Bankruptcy and Serial Entrepreneurship

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Abstract

A key policy goal of personal bankruptcy laws is to protect wealth of failed entrepreneurs, thereby fostering serial entrepreneurship. I evaluate this premise by exploiting windfall wealth from inheritances to generate exogenous variation in personal wealth after bankruptcy. I find that windfall wealth increases business ownership of failed entrepreneurs but has no effect on entrepreneurs who experienced severe failures. Moreover, those who respond to windfall wealth have lower profits, indicating their lower entrepreneurial quality. Overall, I find support for the positive effect of wealth protection on serial entrepreneurship, but also find that lower entrepreneurial quality and personal experience of severe failures may limit the effectiveness of the policy.

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1 Introduction

Policymakers around the world have increased the level of wealth protection in personal bankruptcy laws to reduce the cost of entrepreneurial failure and foster entrepreneurship. For example, in 2019, the European Union adopted the Directive on Restructuring and Insolvency with the explicit aim to help "over-indebted entrepreneurs benefit from a full discharge of debt ... , thereby allowing them a second chance." Despite the importance of these policy changes, evidence on whether wealth protection in bankruptcy law is effective in providing a second chance to failed entrepreneurs is scant. In this study, I evaluate the effect of wealth protection on serial entrepreneurship using high-quality administrative data from Denmark.

A priori, whether failed entrepreneurs respond to a higher level of wealth protection is ambiguous. On one hand, greater wealth protection might promote serial entrepreneurship by protecting wealth from seizure by creditors, thereby relaxing financial constraints of failed entrepreneurs. Consistent with the financial constraints channel, Cahn et al. (2021) and Herkenhoff et al. (2021) find that public information on past bankruptcy limits access to financing, which deters entrepreneurship. On the other hand, regardless of their wealth, failed entrepreneurs' negative personal experiences might decrease their willingness to start another business. Prior studies document that negative personal experiences, such as corporate bankruptcy, decrease managerial risk-taking (Malmendier et al. 2011; Dittmar and Duchin 2016; Schoar and Zuo 2017). Collectively, whether failed entrepreneurs start another venture after increased wealth protection is an empirical question.

The key empirical challenge in answering this question is to isolate random variation in the level of protected wealth to entrepreneurs in the event of bankruptcy. Prior studies that rely on cross-state or state-level variation in wealth protection (in the US) are subject

¹See the Directive (EU) 2019/1023.

to potential concerns about whether such variation is confounded by state-specific investment opportunities (Hynes et al. 2004). Moreover, more debtor-friendly laws may reduce credit supply, exacerbating the financial constraints that failed entrepreneurs face. Such indirect general equilibrium channels would counteract the direct effect of wealth protection on serial entrepreneurship.²

In this study, I address these challenges by using an identification strategy that exploits windfall wealth from inheritances received by failed entrepreneurs in Denmark.³ The underlying idea is that variation in windfalls after bankruptcy serves as a proxy for variation in wealth protection in bankruptcy. The research design has two advantages. First, the timing of inheritance is random relative to that of bankruptcy, which is supported by both the institutional features of Danish bankruptcy law and the data. Second, because these windfalls are restricted to individuals receiving inheritances, they are unlikely to significantly influence the credit supply in the economy. I exploit this random variation to estimate the effect of greater wealth protection on serial entrepreneurship by using a matched sample. I match failed entrepreneurs who receive inheritances with those who do not receive inheritances but have similar characteristics, and between the two groups of failed entrepreneurs, compare the difference in the propensity to restart a business.

I first trace the effect of wealth protection on serial entrepreneurship. I find that failed entrepreneurs are not more likely to own a business despite receiving windfall wealth after bankruptcy. This result consistent even for those who receive inheritances above the median size, approximately 15,000 EUR (or equivalent to 22% relative to median dischargeable debt). The result implies that wealth protection in bankruptcy is not a suf-

²Other indirect general equilibrium channels may confound the inference by causing changes in the composition of failed entrepreneurs. For example, more debtor-friendly laws reduce the expected costs of failure, which may incentivize more distressed entrepreneurs to file for bankruptcy (Agarwal et al. 2005).

³Several studies have examined the impact of windfall wealth on first-time entrepreneurship by exploring different sources of wealth shocks. These include inheritances (Holtz-Eakin et al. 1994; Andersen and Nielsen 2012), cash windfalls (Bellon et al. 2021; Cespedes et al. 2021; Bermejo et al. 2022), or increased access to credit via housing collateral (Adelino et al. 2015; Schmalz et al. 2017; Jensen et al. 2022). For a comprehensive review of related studies, see Nanda and Phillips (2022).

ficient condition for failed entrepreneurs to restart. Moreover, the muted response contrasts with prior findings that document a positive effect of wealth protection on first-time entrepreneurship (e.g., Fan and White 2003; Armour and Cumming 2008; Cerqueiro et al. 2019), suggesting that the experience of failure may be another important determinant for serial entrepreneurship among bankrupt entrepreneurs.

To investigate why greater wealth protection alone does not spur serial entrepreneurship, I examine the role of past entrepreneurial experiences. Specifically, I use three measures of negative personal experiences from business failure: (i) experiencing negative income from entrepreneurship, (ii) accumulating large debt from failed businesses, and (iii) being fully personally liable (as opposed to partially liable) for debts of failed businesses. I find that such severe entrepreneurial failures deter restarting despite windfall wealth. On the other hand, those with less severe experience are about 10 percentage points more likely to become serial entrepreneurs after receiving windfall wealth. In addition, I conduct robustness checks to confirm that the experience of severe failure does not simply represent low entrepreneurial quality or is an artifact of long business tenure. Overall, these findings suggest that the propensity to start a second business after bankruptcy is jointly determined by the amount of protected wealth and the personal experience from past failures.

If second chance policies foster high-quality serial entrepreneurship, failed entrepreneurs who restart after receiving inheritances should outperform entrepreneurs who start for the first time. To test the premise, I compare the level of entrepreneurial income between serial entrepreneurs who receive post-bankruptcy inheritances and matched first-time entrepreneurs, who start in the same year and have similar characteristics as serial entrepreneurs. I find that the former group earns about 20% less profits than the latter. This finding on lower profits suggests that failed entrepreneurs who respond to greater wealth protection are, on average, unlikely to be of high quality.

This study contributes to several strands of the literature. First, I provide the first em-

pirical evidence on the effect of wealth protection in personal bankruptcy on *serial* entrepreneurship. Theoretical studies posit that wealth protection could foster overall entrepreneurship (Landier 2005; Ayotte 2007; Jia 2015; Mankart and Rodano 2015). Consistent with the theoretical prediction, empirical evidence finds that greater wealth protection increases entrepreneurship across US states or countries (Fan and White 2003; Armour and Cumming 2008; Cerqueiro et al. 2019). In comparison to these studies, I specifically test whether *failed* entrepreneurs restart a business. Considering that an important goal of bankruptcy law is to enable failed entrepreneurs to 'start fresh' by discharging business debts (White 2016), I fill this gap in the literature. I find that failed entrepreneurs do not unconditionally respond to increases in wealth protection.⁵

The second contribution of this study relates to research examining the impact of removing (either personal or corporate) information on past bankruptcy or delinquency on entrepreneurship. These studies document that removing such information has either positive, negative, or no impact on entrepreneurship (Bos et al. 2018; Dobbie et al. 2020; Cahn et al. 2021; Herkenhoff et al. 2021). I complement these findings by showing that the effect of wealth protection in bankruptcy on entrepreneurship depends on experience of severe failure.

My study also contributes to the broader literature on entrepreneurship. A large body of research documents the positive effect of wealth shocks on first-time entrepreneurship (e.g., Holtz-Eakin et al. 1994; Lindh and Ohlsson 1996; Andersen and Nielsen 2012; Adelino et al. 2015; Schmalz et al. 2017; Bellon et al. 2021; Cespedes et al. 2021; Bermejo

⁴Another related study by Ersahin et al. (2021) documents that *reducing* wealth protection decreases entrepreneurship. Similarly, recent evidence finds that downside protection against entrepreneurial failure *outside* the formal bankruptcy system, such as unemployment insurance and protection of marital property, can stimulate entrepreneurial activities (Hombert et al. 2020; Koudijs and Salisbury 2020; Gottlieb et al. 2022). Conversely, Cumming and Li (2013), Paik (2013), and Traczynski (2019) observe either a negative or no correlation between wealth protection in personal bankruptcy and entrepreneurship in the US.

⁵Other studies examine the effect of personal bankruptcy law on firm-level outcomes other than entrepreneurship, such as borrowing and investments (Berkowitz and White 2004; Berger et al. 2011; Cerqueiro et al. 2017; Cerqueiro and Penas 2017; Chen et al. 2020; Cespedes et al. 2022; Celentani et al. 2022; Damm et al. 2022). On the other hand, Baird and Morrison (2005) argue that reorganizations in *corporate* bankruptcies encourage entrepreneurs to remain with the old businesses, thereby delaying their transition to new ventures that may better match their skills.

et al. 2022). Compared with these studies, I find that bankrupt entrepreneurs respond to wealth windfalls if they experienced less severe failures. Another strand of the literature documents that serial entrepreneurs outperform first-time ones (Gompers et al. 2010; Lafontaine and Shaw 2016; Shaw and Sørensen 2019). In comparison to these studies, my study indicates that marginal entrepreneurs who restart following increased wealth protection in bankruptcy underperform.

The final contribution relates to the literature documenting that negative personal experiences deter individual risk-taking (e.g., Malmendier et al. 2011; Dittmar and Duchin 2016; Koudijs and Voth 2016; Knüpfer et al. 2017; Schoar and Zuo 2017; Andersen et al. 2019). Consistent with the literature, my study finds that bankrupt entrepreneurs who experience severe failure from their businesses are less willing to take risks in the labor market.

My study has implications for policies that aim to provide a second chance to failed entrepreneurs by increasing wealth protection. First, such policies may be insufficient to foster serial entrepreneurship because negative personal experiences deter restarting regardless of the level of wealth protected by bankruptcy law. Second, failed entrepreneurs who do respond to such policies may, on average, generate lower profits compared to bankrupt entrepreneurs who restart without the policy support. Moreover, while greater wealth protection induces a subset of failed entrepreneurs to re-enter, prior research documents that these policies may simultaneously reduce businesses' access to credit in the economy, which might in turn deter entry and growth of other aspiring entrepreneurs (Berkowitz and White 2004; Berger et al. 2011; Fossen 2014).⁷ In sum, my findings underscore the limited effectiveness of wealth protection policies in fostering high-quality serial entrepreneurship.

⁶In a related study, Cesarini et al. (2017) find that winning a lottery prize is associated with lower income from entrepreneurship. My results on lower income of serial entrepreneurs who receive inheritances are consistent with their finding.

⁷Related studies further find that greater wealth protection in personal bankruptcy is associated with higher interest rates for both secured and unsecured credits (e.g., Gropp et al. 1997; Livshits et al. 2007; Severino and Brown 2017; Chakrabarti and Pattison 2019; Gross et al. 2021).

The study proceeds as follows. Section 2 introduces the institutional setting in Denmark, providing details about personal bankruptcies for entrepreneurs and about inheritances for bankrupt individuals. Section 3 describes the data and how I construct the main sample by a matching procedure. I then present summary statistics of bankrupt entrepreneurs and the distribution of inheritances in the sample. Section 4 provides evidence that inheritances significantly increase wealth after bankruptcy. I then analyze whether and how larger wealth protected in bankruptcy affects serial entrepreneurship, focusing on the role of past entrepreneurial experiences. Section 5 presents robustness checks. I address the possibility that negative entrepreneurial experiences may correlate with low entrepreneurial quality. I also discuss the potential role of age of the inheritance sample. Section 6 concludes.

2 Institutional setting

This section describes the institutional setting relevant to this study. First, I provide a brief overview of the personal bankruptcy system in Denmark. Second, I introduce the institutional background regarding inheritance.

2.1 Personal bankruptcy for entrepreneurs in Denmark

The Bankruptcy Act (*Konkursloven*) governs insolvency proceedings in Denmark. Individual debtors who are insolvent, i.e., who cannot fulfill their debt obligations, have three filing options: liquidation for private individuals (*personlig konkurs*), reorganization (*rekonstruktion*), and bankruptcy (*gældssanering*).⁸ I briefly describe two proceedings that are empirically relevant for individual debtors: liquidation and bankruptcy.⁹

⁸Agrawal et al. (2022) note that in Danish parlance, *personlig konkurs* is often referred to as 'personal bankruptcy'. However, *personlig konkurs* does not entail debt discharge, while *gældssanering* does. Therefore, I refer to *personlig konkurs* as 'liquidation' and *gældssanering* as 'bankruptcy' throughout this study.

⁹Reorganization proceedings, which became available in 2011, are commonly used by large corporate debtors (Bang-Pedersen 2018). These proceedings represent less than 5% of all insolvency proceedings between 2011 and 2016 and see around 100 filings each year.

Under liquidation proceedings, insolvent debtors liquidate their assets to pay the debt. Liquidation can be filed by either a debtor or creditor. Importantly, liquidation does not automatically discharge the remaining unpaid debt. To receive the discharge, debtors need to apply separately for bankruptcy proceedings.

Under bankruptcy proceedings, debtors can receive a debt discharge by committing to a repayment plan, which typically lasts three to five years. Bankruptcy proceedings begin when the debtor files to the court in the local jurisdiction. Once the court confirms the filing meets all requirements, it formally opens the bankruptcy case and publicly announces it on the State Gazette, an official government gazette, which is the source of data for this study. The announcement on the State Gazette also specifies the deadline for creditors to submit their claims. After opening, the debtor presents a repayment plan to the court. The plan requires the debtor to use all disposable income (defined as predicted income minus predicted necessary expenses) to pay part of the unsecured debt. 10 If the court deems the plan feasible, it approves it and issues a bankruptcy ruling, detailing the discharge ratio (the proportion of debt discharged in bankruptcy to total unsecured debt) and the repayment terms, such as installment amounts and duration. At the issuance of the bankruptcy ruling, the portion of the debt that cannot be paid from disposable income is discharged. Only under special circumstances, such as permanent illness leaving the debtor incapable of repayment, the court may grant a full, immediate discharge. The average duration between case opening and ruling is about 9.5 months in my main sample. I provide more details on bankruptcy proceedings in Appendix A.1.

Two types of procedures: ordinary versus business debt chapters Denmark has two different personal bankruptcy procedures, defined under Chapters 25-28 and Chapter 29 of the Bankruptcy Act (hereafter referred to as the "ordinary chapter" and the "business debt chapter", respectively). The two chapters follow similar legal procedures to dis-

¹⁰Secured debts, like mortgages or car loans, cannot be discharged.

¹¹The business debt chapter was introduced in October 2005 following a reform to the Bankruptcy Act. Another reform in 2022, which is outside my sample period, consolidated the two chapters and reduced

charge debt and require liquidation of all assets, as previously described. However, the key difference is that the business debt chapter may be preferable for failed entrepreneurs who are eligible (Bang-Pedersen 2018). The difference comes from three main features. First, the business debt chapter is only available for individuals with large business debt. According to case law, the threshold for eligibility is set at 75% of the debt being business-related (Hindborg 2017, p. 281). Second, under the business debt chapter, the debtor can be unemployed or without stable income at filing, whereas under the ordinary chapter, the debtor must have a stable income from regular employment. This relaxed condition allows failed entrepreneurs who have recently reopened a business to file for bankruptcy, even without stable income. Third, the duration of the repayment period differs between the two: it is three years under the business debt chapter and five years in the ordinary chapter. The shorter repayment period under the business debt chapter is intended to facilitate a faster return to business after bankruptcy.

