of Law and Economics*, 46(2), 543–567. <https://doi.org/10.1086/382602>
- Fisch, C., & Block, J. H. (2021). How does entrepreneurial failure change an entrepreneur's digital identity? Evidence from Twitter data. *Journal of Business Venturing*, 36(1), 106015. <https://doi.org/10.1016/j.jbusvent.2020.106015>
- Folta, T. B., Delmar, F., & Wennberg, K. (2010). Hybrid entrepreneurship. *Management Science*, 56(2), 253–269. <https://doi.org/10.1287/mnsc.1090.1094>
- Fu, K., Wennberg, K., & Falkenhall, B. (2020). Productive entrepreneurship and the effectiveness of insolvency legislation: A cross-country study. *Small Business Economics*, 54(2), 383–404. <https://doi.org/10.1007/s11187-018-0040-6>

- Gohmann, S. F. (2012). Institutions, latent entrepreneurship, and self-employment: An international comparison. *Entrepreneurship Theory and Practice*, 36(2), 295–321. <https://doi.org/10.1111/j.1540-6520.2010.00406.x>
- Gumus, G., & Regan, T. L. (2015). Self-employment and the role of health insurance in the U.S. *Journal of Business Venturing*, 30(3), 357–374. <https://doi.org/10.1016/j.jbusvent.2014.01.001>
- Hartog, J., Van Praag, M., & Van Der Sluis, J. (2010). If you are so smart, why aren't you an entrepreneur? Returns to cognitive and social ability: Entrepreneurs versus employees. *Journal of Economics & Management Strategy*, 19(4), 947–989. <https://doi.org/10.1111/j.1530-9134.2010.00274.x>
- Haynie, J. M., Shepherd, D. A., & McMullen, J. S. (2009). An opportunity for me? The role of resources in opportunity evaluation decisions. *Journal of Management Studies*, 46(3), 337–361. <https://doi.org/10.1111/j.1467-6486.2009.00824.x>
- Holmes, R. M., Bromiley, P., Devers, C. E., Holcomb, T. R., & McGuire, J. B. (2011). Management theory applications of prospect theory: Accomplishments, challenges, and opportunities. *Journal of Management*, 37(4), 1069–1107. <https://doi.org/10.1177/0149206310394863>
- Hunton, J. E., Hall, T. W., & Price, K. H. (1998). The value of voice in participative decision making. *Journal of Applied Psychology*, 83(5), 788–797. <https://doi.org/10.1037/0021-9010.83.5.788>
- Jenkins, A. S., Wiklund, J., & Brundin, E. (2014). Individual responses to firm failure: Appraisals, grief, and the influence of prior failure experience. *Journal of Business Venturing*, 29(1), 17–33. <https://doi.org/10.1016/j.jbusvent.2012.10.006>
- Josefy, M. A., Harrison, J. S., Sirmon, D. G., & Carnes, C. (2017). Living and dying: Synthesizing the literature on firm survival and failure across stages of development. *Academy of Management Annals*, 11(2), 770–799. <https://doi.org/10.5465/annals.2015.0148>
- Kahneman, D., Knetsch, J. L., & Thaler, R. H. (1990). Experimental tests of the endowment effect and the coase theorem. *Journal of Political Economy*, 98(6), 1325–1348. <https://doi.org/10.1086/261737>
- Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263–291. <https://doi.org/10.2307/1914185>
- Kalnins, A. (2018). Multicollinearity: How common factors cause type 1 errors in multivariate regression. *Strategic Management Journal*, 39(8), 2362–2385. <https://doi.org/10.1002/smj.2783>
- Kibler, E., Mandl, C., Kautonen, T., & Berger, E. S. C. (2017). Attributes of legitimate venture failure impressions. *Journal of Business Venturing*, 32(2), 145–161. <https://doi.org/10.1016/j.jbusvent.2017.01.003>