Ability to borrow and to own a business after bankruptcy Bankruptcy effectively restricts an individual's ability to borrow, but not business ownership. When liquidation or bankruptcy proceedings begin, debtors are registered with bankruptcy flags in the credit register, called RKI. These flags are removed after completion of the repayment period (3–5 years), but while they are present, they effectively make it impossible to obtain new loans or credit (Kreiner et al. 2020). Given that all bankrupt individuals are flagged regardless of inheritance events, my research design isolates the effect of windfall wealth, distinct from that of bankruptcy flags. Importantly, neither bankruptcy flags nor bankruptcy itself restrict an individual's ability to own a business. ¹⁴

the repayment period to 3 years. For details about the 2005 reform, see Kilborn (2009), Kilborn (2011) and Bang-Pedersen (2018).

¹²Formally, the business debt chapter requires the debtor to be under liquidation proceedings, whereas the ordinary chapter does not; in practice, the court requires in the ordinary chapter as well, liquidation of debtors' assets of value, such as a house or a car.

¹³For other minor differences between the two chapters, see Appendix A.1.

¹⁴During liquidation proceedings, the bankruptcy court may impose a bankruptcy quarantine (*konkurskarantæne*) on managers who operated their company in a grossly irresponsible manner. This quar-

2.2 Windfall wealth from inheritances after bankruptcy

To estimate the effect of wealth protection on post-bankruptcy serial entrepreneurship, my research design exploits windfall wealth from inheritances that debtors receive after bankruptcy. Identifying these inheritances is facilitated by administrative registers provided by Statistics Denmark. Specifically, I use population registers to link parents and their children and wealth registers to obtain individual-level asset and liability information, which is sourced from official tax records. According to Danish inheritance law, inheritances are by default equally divided among children. Legal provisions require that the transfer of the estate to heirs should be completed within 12 months after the death. An estate tax of 15% is levied on estates exceeding a net wealth of Danish Kroner (DKK) 242,400 as of 2006. This threshold is adjusted annually by a price index.

Inheritance events provide an ideal setting to study the effect of wealth protection in bankruptcy on serial entrepreneurship, due to two institutional features. First, the timing of inheritance is unrelated to that of bankruptcy. The Danish case law establishes that, when inheritance is anticipated at filing, the court rejects the application for bankruptcy (Hindborg 2017, p. 59, and Petersen and Ørgaard 2022, p. 125): the court considers that expected inheritance will improve debtors' financial situation, thus reducing the need for bankruptcy protection. Moreover, debtors are required to disclose all relevant information about their financial situation, including any prospect of inheritance; concealing such information is considered fraudulent, and can later result in the cancellation of the bankruptcy order (Hindborg 2017, pp. 213–215, and Hansen and Petersen 2022, p. 337). Therefore, the institutional environment suggests that the timing of inheritance is likely to be exogenous to the timing of a bankruptcy ruling.

Second, unexpected windfalls, such as lottery or inheritance, that occur after the rulantine prohibits them from owning a limited liability company for a three-year period, but does not prohibit owning an unlimited liability company.

¹⁵Following Andersen and Nielsen (2012), I restrict the sample to cases where all beneficiaries are children of the deceased.

ing do not change the repayment terms (Hindborg 2017, p. 314, and Petersen and Ørgaard 2022, note 931). ¹⁶ Therefore, inheritances that occur after bankruptcy belong solely to the debtor, as creditors do not have claims to them. In Section 4.1, I provide empirical evidence that is consistent with these two institutional features. Combined together, the institutional features support that windfall wealth from inheritance after bankruptcy can serve as a proxy for the greater amount of wealth protected in bankruptcy.

3 Data and sample selection

3.1 Data

I use four data sources to construct a panel dataset of entrepreneurs who go personally bankrupt. The construction starts with the list of bankrupt individuals. I then attach to the list unique individual identifiers (CPR) that are assigned to every Danish citizen. The CPR identifiers, equivalent to the Social Security numbers in the US, allow me to link the list of bankrupt individuals to the administrative registers and business ownership datasets. Using these linked data, I identify individuals' business ownership before and after bankruptcy and whether they receive inheritances. I describe each source in detail:

1. The State Gazette of Denmark (*Statstidende*): The State Gazette is a government gazette which publicly announces statutory notices on court proceedings. ¹⁷ It contains notices about liquidation and bankruptcy proceedings, from which I obtain information on the identity of bankrupt individuals. Each notice indicates the stage during bankruptcy proceedings (e.g., whether a case opens, a ruling is made, or a ruling is cancelled) and contains structured, textual information on the court and

¹⁶Some heirs with significant debt may waive the rights to inheritance, possibly to avoid the inheritance being used to pay creditors. However, waiving inheritance before bankruptcy can lead the court to reject the application for bankruptcy, according to the Danish case law (Hindborg 2017, p. 61, and Hansen and Petersen 2022, pp. 127–129).

¹⁷In Appendix Figures A.1 and A.2, I provide representative samples of a front page and specific bank-ruptcy notices as they appear in the State Gazette for further contextual understanding.

the debtor. The court-side information includes the unique case identifier, the date of court decision, the discharge ratio, and the court which makes the decision. The debtor-side information includes the debtor's name, date of birth, and full address (either residential or associated with an owned company). If the debtor has owned a company, its unique identifier, known as the CVR-number, is also included. Since the notice on bankruptcy ruling does not indicate the bankruptcy chapter, I infer it from the closest preceding notice on case opening, which contains such information. The notices produce the list of approximately 18,000 individuals who receive bankruptcy rulings between 2006 and 2016. Next, I assign CPR identifiers to the debtors listed in the State Gazette. To achieve this, I use a combination of debtor-side information from the State Gazette, such as the debtors' full name, date of birth, address, and the unique identifiers of firms they own. After excluding debtors with insufficient details in the State Gazette, I successfully assign CPR identifiers to 77% of debtors from the State Gazette.

2. Statistics Denmark: I use administrative data from Statistics Denmark, which comprise several registers containing comprehensive information on income, wealth, education, labor supply, family (parents, spouse, and children), and parental death. These registers cover the entire population of Denmark and provide individual-level data on an annual basis, using a CPR identifier for each person. The data are considered highly reliable. For instance, information on income, wealth, and employment status is directly sourced from official records from the Danish Tax and Customs Administration (SKAT). Furthermore, the registers remain robust against attrition unless an individual either dies or emigrates from Denmark. Due to their high quality, several studies on the drivers of business entry and exit have used these datasets

¹⁸From October 2005, the State Gazette transitioned to digital publishing (accessible at https://www.statstidende.dk), making 2006 the first full calendar year for which digital forms are available.

¹⁹Most common reason for non-assignment is when the debtor's date of birth and full name from the State Gazette matches to multiple records in the administrative registers (due to generic names). I exclude such multiple matches from the sample.

(e.g., Nanda and Sørensen 2010; Andersen and Nielsen 2012; Hanspal 2018; Agrawal et al. 2022; Jensen et al. 2022). I extract data from the registers for the years 1980 to 2021. I adjust variables denominated in Danish Kroner (DKK) to the 2015 price level and winsorize them at the first and ninety-ninth percentiles for each year. To identify inheritance events and their magnitudes using these administrative registers, I follow the methodology of Andersen and Nielsen (2012). The detailed procedure is outlined in Appendix A.2.

- 3. The Central Business Register (CVR: *Centrale Virksomhedsregister*): The Central Business Register contains firm-level information on all companies in Denmark.²⁰ The relevant information includes: incorporation status (either unlimited or limited liability company), industry (NACE codes), number of full-time equivalent employees, business address, founders, managers, and owners. The coverage of ownership information becomes more detailed from 2017, when limited liability companies are mandated to report their beneficial owners. The dataset covers the period from 1990 to 2021.
- 4. Experian: To supplement the CVR data on ownership of limited liability companies, I use the Experian dataset. It assembles data from companies' annual reports, which list ownership for individuals or entities holding more than 5% of the share capital. The dataset is available between 2000 and 2019.

3.2 Definition of entrepreneurs

I define individuals as entrepreneurs if they own an unlimited or limited liability company (hereafter ULC and LLC, respectively).

First, for ULC ownership, I extract information from the matched employer-employee panel dataset supplied by Statistics Denmark.²¹ Statistics Denmark classifies individuals

²⁰Companies are required to report statutory information to the CVR.

²¹Unlike LLCs, ULCs are not required to submit annual reports to the CVR, resulting in potential delays or omissions in reporting the closure or reopening of ULCs. Therefore, for accurate tracking serial entre-

as ULC entrepreneurs if their primary occupation is at a personally owned business, either a sole proprietorship (*enkeltmandsvirksomhed*) or a partnership (*interessentskab*). Focusing on primary occupation ensures that I capture full-time entrepreneurs.²²

Second, for LLC ownership, I employ the combined dataset from the CVR and Experian. The dataset provides a list of legal owners (those holding more than 5% of ownership or voting rights directly) and beneficial owners (those holding more than 25% of ownership or voting rights, either directly or indirectly) for each LLC at year-end. I classify individuals as LLC entrepreneurs who are either legal or beneficial owners of LLCs. By focusing on individuals with significant control rights, I capture business owners who are more likely to be entrepreneurs rather than financial investors.

3.3 Sample selection

To examine serial entrepreneurship after bankruptcy, the first step in the sample selection is to identify entrepreneurs who go bankrupt. Given that the State Gazette does not consistently specify whether a bankruptcy results from business failure, I use two criteria to identify former entrepreneurs. First, I classify all bankruptcies under the business debt chapter as those of former entrepreneurs, given that this chapter is exclusively available to individuals primarily indebted from business activities. Second, for ordinary chapter bankruptcies, I consider individuals as former entrepreneurs if they owned either a ULC or LLC within the seven years leading up to their bankruptcy. Using these criteria, I identify 5,894 entrepreneurs who go bankrupt, with 3,358 and 2,536 from the ordinary and business debt chapters, respectively.

In the second step, I refine the sample to avoid spurious correlations. First, I re-

preneurship in ULCs, I use the matched employer-employee panel dataset from Statistics Denmark.

²²Specifically, Statistics Denmark classifies individuals as ULC entrepreneurs if they meet either of the following criteria: (1) they own a ULC that employs at least one other individual, or (2) they are self-employed and derive over 50% of their total income from a ULC, or their business turnover exceeds 50,000 DKK.

²³I include three types of LLCs in Denmark: public limited liability companies (*aktieselskab*), private limited liability companies (*anpartsselskab*), and entrepreneurial companies (*iværksætterselskab*).

move 53 individuals whose rulings are subsequently cancelled (due to failures like non-compliance with the repayment plan). Second, to eliminate those who inherit too long after bankruptcy, I exclude 314 individuals whose inheritance events occur after four calendar years after their year of bankruptcy. Third, for individuals with multiple bankruptcy rulings, I only consider the first ruling.²⁴

In the third step, I retain entrepreneurs aged between 18 and 60 at the time of the ruling, thereby excluding 676 older entrepreneurs who might simply retire from the labor market after bankruptcy. After this step in sample selection, I am left with 4,851 unique failed entrepreneurs, who go bankrupt between 2006 and 2016.

Matching entrepreneurs who receive inheritances to those who do not My objective is to estimate the impact of windfall wealth on serial entrepreneurship after bankruptcy. To control for the general propensity to restart a business absent windfall wealth, I match bankrupt entrepreneurs who receive inheritances after their ruling (referred to as the 'treated' group) with those of similar characteristics who do not (the 'control' group).

To begin, I identify the treated group from inheritance events.²⁵ To focus on windfalls that occur soon after bankruptcy, I only look at inheritance events between the year of bankruptcy and three years after. The procedures yield 230 entrepreneurs with inheritance events.

For each bankrupt entrepreneur in the treated group, I look for an entrepreneur in the control group, and I match with replacements. The matching takes the following steps:

1. I require that the entrepreneur in the control group has the same year of bankruptcy, bankruptcy chapter (either ordinary or business debt chapters), gender, and a similar age (± 1 year) with the treated entrepreneur.

²⁴Refiling is a rare event: only about 3% of the bankrupt individuals in my sample receive a second or, even more rarely, a third ruling. Moreover, a review of such subsequent rulings from the State Gazette suggests that they primarily adjust terms from the initial ruling, rather than indicating a separate spell of financial distress.

²⁵I provide detailed procedures on identifying inheritances in Appendix A.2.

2. Among potential matches, I select the nearest neighbor based on pre-bankruptcy wealth (measured at one year before the bankruptcy). ²⁶ I further refine the accuracy of matching by excluding matched pairs with substantial differences in wealth levels (an absolute difference exceeds 1,000,000 DKK and a relative difference exceeds 50%). Additionally, I exclude individuals lacking information on their years of education, which is a control variable in my empirical specification.

After matching, my main matched sample consists of 214 unique individuals in the treated group and 205 in the control group. I observe them from the year of bankruptcy, denoted as year 0, through the five subsequent years, extending up to year +5.

3.4 Summary statistics

Table 1 reports the characteristics of all bankrupt entrepreneurs and the main matched sample (the treated and control groups), measured at the year of bankruptcy. The treated group is broadly similar to the full sample of bankrupt entrepreneurs on observable characteristics through Panels A–D. Panel A shows that bankrupt entrepreneurs have, on average, large negative net wealth at one year before bankruptcy, which leads them to seek a debt discharge. Panel B reports that the treated group is four years older than the full sample. This age difference reflects that treatments, i.e., inheritance events, occur when the last living parent dies. ²⁷ Panel C shows that bankrupt entrepreneurs on average discharge more than 90% of unsecured debt, as their average discharge ratio (which is the proportion of debt discharged in bankruptcy to total unsecured debt) is about 9%. Panel D reports that about 20% of bankrupt entrepreneurs have owned LLCs during the seven-year period before bankruptcy. The presence of former LLC owners under personal bankruptcy suggests that, like ULC owners, they are personally liable for some business debts. Their presence is consistent with prior studies documenting the importance

²⁶My results are robust to choosing other years before bankruptcy.

²⁷A potential concern is that older age of the treated group, compared to all bankrupt entrepreneurs, may dampen the impact of windfall wealth on serial entrepreneurship. I address this issue in Section 5.

of personal credit (and thus personal bankruptcy) among small business owners (e.g., Robb and Robinson 2014; White 2016; Wang et al. 2022; Chava et al. 2023; Fonseca and Wang 2023). In the last column, I examine the difference between the treatment and matched control groups. I find that the differences in all the characteristics between the two groups are not statistically significant. This absence of significant differences, particularly among characteristics that are not used in the matching process, implies that both groups are similar on observable entrepreneurial characteristics.

[Table 1 about here.]

Inheritance amounts The main explanatory variable in my analysis is whether an individual receives an inheritance. I provide descriptive evidence about the magnitude of inheritance to show that it is economically significant for these distressed entrepreneurs. The top panel of Figure 1 plots the distribution of inherited wealth according to six bins. The bins group different sizes of inheritances, starting from those sized between 1 and 10,000, 10,001 and 25,000, and until those exceed 500,000 DKK (which approximately correspond to 0.1 and 1,300, 1,300.1 and 3,400, and until those exceed 67,000 EUR, respectively). The distribution of inherited wealth shows substantial variation, similar to Andersen and Nielsen (2012) who find a positive effect of windfall wealth from inheritances on first-time entrepreneurship. To put into perspective, the average (median) size of inheritances in my study is 308,000 DKK (115,000 DKK), which is of similar magnitude as in Andersen and Nielsen (2012).²⁹ Therefore, inheritances to bankrupt entrepreneurs appear sufficiently large to relax the financial constraints of failed entrepreneurs who want to restart.

In the bottom panel of Figure 1, I plot the size of inheritance relative to dischargeable debt as an alternative way to quantify the magnitude of wealth windfalls. The bottom panel plots the distribution of the ratio of inherited wealth to dischargeable debt accord-

 $^{^{28}}$ Specifically, LLC owners may have personal liability if they use personal loans to finance their companies or have personal guarantees on company loans.

²⁹Compliant with Statistics Denmark's data policy, this median value represents the average of 5 values around the median.

ing to seven bins. I measure dischargeable debt as unsecured debt measured at one year before the year of bankruptcy. Similar to the top panel, these relative sizes of inheritances are economically large.

Inheritance timing In Appendix Figure A.3, I report the distribution of inheritance timing over event time. I group inheritance events by seven bins, each spanning six months. For instance, the first bin represents the share of individuals who receive an inheritance within the six-month period following their bankruptcy ruling date. Similarly, subsequent bins group people by intervals of six months. The top panel shows that the timing of inheritances does not exhibit bunching within the first six or twelve months following the bankruptcy ruling. For instance, inheritances that occur within twelve months of bankruptcy account for 25.7% (15.0% + 10.7%) of total inheritance occurrences, a figure lower than the 35% (19.6% + 15.4%) for inheritances that occur within the last twelve months. The relatively uniform distribution of inheritances across the event window supports that the timing of inheritances is exogenous once a bankruptcy ruling is issued (as discussed in Section 2.2).

[Figure 1 about here.]

4 Windfall wealth and serial entrepreneurship

4.1 Inheritance as a proxy for wealth protected in bankruptcy

In my research design, I exploit windfall wealth from inheritances to approximate the amount of wealth protected in bankruptcy. Before the main analysis, I assess the validity of the research design by testing (1) whether the treated and control groups show a similar trend in the level of wealth before the inheritance event and (2) whether inheritance increases net wealth (i.e., the difference between total assets and total debt) of recipients.

Figure 2 illustrates the dynamics of average net wealth for both the treated and control groups in solid and dashed lines, respectively. The horizontal axis shows the years since bankruptcy, with year 0 denoting the year in which the court issues a bankruptcy ruling. The shaded area between event years 0 and 3 represent the treatment window, during which inheritance events occur. The plot supports the validity of the research design in two ways.

First, Figure 2 shows that the treated and control groups show a similar evolution of wealth before bankruptcy. Despite constructing the matched control group based on individuals' characteristics measured at year -1, the overall trend in wealth is similar between the two groups throughout the event years -7 and -1.³⁰ This parallel pre-trend supports the main identifying assumption in the difference-in-differences design that the treated and control groups' wealth would have trended similarly in the absence of windfall wealth. In particular, the parallel pre-trend is inconsistent with opportunistic filing behavior by debtors in my sample, such as debtors systematically accumulating debt in anticipation of post-bankruptcy inheritances. Therefore, Figure 2 supports the main identifying assumption that the timing of inheritance is random relative to that of bankruptcy.

Second, while both groups experience a sharp jump in net wealth around the year of bankruptcy due to debt discharge, the treated group exhibits a higher level of wealth throughout the post-bankruptcy period. The persistent difference in wealth (statistically significant at the 10% level at each event year, except year 0) supports that inheritance significantly increases wealth of recipients. In particular, the post-bankruptcy level of wealth for the treated group remains close to zero or positive, while that of the control group remains negative. The negative level of wealth suggests that financial constraints may be particularly binding for failed entrepreneurs in the control group, who intend to restart.

Overall, Figure 2 lends support to (1) the parallel trend in wealth before bankruptcy,

 $^{^{30}}$ None of the event years between -7 and -1 show statistically significant differences in wealth between the two groups.

and (2) the legal feature that unanticipated inheritances belong to the debtor and are thus not subject to creditors' seizure. These two results are consistent with the institutional environment discussed in Section 2.

After observing the impact of inheritance on post-bankruptcy levels of wealth, I run regressions to quantify its magnitude. Specifically, I estimate the following OLS regression:

$$Y_{it} = \alpha_i + \alpha_y + \beta_1 A fter \ bankruptcy \ discharge_{it} + \beta_2 A fter \ inheritance_{it} + \gamma X'_{it} + \varepsilon_{it}, \quad (1)$$

where the dependent variable Y_{it} is an outcome variable (net wealth and its components) of individual i in event year t, where t = 0 is the year of bankruptcy. In the following analysis, I use five outcome variables for Y_{it} : the level of net wealth, total debt, and total assets, or alternatively, the log-transformed values of total assets and total debts. After bankruptcy discharge an indicator variable equal to one in the years following bankruptcy and zero otherwise. After inheritance is an indicator variable equal to one in the years following an inheritance event and zero otherwise. I include individual fixed effects (α_i) to control for unobserved time-invariant determinants of wealth for individuals, and calendar year fixed effects (α_{ν}) to rule out time effects, such as economic conditions. The inclusion of the individual fixed effects implies that I benchmark the post-bankruptcy and post-inheritance levels of the outcome variables to their pre-bankruptcy levels. The control variables X'_{it} include age to control for time-varying determinants of wealth or its components. Standard errors are clustered at the individual level. Standard errors are clustered at the individual level. The coefficient β_1 estimates the impact of bankruptcy and debt discharge on wealth. The main coefficient of interest β_2 captures the impact of inheritance on wealth.

Table 2 reports the results from estimating Equation 1. The sample comprises individuals in the treated and control groups, observed from 7 years before until 5 years after

bankruptcy. Columns 1–5 refer to five separate regressions, in which outcome variables are the level of net wealth, total debt, and total assets, the log of total assets, and the log of total debts, respectively.³¹ The results in Table 2 are consistent with Figure 2. Column 1 shows that the level of net wealth increases by about 1,036,000 DKK in years after bankruptcy. Moreover, the effect of inheritance is also significant, amounting to approximately one-third of the magnitude of the bankruptcy's effect on wealth. Columns 2–5 further decompose the effect on net wealth into its components, total debt and assets.³² Columns 2 and 4 show that bankruptcy reduces a large amount of debt (by about 1,128,000 DKK or by 79%, respectively), whereas inheritance does not have statistically significant effects (by about 161,000 DKK or by 15%, respectively), as most of the debt is already discharged through bankruptcy. Instead, Columns 3 and 5 show that inheritances increase total assets (by about 201,000 DKK or by 120%, respectively). The increase in assets supports the research design, which uses variation in windfall wealth as a proxy for variation in the amount of protected wealth in bankruptcy.

[Figure 2 about here.]

[Table 2 about here.]

4.2 Wealth protected in bankruptcy and serial entrepreneurship

In the previous section, I established that windfalls from inheritance increase net wealth, which is consistent with the idea of using them as a proxy for greater wealth protection in bankruptcy. In this section, I test whether more wealth protected in bankruptcy increases the probability of starting a second business.

I begin with a descriptive analysis: Figure 3 shows the dynamics of the share of individuals who own a business. The horizontal axis shows the years since bankruptcy, with year

³¹I do not use the logarithm of net wealth because the level of net wealth is often negative.

³²Columns 4 and 5 lose observations where the values of total debts or assets are equal to zero. The results are robust when using *Log(total debts+1)* or *Log(total assets+1)* as alternative specifications.

0 denoting the year in which the court issues a bankruptcy ruling. The entrepreneurship rates for each of the treated and control groups are in solid and dashed lines, respectively. The shaded area between event years 0 and 3 represents the treatment window, during which inheritance events occur.

Figure 3 provides several stylized facts about the dynamics of entrepreneurship around bankruptcy. First, as entrepreneurs approach bankruptcy, many of them exit business, suggesting that their business is failing. Second, in the five years following the bankruptcy, entrepreneurship rates increase by only about 14 percentage points, approximately from 10% to 24%. In particular, the treated group shows an increase of 14 percentage points, while the control group exhibits a similar increase of 13 percentage points. Finally, the treated and control groups show a parallel trend before bankruptcy – although the treated group exhibits a marginally higher share of entrepreneurship, the difference is both economically and statistically insignificant. Moreover, even after bankruptcy, the difference between the two groups remains insignificant. Figure 3 therefore suggests that wealth protection by bankruptcy laws may be insufficient to induce serial entrepreneurship.

[Figure 3 about here.]

To test this result more formally, I regress the indicator for post-bankruptcy business ownership on three measures of wealth shocks after bankruptcy. Specifically, to examine serial entrepreneurship after bankruptcy, my sample now consists of individuals observed for the year of bankruptcy and the following five-year periods. With this sample, I estimate the following linear probability model:

$$Owner_{it} = \alpha_y + \beta After \ inheritance_{it} + \gamma X'_{it} + \varepsilon_{it}, \tag{2}$$

³³These trends hold when examining the stock of serial entrepreneurs, as opposed to the flow as in Figure 3. Additionally, extending the event window to seven years post-bankruptcy, as long as the data allow, does not materially change the findings. The differences between the two groups remain statistically insignificant.

where the dependent variable $Owner_{it}$ is an indicator variable equal to one if individual iowns a business in event year t. In this specification, I use three measures to capture the effects of wealth shocks: (i) After inheritance is an indicator variable equal to one in the years following the inheritance event and zero otherwise; (ii) After inheritance × Inherited wealth is equal to the amount of inherited wealth (measured in million year-2015 DKK) in the years following the inheritance event and zero otherwise; and (iii) After inheritance × Large inheritance is an indicator variable equal to one for individuals receiving an abovemedian inheritance in the years following the inheritance event and zero otherwise. The latter two variables capture potential linear or non-monotonic effects of the size of the inheritance. For control variables X'_{it} , I include bankruptcy case characteristics (an indicator for the bankruptcy chapter and the discharge ratio) and individual characteristics. For individual characteristics, I follow Andersen and Nielsen (2012) and control for the individual's propensity to start a business: the levels of wealth and income (measured at year -1 relative to the bankruptcy year), age, an indicator for gender, and years of education. I include calendar year fixed effects (α_{ν}) to control for time effects, such as changes in investment opportunities over time. Standard errors are clustered at the individual level. The main coefficient of interest is β , which estimates the effect of receiving an inheritance (or the size of the inheritance) on the probability of owning a business after bankruptcy.

Table 3 shows the results from the linear probability model regressions in Equation 2. The results are consistent with the univariate comparison in Figure 3, which suggests a small effect of inheritance on serial entrepreneurship. In Column 1, I find that the probability of owning a business after receiving inheritance is positive (4.8 percentage points), but not statistically significant. Next, in Columns 2 and 3, to address the potential concern that only substantial windfalls may impact the likelihood of restarting, I exploit variation in the amount of inheritance, as well as variation in the timing of inheritance. However, both columns suggest that the null effect is unlikely to be driven by variations

in inheritance size. In Column 2, the coefficient on *After inheritance* \times *Inherited wealth* is economically small, implying that an increase in inheritance by 1,000,000 DKK (\approx 134,000 EUR) would increase the probability of restarting by only 5.5 percentage points in each post-inheritance year. The economic magnitude of additional protected wealth is small, given that average sizes of inherited wealth and dischargeable debt are 308,000 DKK and 1,100,000 DKK, respectively. In addition, the estimate is not statistically significant, suggesting there is no linear effect of inherited wealth. Similarly, Column 3 shows null effects for both above- and below-median sizes of inheritance, whereas the median is about 115,000 DKK (15,000 EUR). 34

Overall, Table 3 suggests that wealth protection in bankruptcy has no significant effect on serial entrepreneurship. This null result contrasts prior findings on the positive relationship between greater wealth protection and first-time or overall entrepreneurship (Fan and White 2003; Armour and Cumming 2008; Cerqueiro et al. 2019), as well as the positive relation between wealth shocks outside bankruptcy and entrepreneurship (e.g., Holtz-Eakin et al. 1994; Andersen and Nielsen 2012; Bellon et al. 2021; Cespedes et al. 2021). The contrasting responses between failed and first-time entrepreneurs suggest that the experience of failure may discourage serial entrepreneurship among bankrupt entrepreneurs.

[Table 3 about here.]

4.3 Experience of severe failure and serial entrepreneurship

Next, I investigate the role of past entrepreneurial experience on serial entrepreneurship. Personal entrepreneurial experience may affect the probability of starting a second venture, particularly given that managers' negative experiences – such as corporate bankruptcy – decrease their risk-taking (Malmendier et al. 2011; Dittmar and Duchin 2016; Schoar and Zuo 2017). While bankruptcy itself can be a distressing experience (e.g., due to

 $^{^{34}\}mathrm{I}$ obtain similar results if I instead use the indicator for inheritances in the largest quartile.

stigma attached to bankrupt managers as in Grindaker et al. 2021; Bernstein et al. 2023), I focus on experiences of severe entrepreneurial failure that have a significant impact on personal income and debt. I identify three measures of such experiences.

First, I define severe entrepreneurial failure based on whether an individual experiences negative personal income from entrepreneurship at any point during the prebankruptcy periods.³⁵ By construction, this measure is defined only for those who have owned unlimited liability companies before bankruptcy. Second, I classify whether overindebtedness, which leads to subsequent bankruptcy, originates primarily from entrepreneurship. An ideal measure would be to classify each type of debt as business-related or not, but such a granular level of data is unavailable to me. Nevertheless, the institutional feature of the Danish bankruptcy system allows me to approximate the ideal measure. As discussed in Section 2, failed entrepreneurs with large business debts are eligible to file under the business debt chapter, a more lenient procedure than the ordinary chapter. Thus, bankrupt entrepreneurs under the business debt chapter are more likely to have accumulated large debt due to entrepreneurial failure than those under the ordinary chapter. In addition, this second measure supplements the first because it is applicable for every entrepreneur in my sample. Third, I define whether an individual solely owned an unlimited liability company before bankruptcy, implying the individual is fully liable for business debts.³⁶ While some entrepreneurs may enter bankruptcy due to personal guarantees on their limited liability company's debt, generally, owners of limited liability companies are less likely to be held fully liable for business debt compared to owners of unlimited liability companies. Conversely, owners of unlimited liability companies are more likely to have severely negative experiences from business failure than

³⁵In Denmark, entrepreneurial losses can be used for a deduction in taxable income in the same year if an entrepreneur has another salaried job or earns positive capital income. However, the tax deduction is unlikely to significantly offset the loss in total income in the year, given that my sample consists of full-time entrepreneurs who have little financial wealth.

³⁶I use the indicator for "solely ULC owner" rather than for "all ULC owner" because the latter does not distinguish between entrepreneurs who had owned both an LLC and a ULC versus those who were exclusively ULC owners.

owners of limited liability companies.³⁷ Using the three measures on experiencing adverse shocks on income or debt, I test whether negative business experiences hold back bankrupt entrepreneurs from restarting despite windfall wealth.

To explore the effect of negative business experiences, I begin with a descriptive analysis. Figure 4 plots the dynamics of the share of individuals who own a business among individuals in the treated group. The top and bottom panels plot the dynamics, split by the first and second measures of severe failure, respectively.³⁸ Figure 4 highlights two stylized facts about how severe business failures influence entrepreneurship before and after bankruptcy, among those who receive inheritances. First, during the pre-bankruptcy period, those with (solid lines) and without (dashed lines) severe failures show differential pre-trends. This is expected given that the groupings are determined by entrepreneurial experiences before bankruptcy. A closer look reveals that the drop in the entrepreneurial rate is both sharper and deeper for the solid lines, indicating that severe income losses or large business debts are associated with a faster and worse decline in business. Second, during the post-bankruptcy period, although every individual in the sample had been an entrepreneur before bankruptcy, the solid and dashed lines show a differential rate of serial entrepreneurship. Specifically, in both panels, roughly 30% of those without severely negative experiences (dashed lines) restart, compared to less than 20% of their counterparts with such experiences (solid lines). The visual evidence thus indicates that bankrupt entrepreneurs who experienced severe failures do not respond to windfall wealth, at least in the first few years after bankruptcy.

[Figure 4 about here.]

Next, I investigate the result in Figure 4 more formally by estimating the following

 $^{^{37}}$ Although this third measure partially captures the protection from negative personal income, it complements the first measure because it is defined for both LLC and ULC owners.

³⁸To save space, I report similar figures based on the third measure of severe failure (*Full personal liability*) and those based on the control group in Appendix Figures A.4 and A.5, respectively. For the third measure of severe failure, I observe similar stylized facts compared with two other measures.

linear probability model, in which I add an interaction term from Equation 2:

$$\begin{aligned} Owner_{it} &= \alpha_y + \beta_1 A fter \ inheritance_{it} + \beta_2 Severe \ failure_i \\ &+ \beta_3 A fter \ inheritance_{it} \times Severe \ failure_i + \gamma X'_{it} + \varepsilon_{it}, \end{aligned} \tag{3}$$

where *Severe failure*_i is an indicator variable equal to one if the individual i experiences severe entrepreneurial failure before bankruptcy, which is either of the three measures: *Severe income loss*_i, *Business debt chapter*_i, or *Full personal liability*_i. Standard errors are clustered at the individual level. The coefficients of interest are β_1 and β_3 , which capture the heterogeneous effect of inheritance on the probability of restarting, depending on experiencing severe failure.