- Kihlstrom, R. E., & Laffont, J. J. (1979). A general equilibrium entrepreneurial theory of firm formation based on risk aversion. *Journal of Political Economy*, 87(4), 719–748. <https://doi.org/10.1086/260790>
- Koudstaal, M., Sloof, R., & van Praag, M. (2016). Risk, uncertainty, and entrepreneurship: Evidence from a lab-in-the-field experiment. *Management Science*, 62(10), 2897–2915. <https://doi.org/10.1287/mnsc.2015.2249>
- Lee, S.-H., Peng, M. W., & Barney, J. B. (2007). Bankruptcy law and entrepreneurship development: A real options perspective. *Academy of Management Review*, 32(1), 257–272. <https://doi.org/10.5465/amr.2007.23464070>
- Lee, S.-H., Yamakawa, Y., Peng, M. W., & Barney, J. B. (2011). How do bankruptcy laws affect entrepreneurship development around the world? *Journal of Business Venturing*, 26(5), 505–520. <https://doi.org/10.1016/j.jbusvent.2010.05.001>
- Levine, R., & Rubinstein, Y. (2017). Smart and illicit: Who becomes an entrepreneur and do they earn more?. *The Quarterly Journal of Economics*, 132(2), 963–1018. <https://doi.org/10.1093/qje/qjw044>
- Lin, Z., Picot, G., & Compton, J. (2000). The entry and exit dynamics of self-employment in Canada. *Small Business Economics*, 15(2), 105–125. <https://doi.org/10.1023/A:1008150516764>
- Liu, Y., Li, Y., Hao, X., & Zhang, Y. (2019). Narcissism and learning from entrepreneurial failure. *Journal of Business Venturing*, 34(3), 496–512. <https://doi.org/10.1016/j.jbusvent.2019.01.003>

- Lofstrom, M., Bates, T., & Parker, S. C. (2014). Why are some people more likely to become small-business owners than others: Entrepreneurship entry and industry-specific barriers. *Journal of Business Venturing*, 29(2), 232–251. <https://doi.org/10.1016/j.jbusvent.2013.01.004>
- Madrian, B. C., & Lefgren, L. J. (2000). An approach to longitudinally matching current population survey (CPS) respondents. *Journal of Economic and Social Measurement*, 26(1), 31–62. <https://doi.org/10.3233/JEM-2000-0165>
- Mazar, N., Shampanier, K., & Ariely, D. (2017). When retailing and Las Vegas meet: Probabilistic free price promotions. *Management Science*, 63(1), 250–266. <https://doi.org/10.1287/mnsc.2015.2328>
- Melcarne, A., & Ramello, G. B. (2020). Bankruptcy delay and firms' dynamics. *Small Business Economics*, 54(2), 405–419. <https://doi.org/10.1007/s11187-018-0041-5>
- Morewedge, C. K., Shu, L. L., Gilbert, D. T., & Wilson, T. D. (2009). Bad riddance or good rubbish? Ownership and not loss aversion causes the endowment effect. *Journal of Experimental Social Psychology*, 45(4), 947–951. <https://doi.org/10.1016/j.jesp.2009.05.014>
- Moulton, W. N., & Thomas, H. (1993). Bankruptcy as a deliberate strategy: Theoretical considerations and empirical evidence. *Strategic Management Journal*, 14(2), 125–135. <https://doi.org/10.1002/smj.4250140204>
- Paddock, E. L., Ko, J., Cropanzano, R., Bagger, J., El Akremi, A., Camerman, J., Greguras, G. J., Mladinic, A., Moliner, C., Nam, K., Törnblom, K., & Van den Bos, K. (2015). Voice and culture: A prospect theory approach. *Journal of Behavioral Decision Making*, 28(2), 167–175. <https://doi.org/10.1002/bdm.1834>
- Parker, S. C. (2018). *The economics of entrepreneurship*. Cambridge University Press.