Table 4 reports the results estimating Equation 3 using the first measure of severe failure, Severe income loss. I find that experiencing severe income losses from entrepreneurship deter restarting despite larger wealth protected in bankruptcy. In Column 1, the coefficient on After inheritance suggests that inheritances increase the probability of owning a business after bankruptcy by 13.1 percentage points per year. The magnitude is economically large compared to the baseline probability of owning a business of 18.7% (16.5%) for the treated (control) group. However, the negative coefficient on After inheritance \times Severe income loss is of similar magnitude, indicating that the positive effect is concentrated to entrepreneurs who do not experience severe failure. In Columns 2 and 3, I further test if the positive effect of inheritances depends on their size. In Column 2, the coefficient on After inheritance × Inherited wealth suggest a positive linear effect of inheritance size on the probability of restarting. On the other hand, in Column 3, while the positive coefficient on After inheritance suggests that inheritances of any size have positive effects, the small and negative coefficient on After inheritance × Large inheritance indicates above-median size of inheritances do not have an incremental effect. Nevertheless, in both Columns 2 and 3, when interacted with the measure of severe failure, Severe income loss, the positive

effects are offset. These results suggest that even a larger amount of wealth protected in bankruptcy does not offset the effect of experiencing severe entrepreneurial failure.

Table 5 reports the results estimating Equation 3 using the second measure of severe failure, *Business debt chapter*. I find that experiencing severe indebtedness from failed businesses has similar negative effects on the probability of restarting. In Column 1, the positive coefficient on *After inheritance* suggests that entrepreneurs who go bankrupt without significant business debt are more likely to restart. Conversely, the negative coefficient on *After inheritance* × *Business debt chapter* suggests the experience of accumulating large debt from business deters serial entrepreneurship. In Columns 2 and 3, I use information on inheritance sizes and find similar experience effects, although the estimates are less precise. Importantly, the experience effect holds after expanding the sample to include entrepreneurs who did not own ULCs (i.e., solely LLC owners) before bankruptcy. This result suggests that the experience effect is insensitive to former incorporation choice by entrepreneurs.

Lastly, Table 6 reports the results estimating Equation 3 using the third measure of experiencing severe failure, *Full personal liability*. I find that holding *full* personal liability from failed businesses has negative effects on the probability of restarting. In Column 1, the large positive coefficient on *After inheritance* suggests that, after receiving inheritances, former LLC owners are more likely to restart by 12.6 percentage points per year. Compared with this positive effect, the negative coefficient on *After inheritance* × *Full personal liability* suggests that entrepreneurs who owned only ULCs prior to bankruptcy do not restart in response to inheritances. While these two coefficients are not statistically significant at conventional levels, their economic magnitudes are large given that the sample mean of serial entrepreneurship is about 17%. In Columns 2 and 3, I use information on inheritance sizes and find similar effects with more precise estimates – the positive effect of inheritances on serial entrepreneurship is concentrated among former LLC owners, who are less likely to be fully personally liable for business debt.

[Table 4 about here.]

[Table 5 about here.]

[Table 6 about here.]

Overall, these findings suggest that the null result in Table 3 is driven by entrepreneurs who experience severe failure. Although wealth windfalls relax financial constraints, experience of severe failure decreases failed entrepreneurs' willingness to start another business. Those without such experience respond to windfall wealth and restart a business. These different responses to windfall wealth suggests that the propensity to start a second business after bankruptcy is a joint function of the amount of protected wealth and the personal experience of severe failure from failed entrepreneurship.

4.4 Returns to post-bankruptcy serial entrepreneurship

In previous sections, I find that entrepreneurs respond to greater wealth protected in bankruptcy only if they experienced less severe failures. In this section, I test whether the entrepreneurs who do respond are of high quality by assessing their income levels in the second business relative to those of a comparison group. The comparison group consists of *first-time* entrepreneurs matched to the failed entrepreneurs who restart in my main sample. This matched control group of first-time entrepreneurs have similar characteristics to the failed entrepreneurs but have not been bankrupt, by definition, and they start their business in the same period as failed entrepreneurs *re*start. The underlying idea of the test is that the difference in entrepreneurial income between failed and first-time entrepreneurs reflect the difference in entrepreneurial quality. The test helps answer whether increasing wealth protection induces re-entry of serial entrepreneurs who outperform first-time ones.

To this end, I construct a matched sample consisting of failed entrepreneurs who restart after bankruptcy from my main sample and those of similar characteristics who

become entrepreneurs for the *first time*. For each failed entrepreneur who restart after bankruptcy, I look for a first-time entrepreneur from the Danish population. To control for the individual's entrepreneurial quality, I match individuals who restart after bankruptcy (referred to as the 'serial entrepreneurs') with those of similar characteristics who become entrepreneurs for the *first time* (the 'first-time entrepreneurs'). First-time entrepreneurs have a similar age (± 1 year), the same gender, years of education, and incorporation choice; they have similar pre-entrepreneurial labor income; and start their businesses at the same time as the serial entrepreneurs restart. I describe the matching process in detail in Appendix Section A.4 and present summary statistics of the matched sample in Appendix Table A.1. After matching, the sample consists of 110 unique serial and 110 first-time entrepreneurs. I observe them from the year of (re)starting a business through the five subsequent years. In the matched sample, around 50% of serial entrepreneurs experience inheritance events. They are marginal entrepreneurs who respond to greater wealth protection and restart a business, therefore the focus of second chance policies.

To compare the performance of two types of entrepreneurs, I use two measures: survival rate and entrepreneurial profit. Specifically, I estimate the following OLS regression:

$$Y_{it} = \alpha_y + \beta_1 A fter \ inheritance_{it} + \beta_2 Past \ bankruptcy_i + \gamma X'_{it} + \varepsilon_{it}, \tag{4}$$

where the dependent variable Y_{it} is either $Owner_{it}$ or Labor and entrepreneurial income_{it}. The former measures the business survival and the latter measures the level of entrepreneurial profit for individual i in event year t. The main independent variables are After inheritance and Past bankruptcy. After inheritance is defined as an indicator variable equal to one in the years following the inheritance event and zero otherwise, identical to previous specifications. Past bankruptcy is an indicator equal to one for individuals who experienced bankruptcy, thus equal to one for all serial entrepreneurs in this matched sample. For control variables X'_{it} , I use individual characteristics (age, gender, years

of education) as well as wealth and labor income before entrepreneurship, incorporation choice, and years of business experience. These variables help control for individual's general entrepreneurial ability. I include calendar year fixed effects (α_y) to control for time effects. Standard errors are clustered at the individual level. The coefficients of interest are β_1 and β_2 . β_2 estimates the difference in business ownership and entrepreneurial profit between first-time and serial entrepreneurs. β_1 captures the effect on bankrupt entrepreneurs who restart after receiving an inheritance. Collectively, a negative β_1 would suggest that, controlling for the average quality of serial entrepreneurs, the marginal quality of entrepreneurs who respond to greater wealth protection is lower than average first-time entrepreneurs.

I first examine difference in survival likelihood among the two types of entrepreneurs. Appendix Table A.2 reports results estimating Equation 4, where the outcome variable is business ownership. The results suggest that *average* serial entrepreneurs do not survive longer than first-time ones: coefficients on *Past bankruptcy* are positive but statistically not significant. Regarding *marginal* serial entrepreneurs' survival likelihood, the effect of inheritance is not monotonic in the size of inheritance: while coefficients on *After inheritance* are positive in Columns 1, Columns 2 and 3 imply that serial entrepreneurs who receive large inheritances are not more likely to remain in business. Therefore, the results suggest that the effect of inheritance on survival likelihood of marginal entrepreneurs is ambiguous.

After documenting that serial entrepreneurs do not survive longer in their business than first-time ones, I compare levels of income between the two groups. I first provide a descriptive analysis. Figure 5 plots averages of labor and entrepreneurial income that are (1) measured over three years before entrepreneurship and (2) measured over all years during entrepreneurship, split by first-time and serial entrepreneurs. To illustrate the income difference between marginal and average entrepreneurs, I limit the sample to serial entrepreneurs who receive an inheritance and first-time entrepreneurs who are matched

to them. Figure 5 shows that the two groups of entrepreneurs have similar labor income before starting a business. However, after starting, they have an income difference of about 44,000 DKK for each year of entrepreneurship. The difference suggests that, compared to similar first-time entrepreneurs, serial entrepreneurs who restart after receiving an inheritance earn significantly less.

[Figure 5 about here.]

I then test this descriptive result more formally. Table 7 reports results estimating Equation 4, where the outcome variable is labor and entrepreneurial income. The results show that the marginal entrepreneurs have lower entrepreneurial profits relative to first-time entrepreneurs. For example, in Column 1, the negative coefficient on *Past bankruptcy* suggests that average serial entrepreneurs earn less from their business than first-time ones. However, the estimate is not statistically in all specifications, suggesting large variation in profits among average serial entrepreneurs. On the contrary, negative coefficient on *After inheritance* is both economically and statistically significant. It suggests that the serial entrepreneurs who own a business after an inheritance have on average 64,000 DKK lower profits for each year of entrepreneurship. The economic magnitude is large and represents about 20% lower profits, given that the average entrepreneurial profit is 280,000 DKK for all entrepreneurs in the sample. In Columns 4-6, I find similar results when I limit the sample to observations where the business survives.

Overall, low entrepreneurial profits of serial entrepreneurs who receives an inheritance show that they do not outperform first-time ones. Their underperformance suggests that the marginal quality of failed entrepreneurs is lower than that of first-time entrepreneurs.

[Table 7 about here.]

Compare within bankrupt entrepreneurs who restart In the previous section, I assess post-bankruptcy income levels of serial entrepreneurs by using a comparison group con-

sisting of first-time entrepreneurs with similar characteristics. An alternative way to evaluate the marginal quality of serial entrepreneurs is to compare the income levels *within* only bankrupt entrepreneurs. To this end, I return to my main sample that consists of treated and control groups of bankrupt entrepreneurs. Using all bankrupt entrepreneurs, I compare entrepreneurial profits for those who restart with and without receiving an inheritance. This within-group analysis helps answer whether greater wealth protection relaxes financial constraints of high-quality entrepreneurs.

I start with a descriptive analysis. Appendix Figure A.6 plots averages of labor and entrepreneurial income of individuals who own or do not own a business, split by whether the individual receives an inheritance. The figure shows that, outside entrepreneurship, individuals who receive an inheritance and those who do not have only a small difference in income. However, when they become entrepreneurs, the two groups exhibit a large difference, driven by decreased income of the treated group.

To compare more formally the returns to serial entrepreneurship between the treated and control groups, I estimate the following OLS regression:

$$Income_{it} = \alpha_y + \beta_1 A fter \ inheritance_{it} + \beta_2 Owner_{it} + \beta_3 A fter \ inheritance_{it} \times Owner_{it} + \gamma X'_{it} + \varepsilon_{it},$$

$$(5)$$

where the dependent variable $Income_{it}$ is the level of income of individual i in event year t. $Income_{it}$ is measured in two ways: Labor and entrepreneurial income and Total income. Similar to previous equations, I use three measures to capture the effects of wealth shocks: After inheritance, After inheritance \times Inherited wealth, and After inheritance \times Large inheritance. The interacted variable $Owner_{it}$ is an indicator variable equal to one if the individual i owns a business in event year t. As in previous equations, I include calendar year fixed effects (α_y) and control variables X'_{it} . The coefficient of interest is β_3 , which estimates the difference in income levels between serial entrepreneurs who receive inheritances and those who do not. Standard errors are clustered at the individual level.

Appendix Table A.3 reports the results estimating Equation 5. The results show that the marginal entrepreneurs earn less relative to entrepreneurs who do not receive inheritances. For example, in Column 1, the coefficient on *After inheritance* × *Owner* suggests that, individuals who own a business after inheritance events earn on average 65,000 DKK less entrepreneurial income for each year of entrepreneurship. In Columns 4-6, I find similarly lower total income. The economic magnitude represents about 20-30% less income, given that the average labor and entrepreneurial income or total income is 222,000 or 272,000 DKK for serial entrepreneurs who receive inheritances.

Taken together, Table 7 and Appendix Table A.3 suggest that greater wealth protection is more likely to induce restarting of entrepreneurs who earn significantly less. The low operating performance of marginal entrepreneurs who respond to changes in the bank-ruptcy regime is consistent with prior studies. For instance, Cerqueiro et al. (2019) find that first-time entrepreneurs who start after increases in state-level wealth protection are less likely to survive than those who enter before. In addition, Cahn et al. (2021) find that bankrupt entrepreneurs who restart after removal of corporate bankruptcy flags are more likely to go bankrupt again. I complement these studies by providing direct evidence on lower profits of marginal entrepreneurs, which would eventually lead to such entrepreneurial exits. Overall, these findings indicate that the marginal entrepreneurs who respond to a more lenient bankruptcy regime are of low quality.

5 Robustness checks

In this section, I perform additional tests to assess the robustness of the baseline findings. I first address concerns that the entrepreneurs' negative experiences may be a proxy of their low ability or merely an artifact of long tenure in business. I then explore if the older age of the treated group is dampening the response to inheritances.

Severe failure versus low entrepreneurial quality I address potential concerns that having negative experiences may correlate with low entrepreneurial quality. To address the concerns, I refine the tests in Table 4 to control for low relative performance during prior entrepreneurship. To this end, I compute the relative performance of entrepreneurs by collecting annual labor and entrepreneurial income data for the population of entrepreneurs (i.e., including non-bankrupt entrepreneurs). Next, I split entrepreneurs' income into deciles based on the 88-industry-year level. The resulting variable, *Low past performance*, is an indicator variable equal to one if an individual's entrepreneural income persistently falls within the bottom decile throughout his or her entrepreneurship before bankruptcy. In other words, by focusing on persistent low performance, this measure separates entrepreneurs who have low skills from those who experience 'bad luck'. This measure is only defined for entrepreneurs with available information about the industry of their owned company.

Table 8 reports the results. In Column 1, I first examine the effect of low relative performance, not controlling for severe failure. The positive coefficient on *After inheritance* suggests that entrepreneurs who do not experience persistently low performance are more likely to restart after receiving windfall wealth. On the other hand, the negative coefficient on *After inheritance* × *Low past performance* indicates that experiencing persistently low performance decreases the probability of owning a business after bankruptcy by about 17 percentage points per year. The differential response across past performance is consistent with the model of entrepreneurs in which they learn about their entrepreneurial ability upon entry and failure (e.g., Jovanovic 1982; Ayotte 2007; Dillon and Stanton 2017).

In Column 2, I examine the effect of severe failure after controlling for low relative

³⁹The median (average) number of members in 88-industry-year cells is, for example, 547 (2,965) in year 2006. I then exclude observations that have less than 25 members in an industry-year cell. The industry classification is based on the two-digit code from NACE Rev. 2. I obtain similar results if I use the one-letter code, which splits into 22 industries.

⁴⁰To save space, I only report results using the simple binary indicator for inheritances, *After inheritance*.

performance. The coefficient on *After inheritance* × *Severe income loss* suggests that experiencing severe failure still has similar negative effects on serial entrepreneurship for those who inherit, while the lack of such experience offsets them. This result implies that severe failure is a distinct form of personal experience compared with low relative performance. In Columns 3 and 4, I find similar results when I use the alternative measures of severe failure, *Business debt chapter* or *Full personal liability*. Overall, these results confirm that experiencing severe failure is distinct from low entrepreneurial quality.

[Table 8 about here.]

Severe failure versus long tenure in business I address the potential concern that experiencing severe failure may be positively correlated with tenure in the failed business. In Appendix Table A.4, I find that having above-median tenure in ULCs before bankruptcy (greater than or equal to 4 years) does not subsume the effect of severe failure, particularly in relation to LLC ownership. This finding suggests that experiencing severe failure is not a mechanical result from having a long entrepreneurial spell.

The role of age at bankruptcy As seen in Table 1, the treated group within my matched sample is, on average, four years older than the full sample of bankrupt entrepreneurs. This age difference reflects the nature of my research design, which exploits inheritance events following parental deaths. Nevertheless, there is a potential concern that the older age of the matched sample might lead to an underestimation of the true effect of wealth protection in bankruptcy for the broader sample. For instance, if older individuals have a lower propensity to become entrepreneurs, they may be less likely to respond to increased wealth protection, which could explain the null effect of inheritances in Table 3.

I address this concern in two ways. First, I find that age, as a control variable in Table 3, does not significantly affect the probability of restarting in the main sample. Second,

I conduct additional tests to evaluate whether the response to inheritances depends on age. Specifically, I employ two approaches: (1) I test for a potential negative linear effect of age by interacting the binary indicator for post-inheritance events with the individual's age at bankruptcy; (2) I test for a potential non-linear effect by using an indicator variable *Above median age* which equals to one for individuals above median age at bankruptcy (48.5 years old) and interact it with the post-inheritance indicator. I then use these two measures and repeat the baseline estimation. The result, presented in Appendix Table A.5, shows that age does not have statistically significant effect on the probability of restarting among entrepreneurs who receive inheritances. This suggests that, within my sample of bankrupt entrepreneurs, receiving an inheritance at an older age is not associated with the lower propensity to restart. Taken together, the evidence indicates that age composition of my matched sample is unlikely to drive the null effect in Table 3.

Effect of severe income loss across bankruptcy chapters In Appendix Table A.6, I address the possibility that the effect of severe income loss may differ across bankruptcy chapters. One may worry that failed entrepreneurs under the business debt chapter may have different unobservable characteristics from those under the ordinary chapter, resulting in a null effect of severe income loss on serial entrepreneurship. To tackle this concern, I split the sample by ruling bankruptcy chapters and estimate Equation 3, separately for each sample. I find that the effect of severe income loss is similar across both samples in terms of economic magnitude. The similar effect in both chapters suggests that the experience of severe income loss is not subsumed by that of severe indebtedness.

6 Conclusion

Existing studies document that a higher level of wealth protection in bankruptcy is associated with an increase in first-time entrepreneurship (Fan and White 2003; Armour and

Cumming 2008; Cerqueiro et al. 2019). In comparison to these studies, I find that such relation does not hold among *failed* entrepreneurs, exploiting windfall wealth from inheritances to generate exogenous variation in wealth protected in bankruptcy. My results further show that the muted response to increased wealth protection is driven by entrepreneurs who experienced severe business failures. Additionally, the entrepreneurs who do respond to increases in wealth protection tend to earn less in their second business.

My study has implications for policy discussions about providing a second chance for failed entrepreneurs after bankruptcy. My findings suggest increasing wealth protection in personal bankruptcy provides entrepreneurs a second chance, but the effect is limited by experiences of severe business failures. Moreover, prior research documents potential costs of such policies, such as credit rationing and higher interest rates for other entrepreneurs in the economy. Collectively, the findings inform the policy debate whether increasing wealth protection is effective at fostering high-quality serial entrepreneurship.

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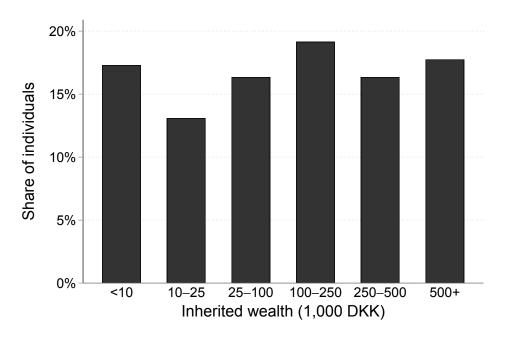
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Figure 1: Distribution of inheritance amounts

This figure reports the distribution of inheritance amounts. The top panel shows the distribution of inherited wealth according to six bins. The first bin represents the share of individuals who receive an inheritance of positive amount, but less than 10,000 DKK. The second bin comprises of those who are outside the preceding bin and receive less than 25,000 DKK. Similarly, the third, fourth, fifth bins represent those who are outside the preceding bins and receive less than 100,000 DKK, 250,000 DKK, and 500,000 DKK, respectively. The last bin groups those who receive more than 500,000 DKK. Inherited wealth is measured in year-2015 DKK. One Euro is equivalent to DKK 7.45. The bottom panel reports the distribution of the ratio of inherited wealth to dischargeable debt according to seven bins. Dischargeable debt is defined as unsecured debt measured at one year before the year of bankruptcy.



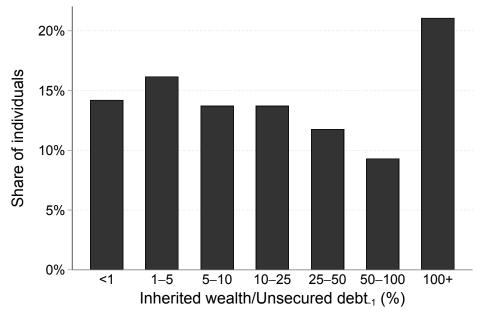


Figure 2: Net wealth around bankruptcy and inheritance

This figure plots dynamics of average net wealth, defined as the difference between total assets and total debts. The horizontal axis shows the years since bankruptcy, with year 0 denoting the year in which the court issues a bankruptcy ruling. The solid line refers to bankrupt individuals who receive an inheritance between event years 0 and 3 (referred to as the 'treated group'). The dashed line refers to a control group of bankrupt individuals who do not receive an inheritance; this group is matched to the treated group based on the following characteristics: the same bankruptcy year, bankruptcy chapter, and gender, similar age at the time of the ruling (± 1 year), and net wealth at event year -1. The shaded area between event years 0 and 3 represents the treatment window, during which inheritance events occur. Net wealth is measured in thousand year-2015 DKK (1 Euro \approx DKK 7.45).

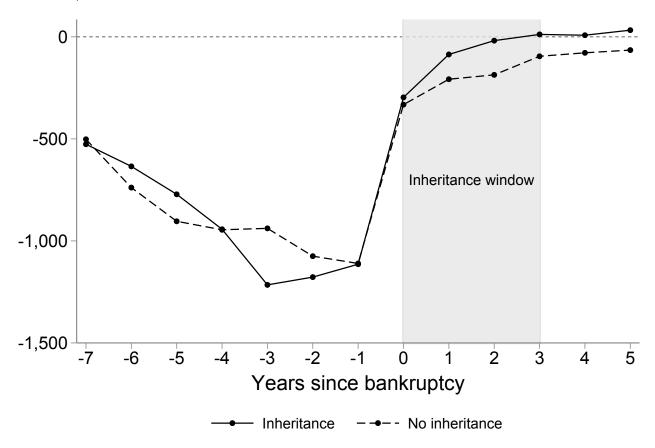


Figure 3: Entrepreneurship around bankruptcy

This figure plots dynamics of the share of individuals who own a business. The horizontal axis shows the years since bankruptcy, with year 0 denoting the year in which the court issues a bankruptcy ruling. The solid line refers to bankrupt individuals who receive an inheritance between event years 0 and 3 (the 'treated group'). The dashed line refers to a control group of bankrupt individuals who do not receive an inheritance; this group is matched to the treated group based on the following characteristics: the same bankruptcy year, bankruptcy chapter, and gender, similar age at the time of the ruling (± 1 year), and net wealth at event year -1. The shaded area between event years 0 and 3 represents the treatment window, during which inheritance events occur.

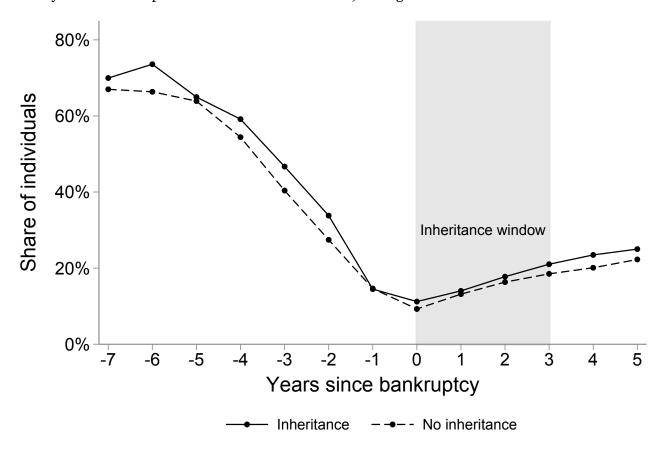


Figure 4: Severe failure and entrepreneurship around bankruptcy

This figure plots dynamics of the share of individuals who own a business for those who receive an inheritance between event years 0 and 3 (the 'treated group'). The top panel plots the dynamics split by whether the individual in the treated group experiences negative entrepreneurial income before bankruptcy. The bottom panel plots the dynamics split by whether the individual in the treated group files for bankruptcy under the business debt chapter, which is available for entrepreneurs with large business debts. Similar figures based on the third measure of severe failure (*Full personal liability*) and those based on the control group are reported in Appendix Figures A.4 and A.5, respectively.

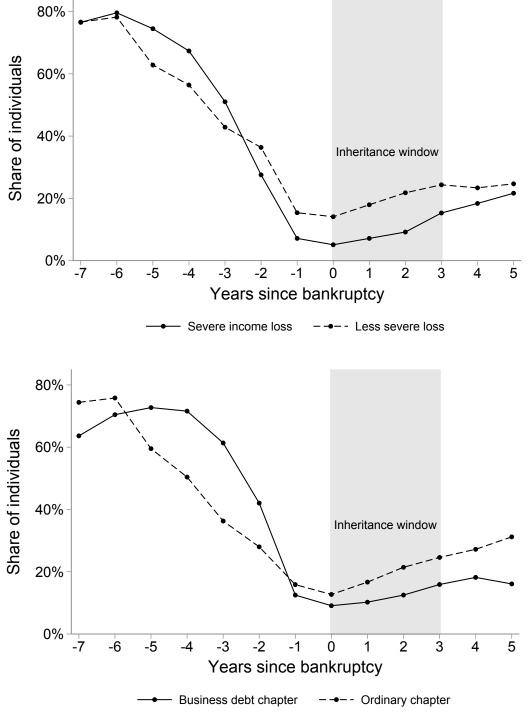


Figure 5: Income before and during entrepreneurship

This figure plots averages of labor and entrepreneurial income for the matched sample. The sample consists of two types of individuals: (1) those who restart a business after bankruptcy, referred to as "serial entrepreneurs," and (2) the matched sample of individuals who start a business for the first time and have not experienced bankruptcy, referred to as "first-time entrepreneurs." First-time entrepreneurs have a similar age (± 1 year), the same gender, years of education, and incorporation choice; they have similar pre-entrepreneurial labor income; and start their businesses at the same time as the serial entrepreneurs restart. I observe individuals from the year of (re)starting a business up to five years afterwards. For each type of entrepreneur, the figure reports averages of labor and entrepreneurial income that are (a) measured over the three years before entrepreneurship (labelled "Before entrepreneurship") and (b) measured over all years during entrepreneurship (labelled "During entrepreneurship"). One Euro is equivalent to DKK 7.45. Light grey bars refer to serial entrepreneurs who receive an inheritance while dark grey bars refer to first-time entrepreneurs matched to them. Black bars indicate the difference in income levels between the light and dark grey bars.

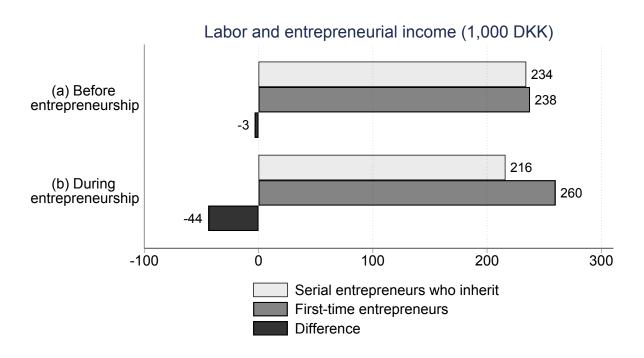


Table 1: Summary statistics

This table presents the mean and standard deviation of the main variables for the sample of entrepreneurs who go bankrupt between 2006 and 2016. Each column refers to one of the three groups of individuals in my sample: (a) all bankrupt entrepreneurs, (b) the "treated group", which consists of entrepreneurs who receive an inheritance between the year of bankruptcy and three years afterward, and (c) the "control group", which consists of entrepreneurs who do not receive an inheritance after bankruptcy and are matched to the treated group using procedures outlined in Section 3.3. For every variable, I compute the difference in average characteristics between the treated and control groups and test if this difference is statistically different from zero. The variables in this table are measured at the year of bankruptcy, except for those in Panel A. Panel A reports net wealth and total income, each measured at one year before bankruptcy and in thousand year-2015 DKK (1 Euro \approx DKK 7.45). Panel B presents demographic data. Panel C reports the ruling bankruptcy chapter (business debt or ordinary chapters) and the discharge ratio (the share of debt discharged in bankruptcy to total unsecured debt). Panel D reports business experience from seven years to one year before bankruptcy, such as indicators for ownership of limited or unlimited liability companies. Severe income loss is an indicator variable equal to one if the individual experiences negative entrepreneurial income before bankruptcy. Low past performance is an indicator variable equal to one if the individual's annual entrepreneurial income has always remained at the bottom decile in the industry before bankruptcy. The last row reports the number of individuals in each group. Standard deviations are in parentheses, and t-statistics are in brackets.