- Parker, S. C., Belghitar, Y., & Barmby, T. (2005). Wage uncertainty and the labour supply of self-employed workers. *The Economic Journal*, 115(502), C190–C207. <https://doi.org/10.1111/j.0013-0133.2005.00987.x>
- Peng, M. W., Yamakawa, Y., & Lee, S.-H. (2010). Bankruptcy laws and entrepreneur–friendliness. *Entrepreneurship Theory and Practice*, 34(3), 517–530. <https://doi.org/10.1111/j.1540-6520.2009.00350.x>
- Raffiee, J., & Feng, J. (2014). Should I quit my day job? A hybrid path to entrepreneurship. *Academy of Management Journal*, 57(4), 936–963. <https://doi.org/10.5465/amj.2012.0522>
- Saez, E., & Zucman, G. (2016). Wealth inequality in the United States since 1913: Evidence from capitalized income tax data. *The Quarterly Journal of Economics*, 131(2), 519–578. <https://doi.org/10.1093/qje/qjw004>
- Schulz, M., Urbig, D., & Procher, V. (2016). Hybrid entrepreneurship and public policy: The case of firm entry deregulation. *Journal of Business Venturing*, 31(3), 272–286. <https://doi.org/10.1016/j.jbusvent.2016.01.002>
- Shepherd, D. A. (2003). Learning from business failure: Propositions of grief recovery for the self-employed. *Academy of Management Review*, 28(2), 318–328. <https://doi.org/10.5465/amr.2003.9416377>
- Shepherd, D. A. (2009). Grief recovery from the loss of a family business: A multi- and meso-level theory. *Journal of Business Venturing*, 24(1), 81–97. <https://doi.org/10.1016/j.jbusvent.2007.09.003>
- Shepherd, D. A. (2019). Researching the dark side, downside, and destructive side of entrepreneurship: It is the compassionate thing to do! *Academy of Management Discoveries*, 5(3), 217–220. <https://doi.org/10.5465/amd.2018.0194>
- Shepherd, D. A., Wennberg, K., Suddaby, R., & Wiklund, J. (2019). What are we explaining? A review and agenda on initiating, engaging, performing, and contextualizing entrepreneurship. *Journal of Management*, 45(1), 159–196. <https://doi.org/10.1177/0149206318799443>
- Shepherd, D. A., Wiklund, J., & Haynie, J. M. (2009). Moving forward: Balancing the financial and emotional costs of business failure. *Journal of Business Venturing*, 24(2), 134–148. <https://doi.org/10.1016/j.jbusvent.2007.10.002>
- Simoes, N., Crespo, N., & Moreira, S. B. (2016). Individual determinants of self-employment entry: What do we really know? *Journal of Economic Surveys*, 30(4), 783–806. <https://doi.org/10.1111/joes.12111>

- Singh, S., Corner, P., & Pavlovich, K. (2007). Coping with entrepreneurial failure. *Journal of Management & Organization*, 13(4), 331–344. <https://doi.org/10.5172/jmo.2007.13.4.331>
- Singh, S., Corner, P. D., & Pavlovich, K. (2015). Failed, not finished: A narrative approach to understanding venture failure stigmatization. *Journal of Business Venturing*, 30(1), 150–166. <https://doi.org/10.1016/j.jbusvent.2014.07.005>
- Taylor, M. P. (1999). Survival of the fittest? An analysis of self-employment duration in Britain. *The Economic Journal*, 109(454), 140–155. <https://doi.org/10.1111/1468-0297.00422>
- Thorne, D. (2010). Extreme financial strain: Emergent chores, gender inequality and emotional distress. *Journal of Family and Economic Issues*, 31(2), 185–197. <https://doi.org/10.1007/s10834-010-9189-0>
- Thorne, D., & Anderson, L. (2006). Managing the stigma of personal bankruptcy. *Sociological Focus*, 39(2), 77–97. <https://doi.org/10.1080/00380237.2006.10571278>
- Ucbasaran, D., Shepherd, D. A., Lockett, A., & Lyon, S. J. (2013). Life after business failure: The process and consequences of business failure for entrepreneurs. *Journal of management*, 39(1), 163–202.
- Urbano, D., Aparicio, S., & Audretsch, D. (2019). Twenty-five years of research on institutions, entrepreneurship, and economic growth: What has been learned? *Small Business Economics*, 53(1), 21–49. <https://doi.org/10.1007/s11187-018-0038-0>
- Wellington, A. J. (2006). Self-employment: The new solution for balancing family and career? *Labour Economics*, 13(3), 357–386. <https://doi.org/10.1016/j.labeco.2004.10.005>
- Welter, F. (2011). Contextualizing entrepreneurship—conceptual challenges and ways forward. *Entrepreneurship Theory and Practice*, 35(1), 165–184. <https://doi.org/10.1111/j.1540-6520.2010.00427.x>
- Wennberg, K., Pathak, S., & Autio, E. (2013). How culture moulds the effects of self-efficacy and fear of failure on entrepreneurship. *Entrepreneurship & Regional Development*, 25(9-10), 756–780. <https://doi.org/10.1080/08985626.2013.862975>
- Wiklund, J., Nikolaev, B., Shir, N., Foo, M.-D., & Bradley, S. (2019). Entrepreneurship and well-being: Past, present, and future. *Journal of Business Venturing*, 34(4), 579–588. <https://doi.org/10.1016/j.jbusvent.2019.01.002>
- Yamakawa, Y., & Cardon, M. S. (2017). How prior investments of time, money, and employee hires influence time to exit a distressed venture, and the extent to which contingency planning helps. *Journal of Business Venturing*, 32(1), 1–17. <https://doi.org/10.1016/j.jbusvent.2016.10.002>

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