	All	Matched sample		Difference	
		Treated (1)	Control (2)	(1)-(2)	
A. Wealth and income (1,000 DK	K)				
Pre-bankruptcy wealth	-1,200.7	-1,114.3	-1,110.5	-3.8	
	(2,152.0)	(1,780.2)	(1,806.6)	[-0.0]	
Pre-bankruptcy income	282.4	280.3	282.4	-2.1	
	(137.9)	(126.4)	(134.6)	[-0.2]	
B. Individual characteristics					
Age	43.8	47.6	47.4	0.2	
	(8.4)	(6.9)	(6.8)	[0.3]	
Male (%)	73.1	80.4	80.0	0.4	
	(44.4)	(39.8)	(40.1)	[0.1]	
Years of education	11.7	11.7	11.5	0.2	
	(1.8)	(1.9)	(1.9)	[1.2]	
C. Bankruptcy case characteristi	ics				
Business debt chapter (%)	45. 7	41.1	40.0	1.1	
	(49.8)	(49.3)	(49.1)	[0.2]	
Discharge ratio (%)	91.0	90.3	92.1	-1.8	
	(13.5)	(14.6)	(11.3)	[-1.4]	
D. Pre-bankruptcy personal busi	ness exper	rience			
Pre-bankruptcy LLC owner (%)	18.4	21.0	19.0	2.0	
	(38.7)	(40.8)	(39.3)	[0.5]	
Pre-bankruptcy ULC owner (%)	82.8	82.2	81.0	1.3	
	(37.8)	(38.3)	(39.3)	[0.3]	
Severe income loss (%)	61.6	55.7	62.7	-7.0	
	(48.6)	(49.8)	(48.5)	[-1.3]	
Low past performance (%)	4.4	2.2	2.5	-0.2	
	(20.6)	(14.8)	(15.5)	[-0.1]	
Number of individuals	4851	214	205		

Table 2: Inheritance as a proxy for wealth protected in bankruptcy

This table reports estimates from OLS regressions, examining the effect of post-bankruptcy inheritances on the levels of net wealth, total debt, and total assets (measured in thousand year-2015 DKK, where 1 Euro \approx DKK 7.45), and the logarithms of total debt and of total assets, respectively. The control group consists of individuals of the same bankruptcy year, bankruptcy chapter, gender, and similar age (\pm 1 year) and net wealth. The sample includes observations from seven years before bankruptcy until five years after. *After bankruptcy discharge (After inheritance)* is an indicator variable equal to one for years following the individual's bankruptcy (inheritance event). I use inheritance events that occur between the year of bankruptcy and three years after. Other control variables are defined in Table 1. All columns include individual and calendar year fixed effects. Standard errors are clustered at the individual level, and *t*-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1) Net wealth	(2) Total debt	(3) Total assets	(4) Log(total debt)	(5) Log(total assets)
After bankruptcy discharge	1036.1***	-1128.2***	-9.9	-1.54***	0.28**
	(9.62)	(-8.20)	(-0.14)	(-14.19)	(2.11)
After inheritance	330.6***	-161.1	200.8	-0.16	0.79***
	(3.04)	(-0.65)	(1.18)	(-1.14)	(4.55)
Age	-56.0***	-92.2***	-156.6***	-0.04***	-0.21***
	(-4.08)	(-3.75)	(-7.46)	(-3.24)	(-9.90)
Individual fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
R^2	0.10	0.14	0.09	0.30	0.07
Individual-year observations	5,400	5,400	5,400	5,001	5,193

Table 3: Wealth protected in bankruptcy and serial entrepreneurship

This table reports the regression results from a linear probability model, examining the effect of post-bankruptcy inheritances on the probability of owning a business. The dependent variable, Owner, is an indicator variable equal to one if the individual owns any company in the year. The primary independent variable, After inheritance, is an indicator variable equal to one for years following the individual's inheritance event. After $inheritance \times Inherited$ wealth is equal to the amount of inherited wealth (measured in million year-2015 DKK) in post-inheritance years, and zero otherwise. After $inheritance \times Large$ inheritance is an indicator variable equal to one for individuals receiving an above-median inheritance in the years following the inheritance event, and zero otherwise. The sample consists of individuals from the treated and control groups, from the year of bankruptcy until five years afterwards. Control variables are defined in Table 1. All columns include calendar year fixed effects. Standard errors are clustered at the individual level, and t-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)
After inheritance	0.048		0.054
	(1.64)		(1.39)
After inheritance × Inherited wealth	` ,	0.055	, ,
		(1.03)	
After inheritance × Large inheritance			-0.012
C			(-0.24)
Business debt chapter	-0.062*	-0.060*	-0.061*
	(-1.83)	(-1.79)	(-1.82)
Discharge ratio	0.002**	0.002**	0.002**
	(2.39)	(2.32)	(2.41)
Pre-bankruptcy wealth	-0.000*	-0.000^*	-0.000*
	(-1.78)	(-1.73)	(-1.79)
Pre-bankruptcy income	-0.000	-0.000^*	-0.000
	(-1.61)	(-1.66)	(-1.60)
Age	-0.000	-0.001	-0.000
	(-0.18)	(-0.23)	(-0.16)
Male	0.101***	0.104***	0.100^{***}
	(3.14)	(3.25)	(3.09)
Years of education	0.019**	0.020^{**}	0.020^{**}
	(2.29)	(2.34)	(2.29)
Year fixed effects	Yes	Yes	Yes
R^2	0.06	0.06	0.06
Individual-year observations	2,480	2,480	2,480

Table 4: Experiencing severe income losses and serial entrepreneurship

This table reports the regression results from a linear probability model, examining the effect of experiencing severe income losses on the probability of owning a business after bankruptcy. The dependent variable, Owner is an indicator variable equal to one if the individual owns any company in the year. The primary independent variable, After inheritance, is an indicator variable equal to one for years following the individual's inheritance event. The interacted variable, Severe income loss, is an indicator variable equal to one if the individual experiences negative entrepreneurial income before bankruptcy. By construction, this measure is defined only for those who have owned unlimited liability companies before bankruptcy. *After inheritance* × *Inherited wealth* is equal to the amount of inherited wealth (measured in million year-2015 DKK) in post-inheritance years, and zero otherwise. After inheritance × Large inheritance is an indicator variable equal to one for individuals receiving an above-median inheritance in the years following the inheritance event, and zero otherwise. The sample consists of individuals from the treated and control groups, from the year of bankruptcy until five years afterwards. Control variables are defined in Table 1. All columns include calendar year fixed effects. Standard errors are clustered at the individual level, and t-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)
After inheritance	0.131***		0.149**
	(2.78)		(2.38)
After inheritance \times Severe income loss	-0.136**		-0 . 145*
	(-2.31)		(-1.81)
After inheritance \times Inherited wealth		0.190***	
		(6.01)	
After inheritance \times Inherited wealth \times Severe income loss		-0.206***	
		(-5.87)	
After inheritance × Large inheritance			-0.040
			(-0.43)
After inheritance \times Large inheritance \times Severe income loss			0.023
	0 0 = 4*		(0.20)
Severe income loss	0.056*	0.030	0.055*
Paris and Jaka James	(1.68)	(0.94)	(1.68)
Business debt chapter	-0.027	-0.027	-0.026
Dischause watis	(-0.71) 0.001	(-0.69) 0.001	(-0.68) 0.001
Discharge ratio		(1.42)	(1.53)
Pre-bankruptcy wealth	(1.56) -0.000	-0.000	-0.000
Fie-bankruptcy wearin	(-1.03)	(-1.04)	(-1.04)
Pre-bankruptcy income	-0.000**	-0.000**	-0.000**
Tre-bankruptcy income	(-2.46)	(-2.50)	(-2.47)
Age	0.000	0.000	0.000
1150	(0.07)	(0.12)	(0.11)
Male	0.051	0.055	0.050
	(1.28)	(1.38)	(1.24)
Years of education	0.019*	0.021**	0.019*
	(1.93)	(2.20)	(1.93)
Year fixed effects	Yes	Yes	Yes
R^2	0.05	0.07	0.05
Individual-year observations	2,018	2,018	2,018

Table 5: Experiencing severe indebtedness and serial entrepreneurship

This table reports the regression results from a linear probability model, examining the effect of experiencing severe indebtedness from entrepreneurship on the probability of owning a business after bankruptcy. The dependent variable, Owner, is an indicator variable equal to one if the individual owns any company in the year. The primary independent variable, After inheritance, is an indicator variable equal to one for years following the individual's inheritance event. The interacted variable, Business debt chapter, is an indicator variable equal to one if the individual files for bankruptcy under the business debt chapter, which is available for entrepreneurs with large business debts. After $inheritance \times Inherited$ wealth is equal to the amount of inherited wealth (measured in million year-2015 DKK) in post-inheritance years, and zero otherwise. After $inheritance \times Large$ inheritance is an indicator variable equal to one for individuals receiving an above-median inheritance in the years following the inheritance event, and zero otherwise. The sample consists of individuals from the treated and control groups, from the year of bankruptcy until five years afterwards. Control variables are defined in Table 1. All columns include calendar year fixed effects. Standard errors are clustered at the individual level, and t-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)
After inheritance	0.103***		0.099**
	(2.75)		(1.98)
After inheritance × Business debt chapter	-0.132**		-0.111
	(-2.31)		(-1.42)
After inheritance \times Inherited wealth		0.060	
		(1.04)	
After inheritance \times Inherited wealth \times Business debt chapter		-0.091	
		(-0.56)	
After inheritance × Large inheritance			0.007
			(0.10)
After inheritance \times Large inheritance \times Business debt chapter			-0.040
			(-0.41)
Business debt chapter	-0.014	-0.053	-0.014
D's language	(-0.37)	(-1.50)	(-0.36)
Discharge ratio	0.002**	0.002**	0.002**
Due howlesses we also	(2 . 35) -0.000*	(2.31) -0.000*	(2.35) -0.000*
Pre-bankruptcy wealth	(-1.77)	(-1.73)	-0.000 (-1.78)
Pre-bankruptcy income	-0.000	-0.000	-0.000
Tie-bankruptcy income	(-1.54)	(-1.63)	(-1.54)
Age	-0.000	-0.000	-0.000
	(-0.15)	(-0.18)	(-0.11)
Male	0.101***	0.104***	0.100***
	(3.15)	(3.23)	(3.10)
Years of education	0.020**	0.020**	0.020**
	(2.30)	(2.35)	(2.29)
Year fixed effects	Yes	Yes	Yes
R^2	0.06	0.06	0.06
Individual-year observations	2,480	2,480	2,480

Table 6: Experiencing full personal liability from business failure and serial entrepreneurship

This table reports the regression results from a linear probability model, examining the effect of experiencing full personal liability from business failure on the probability of owning a business after bankruptcy. The dependent variable, *Owner* is an indicator variable equal to one if the individual owns any company in the year. The primary independent variable, *After inheritance*, is an indicator variable equal to one for years following the individual's inheritance event. The interacted variable, *Full personal liability*, is an indicator variable equal to one if the individual solely owned an unlimited liability company prior to bankruptcy, as opposed to owning a limited liability company. *After inheritance* × *Inherited wealth* is equal to the amount of inherited wealth (measured in million year-2015 DKK) in post-inheritance years, and zero otherwise. *After inheritance* × *Large inheritance* is an indicator variable equal to one for individuals receiving an above-median inheritance in the years following the inheritance event, and zero otherwise. The sample consists of individuals from the treated and control groups, from the year of bankruptcy until five years afterwards. Control variables are defined in Table 1. All columns include calendar year fixed effects. Standard errors are clustered at the individual level, and *t*-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)
After inheritance	0.126		0.217**
	(1.64)		(2.12)
After inheritance × Full personal liability	-0.102		-0.194*
	(-1.27)		(-1.80)
After inheritance \times Inherited wealth		0.131***	
		(3.84)	
After inheritance \times Inherited wealth \times Full personal liability		-0.121***	
		(-2.79)	
After inheritance × Large inheritance			-0.155
			(-1.21)
After inheritance \times Large inheritance \times Full personal liability			0.159
			(1.17)
Full personal liability	-0.216***	-0.234***	-0.216***
	(-3.85)	(-4.68)	(-3.85)
Business debt chapter	-0.052	-0.051	-0.052
D' 1	(-1.62)	(-1.59)	(-1.62)
Discharge ratio	0.002**	0.001*	0.002**
Due 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	(1.98)	(1.77)	(1.98)
Pre-bankruptcy wealth	-0.000	-0.000	-0.000
Due houlementor in come	(-1.16) -0.000**	(-1.15) -0.000**	(-1.13)
Pre-bankruptcy income		(-2.15)	-0.000*
Ago	(-2.05) -0.002	(-2.13) -0.002	(-1.92) -0.002
Age	(-1.05)	(-0.91)	(-1.02)
Male	0.090***	0.090***	0.086***
Wate	(2.83)	(2.90)	(2.72)
Years of education	0.014	0.015*	0.013
20020 02 0440441011	(1.56)	(1.68)	(1.54)
Year fixed effects	Yes	Yes	Yes
$\frac{1}{R^2}$			
	0.13	0.13	0.13
Individual-year observations	2,480	2,480	2,480

Table 7: Returns to post-bankruptcy serial entrepreneurship

This table reports estimates from OLS regressions, examining the effect of post-bankruptcy inheritances on entrepreneurial profit in the matched sample. The matched sample consists of two types of individuals: (1) those who restart a business after bankruptcy (referred to as "serial entrepreneurs") and (2) the matched sample of individuals who start a business for the first time and do not experience bankruptcy (referred to as "first-time entrepreneurs"). First-time entrepreneurs have a similar age (± 1 year), the same gender, years of education, and incorporation choice; they have similar pre-entrepreneurial labor income; and start their businesses at the same time as the serial entrepreneurs restart. I observe individuals from the year of (re)starting a business to five years afterwards. The dependent variable, Labor and entrepreneurial income, is the level of labor and entrepreneurial income (measured in thousand year-2015 DKK, where 1 Euro \approx DKK 7.45). In Columns 1-3, I include all individual-year observations and in Columns 4-6, I limit the sample to observations where the business survives. The primary independent variable, After inheritance, is an indicator variable equal to one for years following the individual's inheritance event. After inheritance × Inherited wealth is equal to the amount of inherited wealth (measured in million year-2015 DKK) in post-inheritance years, and zero otherwise. *After inheritance* × *Large inheritance* is an indicator variable equal to one for individuals receiving an above-median inheritance in the years following the inheritance event, and zero otherwise. Control variables are defined in Appendix Table A.1. All columns include calendar year fixed effects. Standard errors are clustered at the individual level, and *t*-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

		Labor and			Labor and	
	entrepreneurial income		entrepreneurial income (conditional on survival)			
	(1)	(2)	(3)	(4)	(5)	(6)
After inheritance	-63.8***		-34.8	-59.8**		-31.9
	(-2.64)		(-1.20)	(-2.28)		(-1.02)
After inheritance × Inherited wealth		-43.1***			-41.1***	
		(-2.91)			(-2.75)	
After inheritance \times Large inheritance			-61.7**			-60 . 4*
			(-2.00)			(-1.91)
Past bankruptcy	-10.4	-31.2	-11.0	-5.5	-26.3	-6.0
	(-0.30)	(-1.00)	(-0.32)	(-0.14)	(-0.76)	(-0.15)
Pre-entrepreneurial wealth	0.0	0.0	0.0	0.0	0.0	-0.0
	(0.39)	(0.43)	(0.12)	(0.22)	(0.26)	(-0.08)
Pre-entrepreneurial labor income	0.7***	0.7***	0.7***	0.8***	0.8***	0.8***
	(10.90)	(10.73)	(11.16)	(10.48)	(10.30)	(10.75)
Age	-1.1	-1.2	-1.0	0.2	0.1	0.3
	(-0.72)	(-0.79)	(-0.68)	(0.11)	(0.06)	(0.17)
Male	17.1	14.8	16.4	19.8	18.3	18.7
	(0.66)	(0.58)	(0.63)	(0.72)	(0.67)	(0.68)
Years of education	0.6	0.1	0.6	0.1	-0.5	-0.0
	(0.14)	(0.01)	(0.14)	(0.02)	(-0.10)	(-0.00)
Starting a limited liability company	51.0**	55.0**	53.2**	50.5**	56.3**	54.0**
	(2.37)	(2.52)	(2.49)	(2.08)	(2.30)	(2.24)
Years of business experience	7.0**	7.0**	7.0**	6.4 *	6.6*	6 . 3*
	(2.15)	(2.12)	(2.15)	(1.73)	(1.77)	(1.72)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.43	0.43	0.44	0.44	0.43	0.44
Individual-year observations	1,213	1,213	1,213	998	998	998

Table 8: Comparing low entrepreneurial quality versus experience of severe failure

This table reports the regression results from a linear probability model, examining the effects of experiencing low relative performance in the past and severe failure from prior entrepreneurship on the probability of owning a business after bankruptcy. The dependent variable, Owner, is an indicator variable equal to one if the individual owns any company in the year. The primary independent variable, After inheritance, is an indicator variable equal to one for years following the individual's inheritance event. The first interacted variable, Low past performance, is an indicator variable equal to one if the individual's annual entrepreneurial income has always remained at the bottom decile in the industry before bankruptcy. The second interacted variable, Severe income loss, is an indicator variable equal to one if the individual experiences negative entrepreneurial income before bankruptcy. The third interacted variable, Business debt chapter, is an indicator variable equal to one if the individual files for bankruptcy under the business debt chapter. The fourth interacted variable, Full personal liability, is an indicator variable equal to one if the individual solely owned an unlimited liability company prior to bankruptcy, as opposed to owning a limited liability company. The sample consists of individuals from the treated and control groups, from the year of bankruptcy until five years afterwards. Control variables are defined in Table 1. All columns include calendar year fixed effects. Standard errors are clustered at the individual level, and t-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)
After inheritance	0.054*	0.126***	0.103***	0.117
	(1.69)	(2.69)	(2.63)	(1.22)
After inheritance × Low past performance	-0.167*	-0.162	-0.217**	-0.145
	(-1.81)	(-1.60)	(-2.31)	(-1.59)
After inheritance \times Severe income loss		-0.129**		
		(-2.19)		
After inheritance × Business debt chapter			-0 . 125*	
			(-1.95)	
After inheritance \times Full personal liability				-0.086
				(-0.86)
Low past performance	-0.049	-0.037	-0.030	-0.021
	(-0.59)	(-0.40)	(-0.37)	(-0.24)
Severe income loss		0.058*		
		(1.65)		
Business debt chapter	-0.049	-0.040	-0.002	-0.048
D. H	(-1.25)	(-1.00)	(-0.05)	(-1.30)
Full personal liability				-0.258***
Discharge ratio	0.002**	0.001	0.002*	(-3.63) 0.001*
Discharge ratio	(2.03)	(1.58)	(1.95)	(1.73)
Pre-bankruptcy wealth	-0.000	-0.000	-0.000	-0.000
Tie-bankruptey wealth	(-1.47)	(-1.07)	(-1.45)	(-0.63)
Pre-bankruptcy income	-0.000***	-0.000**	-0.000***	-0.000***
The manufacture of the second	(-2.69)	(-2.46)	(-2.62)	(-2.87)
Age	-0.000	0.000	-0.000	-0.002
	(-0.15)	(0.03)	(-0.17)	(-0.80)
Male	0.071^{*}	0.053	0.071*	0.063
	(1.71)	(1.25)	(1.72)	(1.56)
Years of education	0.024**	0.018*	0.024**	0.014
	(2.55)	(1.79)	(2.50)	(1.45)
Year fixed effects	Yes	Yes	Yes	Yes
R^2	0.06	0.05	0.07	0.13
Individual-year observations	2,022	1,902	2,022	2,022
				<u> </u>

A Appendix

A.1 Detailed procedures in bankruptcy proceedings

Liquidation proceedings for individual debtors (*personlig konkurs*) Under liquidation proceedings for private individuals, debtors liquidate their assets to pay the debt. Liquidation proceedings can be filed by either a debtor or creditor. During my sample period, it costs DKK 750 to file for bankruptcy. In addition, the filer must provide security of DKK 30,000 to cover the administrative costs. If the court decides that the debtor is insolvent, i.e., he has no ability to meet debt obligations (of either secured or unsecured debt), it issues a liquidation decree. The court then appoints a trustee who collects and sells the assets owned by the debtor. All assets that are deemed not necessary to have a modest home and live a modest life will be liquidated. The proceeds from the sale are used to repay debt. Importantly, liquidation does not automatically discharge the remaining unpaid debt. To receive the discharge, debtors need to apply separately for bankruptcy proceedings.

Bankruptcy proceedings (*gældssanering*) Bankruptcy proceedings begin when the debtor files to the court in the jurisdiction where he lives. There is no fee associated with filing. Upon submission, the debtor is mandated to provide a comprehensive disclosure of their financial situation to the court, including any prospective inheritances or renunciations thereof (Hindborg 2017, pp. 59–60). The court reviews the filing and will dismiss it if it fails to meet the requirements for bankruptcy protection. Key requirements include: the majority of debt should *not* consist of debts for private consumption purposes; the debtor must not have engaged in financially irresponsible behavior, such as accumulating debt without attempts at repayment; and the debtor must have a stable financial situation, characterized by a reliable income stream from regular employment and no expected wealth gains. According to Kilborn (2009), about 60% of filings are dismissed at this stage.

Filing dismissals are not announced on the State Gazette.

If the requirements are met, the court formally opens a bankruptcy case and announces the opening on the State Gazette. After opening the case, the court summons creditors to submit claims and asks the debtor to submit a repayment plan. Under the repayment plan, the debtor uses all disposable income to pay part of the unsecured debt. The installments are paid monthly and last 3–5 years. If the plan is feasible, the court accepts it and issues the ruling for bankruptcy, which discharges any remaining unpaid debt. In my sample, about 10% of cases are rejected at this stage. The ruling is announced on the State Gazette. After the ruling, debtors are allowed to shorten the repayment duration by paying all or part of the installments at once. The source of such down payment can be, for example, a loan from a third party or cash windfalls. In addition, a ruling can be cancelled if the debtor grossly neglects the duty (e.g., failing to repay installments) or if the court or a creditor discovers that he failed to disclose material information to creditors (e.g., concealing information about anticipated increases in wealth or income at filing). The cancellation of a ruling is announced on the State Gazette.

Other differences between ordinary and business debt chapters While bankruptcies under either ordinary or business debt chapters follow similar court procedures, they differ in both filing requirements or consequences after ruling. ⁴² Here, I list other differences between them that are not mentioned in Section 2 of the main text. First, following a ruling under the business debt chapter, the debtor is prohibited from filing for bankruptcy under the same chapter for a subsequent 10-year period. Second, if a debtor under the business debt chapter did not have stable income at the plan approval, upon subsequent acquisition of a stable income source (due to a new job or business comeback), the court may modify the repayment terms to increase the repayment amount.

⁴¹If the court considers that the debtor has no ability to pay, such as due to a permanent illness, then the debtor may receive an immediate discharge from entire unsecured debt.

⁴²Bankruptcy under business debt chapter is commonly referred to as bankruptcy in connection with liquidation (*gældssanering i forbindelse med konkurs*) in Denmark, as it requires the debtor to be under liquidation proceeding before filing for bankruptcy.

A.2 Identifying inheritances from administrative registers

I outline the procedure for identifying inheritance events. I follow Andersen and Nielsen (2012) and Larsen et al. (2023), who capture inheritance events by combining several administrative registers in Denmark. The only difference from Andersen and Nielsen (2012) is that I examine all types of parental deaths, rather than sudden deaths.

The starting point is to identify deceased parents who cause a termination of the household. Terminations occur when the deceased has no spouse (a widow, widower, divorced, or never married) or both parents die in the same calendar year. For measuring the size of inheritances, I use wealth of the deceased parent(s) at the end of the year preceding death. I aggregate both parents' wealth if they die in the same year. This procedure generates the size of the estate.

Next, I only retain estates with positive wealth, discarding ones with zero or negative values. Estate's net worth exceeding DKK 242,400 in 2006 are subject to a 15% estate tax for children. This threshold is adjusted annually by a price index. Then, I link the estate to children of the deceased who are over age 18 (beneficiaries). Following Andersen and Nielsen (2012), I restrict the sample to cases where all beneficiaries are children of the deceased. According to Danish inheritance law, inheritances are by default equally divided among children. Such equally divided amount of the estate yields the size of an inheritance.

In the final step, I link these inheritance events to the bankrupt entrepreneurs in my sample. I include parental deaths that occur after the bankruptcy ruling and until three years after the year of ruling (event years 0, 1, 2, and 3).

A.3 Example of the State Gazette of Denmark

[Figure A.1 about here.]

[Figure A.2 about here.]

A.4 Matching serial entrepreneurs to first-time ones

I start the matching procedure by identifying 123 failed entrepreneurs who restart after bankruptcy in my main sample (of which 65 individuals experience inheritance events). Next, for each failed entrepreneur who restart after bankruptcy, I look for a first-time entrepreneur from the Danish population. To control for the individual's entrepreneurial quality, I match failed entrepreneurs who restart after bankruptcy (referred to as the 'serial entrepreneurs') with those of similar characteristics who become entrepreneurs for the *first time* (the 'first-time entrepreneurs'). The matching takes the following steps:

- 1. I require that the first-time entrepreneur has the same year of starting a business, incorporation choice (starting an unlimited or limited liability company), years of education, gender, and a similar age (± 1 year) with the matched serial entrepreneur.
- 2. Among potential matches, I select the nearest neighbor based on pre-entrepreneurial income (averaged over three years before the entrepreneurship). I further refine the accuracy of matching by excluding matched pairs with substantial differences in income levels (an absolute difference exceeds 100,000 DKK and a relative difference exceeds 25%).

After matching, my matched sample consists of 110 unique serial and 110 first-time entrepreneurs. I observe them from the year of starting a business through the five subsequent years.

I provide summary statistics of the matched sample in Appendix Table A.1. The variables are reported at the year of starting the business, except Panel A. Panel A reports levels of wealth and labor income before the start of entrepreneurship. Serial entrepreneurs have lower wealth than first-time ones, which is expected because serial entrepreneurs are typically in bankruptcy proceedings before restarting. In addition, In Panel C, the two types of entrepreneurs have different years of business experience. This difference in experience is because, by definition, first-time entrepreneurs have no prior business

experience. Finally, Panel D shows that around 50% of serial entrepreneurs experience inheritance events. They are marginal entrepreneurs who respond to greater wealth protection and restart a business, therefore the focus of second chance policies.

[Table A.1 about here.]

[Table A.2 about here.]

A.5 Additional descriptive figures

[Figure A.3 about here.]

[Figure A.4 about here.]

[Figure A.5 about here.]

[Figure A.6 about here.]

A.6 Additional robustness tests

In this subsection, I present results from additional robustness tests.

[Table A.3 about here.]

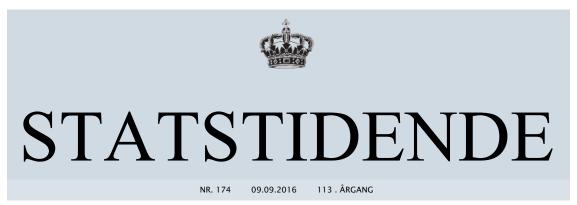
[Table A.4 about here.]

[Table A.5 about here.]

[Table A.6 about here.]

Figure A.1: Example of a front page of the State Gazette

This figure displays a sample front page from the State Gazette. The document index located in the bottom-right corner specifies the page numbers for various sections. For example, notices on bankruptcy and liquidation proceedings (*Gældssanering* and *Konkursboer*) are listed from pages 31 and 39, respectively.



Udgivet i henhold til lov nr. 419 af 31. maj 2000.

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Figure A.2: Example of bankruptcy notices published in the State Gazette

This figure displays a sample page of bankruptcy notices from the State Gazette. Personally identifiable information – such as full names, dates of birth, CVR-numbers, and street addresses – has been modified for this publication.

09.09.2016	STATSTIDENDE	38
torerne ikke får mulighed for at øve	Alice Mette Jakobsen	S07092016-9
indflydelse på skifterettens afgørelse	Fødselsdato 10.01.1964	Sø- og Handelsrettens skifteret har de
om gældssanering.	Sønderparken 20	06.09.2016 afsagt kendelse om
John Mikkel Jensen har drevet	9800 Hjørring	gældssanering for
virksomheden JollyShopping.com v/	Sagsnr. SKS SKIF-261/2016	Ali Hesam Amadu
John Jensen, CVR-nr. 12345678.		Fødselsdato 14.07.1957
	på følgende vilkår:	Vestergade 14, 4 th.
Retten i Randers, den 07.09.2016.	Usikret gæld stiftet af Alice Mette	2100 København Ø
Retskreds	Jakobsen før den 12.05.2016 nedsættes	Sagsnr. G 76/16-K
Randers	til en dividende på 0,6890%, der betales	
	med en engangsudlodning, når	på følgende vilkår:
807092016-304	kendelse om gældssanering er en-	Skyldnerens gæld stiftet inden den
I gældssaneringssagen for	delig.	13.04.2016 nedsættes til 7,15952% og
Thomas Thomasen	Hjørring, den 06.09.2016.	afdrages over en fem-årig periode.
Fødselsdato 10.02.1945		
Møllebakken 9	Som skifterettens medhjælper:	Sø- og Handelsretten, Skifteretten, der 07.09.2016.
3400 Hillerød	Jens Jensen, advokat Advokaterne Jens and Jesper	
Sagsnr. 1608-773	Vestergade 3	Retskreds
	9800 Hjørring	Sø- og Handelsretten
indkaldes kreditorerne til møde i Retten	Retskreds	507002016 10
i Hillerød, Lokale B, Søndre Jernban- evej 18 B, stuen, 3400 Hillerød,	Hjørring	Sø- og Handelsrettens skifteret har de
evel to b, stucii, s too timerbu,		06.09.2016 afsagt kendelse om
mandag den 10.10.2016, kl. 13.00,	S07092016-92	gældssanering for
	Sø- og Handelsrettens skifteret har den	Associa Durantus and
til behandling af skyldnerens forslag til gældssanering.	06.09.2016 afsagt kendelse om	Annie Rasmussen
gæidssanering.	gældssanering for	Fødselsdato 25.12.1980
Forslaget med bilag ligger til eftersyn i	Jesper Rasmus Jespersen	Christian 8.s Vej 2B, 1 tv. 1805 Frederiksberg C
skifteretten.	Fødselsdato 19.10.1960	· ·
Udeblivelse medfører, at kreditorerne	Waargrethevej 2, 4 th	Sagsnr. G 36/16-K
ikke får mulighed for at udøve indfly-	2300 København S	på følgende vilkår:
delse på skifterettens afgørelse om gældssanering.	Sagsnr. G 46/16-K	
8 		Skyldnerens gæld stiftet inden den
Hillerød, den 07.09.2016.	på følgende vilkår:	08.03.2016 nedsættes til 4,65628% og afdrages over med 4,18564% 4 uger
	Skyldnerens gæld stiftet inden den	efter endelig kendelse om gældssaner
Advokat Kristian Kristiansen	12.04.2016 nedsættes til 34,94%, som	ing og 0,47064% den 01.05.2017.
Retskreds	afdrages over en fem-årige periode.	
Hillerød		Sø- og Handelsretten, Skifteretten, de
	Sø- og Handelsretten, Skifteretten, den	07.09.2016.
Kendelse	07.09.2016.	Retskreds
	Retskreds	Sø- og Handelsretten
S07092016-37	Sø- og Handelsretten	
Skifteretten i Hjørring har den		
06.09.2016 afsagt kendelse om		

gældssanering for

Figure A.3: Inheritance timing

This figure reports the distribution of inheritance timing over event time, grouped by seven bins. The first bin represents the share of individuals who receive an inheritance within the six-month period following their bankruptcy ruling date. Similarly, subsequent bins group people by intervals of six months.

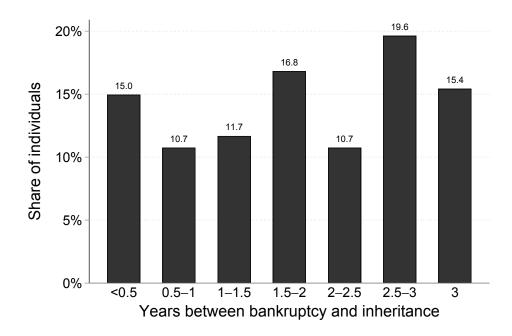
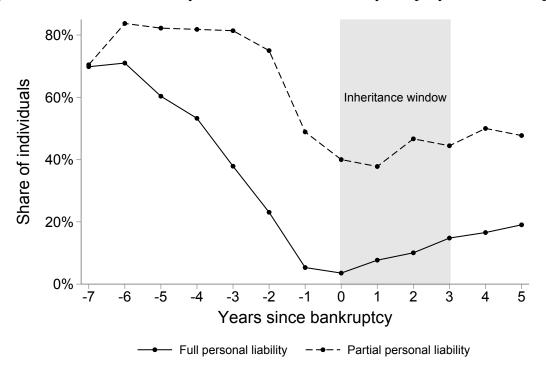


Figure A.4: Being fully personally liable and entrepreneurship around bankruptcy

This figure plots dynamics of the share of individuals who own a business. The top (bottom) panel displays the dynamics for the treated (control) group. Within each panel, the dynamics are further split by whether the individual solely owned an unlimited liability company before bankruptcy.



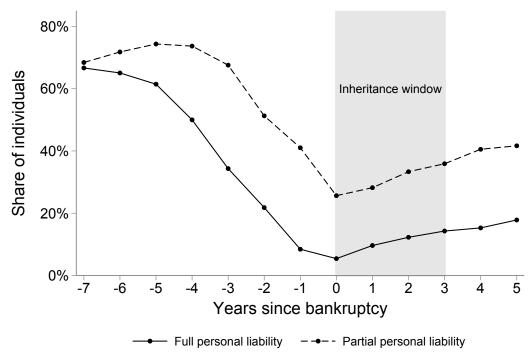


Figure A.5: Severe failure and entrepreneurship around bankruptcy – control group

This figure plots dynamics of the share of individuals who own a business (either LLC or ULC) among those who do not receive an inheritance and matched to the treated group ('control group'). The top panel plots the dynamics split by whether the individual in the control group experiences negative entrepreneurial income before bankruptcy. The bottom panel plots the dynamics split by whether the individual in the control group files for bankruptcy under the business debt chapter, which is available for entrepreneurs with large business debts. The shaded area between event years 0 and 3 represent the treatment window, during which inheritance events occur. A similar figure based on the treated group is in Figure 4.

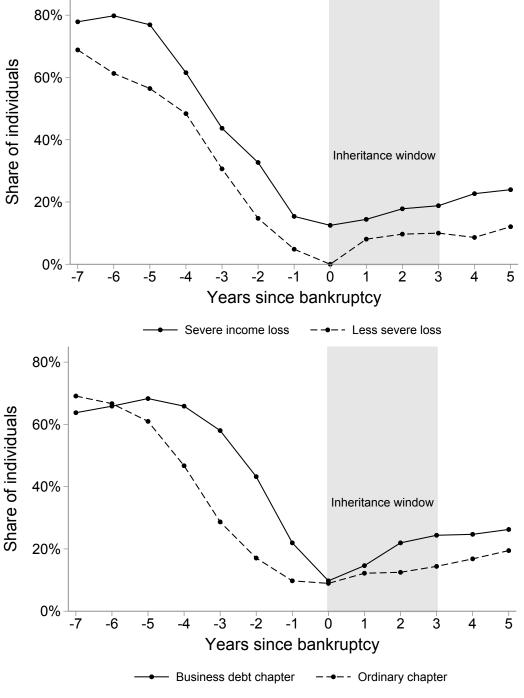


Figure A.6: Income of bankrupt entrepreneurs who restart or do not

This figure plots average income within the main sample, which consists of bankrupt entrepreneurs who receive an inheritance after bankruptcy (the "treated group") and entrepreneurs who do not receive an inheritance after bankruptcy and are matched to the treated group (the "control group"). For both groups, I report averages of labor and entrepreneurial income that for individuals (a) who do not own a business after bankruptcy (labelled "Non-entrepreneur") and (b) who restart a business after bankruptcy (labelled "Entrepreneur"). One Euro is equivalent to DKK 7.45. Light (dark) grey bars refer to the treated (control) group. I report the difference in income levels between light and dark grey bars in black bars.

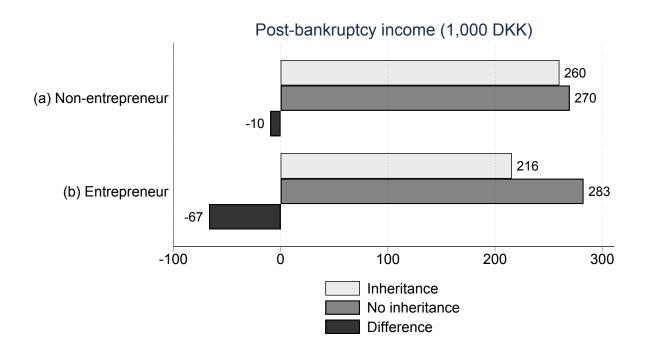


Table A.1: Summary statistics for the matched sample of serial and first-time entrepreneurs

This table presents the mean and standard deviation of the main variables for two types of individuals in the sample: (1) those who restart a business after bankruptcy (referred to as "serial entrepreneurs") and (2) the matched sample of individuals who start a business for the first time and do not experience bankruptcy (referred to as "first-time entrepreneurs"). First-time entrepreneurs have a similar age (± 1 year), the same gender, years of education, and incorporation choice; they have similar pre-entrepreneurial labor income; and start their businesses at the same time as the serial entrepreneurs restart. For every variable, I compute the difference in average characteristics between the two types of entrepreneurs and test if this difference is statistically different from zero. The variables in this table are measured at the year of (re)starting the business, except for those in Panel A. Panel A reports net wealth (measured at one year before the start of entrepreneurship) and labor income (averaged over three years before the entrepreneurship). Both are reported in thousand year-2015 DKK (1 Euro \approx DKK 7.45). Panel B presents demographic data. Panel C reports entrepreneurial characteristics, such as the incorporation choice or past experience as a business owner. Panel D reports the fraction of entrepreneurs who experience an inheritance event. The last row reports the number of individuals in each group. Standard deviations are in parentheses, and *t*-statistics are in brackets.

	Matched	Difference	
	Serial	First-time	
	entrepreneurs (1)	entrepreneurs (2)	(1)-(2)
A. Pre-entrepreneurship wealth and inco	ome (1,000 DKK)		
Pre-entrepreneurial wealth	-608.4	591.7	-1,200.1***
	(2,633.9)	(1,531.7)	[-4.1]
Pre-entrepreneurial labor income	251.0	254.5	-3.4
	(180.4)	(183.7)	[-0.1]
B. Individual characteristics			
Age	49.2	49.1	0.1
	(6.4)	(6.4)	[0.1]
Male	0.9	0.9	0.0
	(0.3)	(0.3)	[0.0]
Years of education	11.9	11.9	0.0
	(2.0)	(2.0)	[0.0]
C. Entrepreneurial characteristics			
Starting a limited liability company (%)	55 . 5	55 . 5	0.0
	(49.9)	(49.9)	[0.0]
Years of business experience	6.4	0.0	6.4***
-	(4.0)	(0.0)	[16.7]
D. Experiencing windfall wealth after be	inkruptcy		
Inheritance event (%)	50.9	0.0	50.9***
	(50.2)	(0.0)	[10.6]
Number of individuals	110	110	

Table A.2: Survival likelihood

This table reports the regression results from a linear probability model, examining the effect of post-bankruptcy inheritances on the probability of remaining as a business owner in the matched sample. The matched sample consists of two types of individuals: (1) those who restart a business after bankruptcy (referred to as "serial entrepreneurs") and (2) the matched sample of individuals who start a business for the first time and do not experience bankruptcy (referred to as "first-time entrepreneurs"). First-time entrepreneurs have a similar age (± 1 year), the same gender, years of education, and incorporation choice; they have similar pre-entrepreneurial labor income; and start their businesses at the same time as the serial entrepreneurs restart. I observe individuals from the year of (re)starting a business to five years afterwards. The dependent variable, *Owner*, is an indicator variable equal to one if the individual owns any company in the year. The primary independent variable, After inheritance, is an indicator variable equal to one for years following the individual's inheritance event. After inheritance × Inherited wealth is equal to the amount of inherited wealth (measured in million year-2015 DKK) in post-inheritance years, and zero otherwise. After inheritance × Large inheritance is an indicator variable equal to one for individuals receiving an above-median inheritance in the years following the inheritance event, and zero otherwise. Past bankruptcy is an indicator variable equal to one for individuals who experienced bankruptcy, thus equal to one for all serial entrepreneurs in the sample. Control variables are defined in Appendix Table A.1. All columns include calendar year fixed effects. Standard errors are clustered at the individual level, and t-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)
After inheritance	0.086*		0.144***
	(1.88)		(2.72)
After inheritance × Inherited wealth		0.008	
		(0.36)	
After inheritance × Large inheritance			-0.124*
			(-1.92)
Past bankruptcy	0.040	0.075	0.039
	(0.78)	(1.60)	(0.75)
Pre-entrepreneurial wealth	-0.000*	-0.000*	-0.000*
	(-1.66)	(-1.78)	(-1.89)
Pre-entrepreneurial labor income	0.000^{***}	0.000^{***}	0.000^{***}
	(3.87)	(3.85)	(3.98)
Age	0.000	0.001	0.001
	(0.12)	(0.15)	(0.18)
Male	-0.030	-0.025	-0.031
	(-0 . 52)	(-0.42)	(-0.53)
Years of education	0.007	0.008	0.007
	(0.83)	(0.91)	(0.84)
Starting a limited liability company	0.130***	0.128***	0.135***
	(3.18)	(3.11)	(3.27)
Years of business experience	-0.004	-0.004	-0.004
	(-0.58)	(-0.53)	(-0.59)
Year fixed effects	Yes	Yes	Yes
R^2	0.11	0.11	0.12
Individual-year observations	1,213	1,213	1,213

Table A.3: Returns to post-bankruptcy serial entrepreneurship

This table reports estimates from OLS regressions, examining the effect of inheritances on serial entrepreneurs' income. The dependent variables, *Labor and entrepreneurial income* and *Total income*, are the levels of labor and entrepreneurial and total income (measured in thousand year-2015 DKK, where 1 Euro \approx DKK 7.45). The primary independent variable, *After inheritance*, is an indicator variable equal to one for years following the individual's inheritance event. The interacted variable, *Owner*, is an indicator variable equal to one if the individual owns any company in the year. *After inheritance* \times *Inherited wealth* is equal to the amount of inherited wealth (measured in million year-2015 DKK) in post-inheritance years, and zero otherwise. *After inheritance* \times *Large inheritance* is an indicator variable equal to one for individuals receiving an above-median inheritance in the years following the inheritance event, and zero otherwise. The sample consists of individuals from the treated and control groups, from the year of bankruptcy until five years afterwards. Control variables are defined in Table 1. All columns include calendar year fixed effects. Standard errors are clustered at the individual level, and *t*-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	Labor and entrepreneurial income			Total income		
	(1)	(2)	(3)	(4)	(5)	(6)
After inheritance	-17.3		-26.2	-8.2		-14.3
	(-1.31)		(-1.56)	(-0.89)		(-1.26)
After inheritance × Owner	-65 . 3**		-67.1*	-57 . 2**		-69.6**
	(-2.15)		(-1.80)	(-2.05)		(-2.14)
After inheritance × Inherited wealth		4.2			3.3	
		(0.49)			(0.54)	
After inheritance \times Inherited wealth \times Owner		-27.3			-26.3	
		(-1.37)			(-1.53)	
After inheritance × Large inheritance			16.9			11.5
			(0.74)			(0.71)
After inheritance \times Large inheritance \times Owner			5.0			26.7
			(0.12)			(0.72)
Owner	22.7	-1.9	22.6	-3.5	-24.1	-3 . 7
	(0.92)	(-0.10)	(0.91)	(-0.16)	(-1.41)	(-0.16)
Business debt chapter	61.8***	64.4***	61.3***	19.9*	21.9*	19.4*
	(4.18)	(4.36)	(4.15)	(1.72)	(1.89)	(1.68)
Discharge ratio	-0 . 9*	-0.8	-0 . 9*	-0.5	-0.4	-0.5
	(-1.84)	(-1.64)	(-1.86)	(-1.22)	(-1.07)	(-1.26)
Pre-bankruptcy wealth	-0.0	-0.0	-0.0	-0.0	-0.0	-0.0
	(-0.98)	(-0.96)	(-0.95)	(-0.67)	(-0.65)	(-0.63)
Pre-bankruptcy income	0.6***	0.6***	0.6***	0.5***	0.5***	0.5***
	(8.68)	(8.50)	(8.68)	(8.60)	(8.43)	(8.63)
Age	-4.0***	-4 . 0***	-4.1***	-2.1***	-2.2***	-2.2***
	(-4.13)	(-4.11)	(-4.19)	(-2.94)	(-2.95)	(-2.99)
Male	58.8***	56 . 7***	60.0***	42.7***	41.5***	43.5***
	(3.83)	(3.71)	(3.86)	(4.53)	(4.44)	(4.56)
Years of education	0.7	0.2	0.7	0.5	0.1	0.6
	(0.21)	(0.05)	(0.21)	(0.19)	(0.03)	(0.22)
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.32	0.31	0.32	0.31	0.30	0.31
Individual-year observations	2,480	2,480	2,480	2,480	2,480	2,480

Table A.4: Experiencing severe income loss versus tenure in business

This table reports the regression results from a linear probability model, examining the effects of experiencing low relative performance and severe failure from prior entrepreneurship on the probability of owning a business after bankruptcy. The dependent variable, *Owner*, is an indicator variable equal to one if the individual owns a company in the year. The main independent variable, *After inheritance*, is an indicator variable equal to one if the year is after the inheritance event for the individual. The first interacted variable, *Severe income loss*, is an indicator variable equal to one if the individual experiences negative entrepreneurial income before bankruptcy. The second interacted variable, *Long tenure in ULC*, is an indicator variable equal to one for the individual whose tenure in ULCs before bankruptcy is above the median, which is 3.5 years. By construction, these two measures are defined only for those who have owned unlimited liability companies before bankruptcy. The sample consists of individuals from the treated and control groups, from the year of bankruptcy until five years afterwards. Control variables are defined in Table 1. All columns include calendar year fixed effects. Standard errors are clustered at the individual level, and *t*-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)
After inheritance	0.169***
	(3.19)
Severe income loss	0.056^{*}
	(1.73)
Long tenure in ULC	-0.025
	(-0.69)
After inheritance \times Severe income loss	-0.129**
	(-2.17)
After inheritance \times Long tenure in ULC	-0.090
	(-1.55)
Business debt chapter	-0.006
	(-0.15)
Discharge ratio	0.001
	(1.41)
Pre-bankruptcy wealth	-0.000
	(-1.11)
Pre-bankruptcy income	-0.000***
	(-2.73)
Age	0.001
	(0.24)
Male	0.053
	(1.32)
Years of education	0.019^{*}
	(1.95)
Year fixed effects	Yes
R^2	0.06
Individual-year observations	2,018
<u> </u>	

Table A.5: The role of age

This table reports the regression results from a linear probability model, examining the effect of inheritances after bankruptcy on the probability of owning a business. The dependent variable, *Owner*, is an indicator variable equal to one if the individual owns a company in the year. The main independent variable, *After inheritance*, is an indicator variable equal to one if the year is after the inheritance event for the individual. The first interacted variable, *Age at bankruptcy*, is the individual's age at bankruptcy. The second interacted variable, *Above median age*, is an indicator variable equal to one for the individual whose age at bankruptcy is above the median, which is 48.5 years old. The sample consists of individuals from the treated and control groups, from the year of bankruptcy until five years afterwards. Control variables are defined in Table 1. All columns include calendar year fixed effects. Standard errors are clustered at the individual level, and *t*-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

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Table A.6: Effect of severe income loss across bankruptcy chapters

This table reports the regression results from a linear probability model in equation 3, examining the effect of experiencing severe income losses on the probability of owning a business after bankruptcy in two separate samples split by bankruptcy chapter. The dependent variable, *Owner*, is an indicator variable equal to one if the individual owns a company in the year. The main independent variable, *After inheritance*, is an indicator variable equal to one if the year is after the inheritance event for the individual. The interacted variable, *Severe income loss*, is an indicator variable equal to one if the individual experiences negative entrepreneurial income before bankruptcy. By construction, this measure is defined only for those who have owned unlimited liability companies before bankruptcy. The sample consists of individuals from the treated and control groups, from the year of bankruptcy until five years afterwards. Control variables are defined in Table 1. All columns include calendar year fixed effects. Standard errors are clustered at the individual level, and *t*-statistics are in parentheses. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)		
	Ordinary chapter	Business debt chapter		
After inheritance	0.128**	0.157*		
	(2.31)	(1.89)		
Severe income loss	0.051	0.093		
	(1.30)	(1.36)		
After inheritance \times Severe income loss	-0 . 124*	-0.200*		
	(-1.75)	(-1.93)		
Discharge ratio	0.002	0.001		
	(1.53)	(0.84)		
Pre-bankruptcy wealth	0.000	-0.000		
	(0.02)	(-1.02)		
Pre-bankruptcy income	-0.000***	-0.000		
	(-2.76)	(-1.15)		
Age	-0.001	0.003		
	(-0.30)	(0.52)		
Male	0.075^{*}	0.011		
	(1.80)	(0.10)		
Years of education	0.033***	-0.010		
	(2.82)	(-0.65)		
Year fixed effects	Yes	Yes		
R^2	0.09	0.05		
Individual-year observations	1,290	728		