Struggling financially but feeling good? Exploring the well-being of early-stage entrepreneurs

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Abstract

Purpose – Many individuals start a new firm each year, mainly intending to become independent or improve their financial situation. For most of them, the first years of operations mean a substantial investment of time, effort and money with highly insecure outcomes. This study aims to explore how entrepreneurs running new firms perform financially compared with the established ones and how this situation influences their well-being.

Design/methodology/approach – A questionnaire survey was completed in 2021 and 2022 by a representative sample of N = 1136 solo self-employed and microentrepreneurs in the Czech Republic, with dependent self-employed excluded. This study used multiple regressions for data analysis.

Findings – Early-stage entrepreneurs are less satisfied with their financial situation, have lower disposable income and report more significant financial problems than their established counterparts. The situation is even worse for the subsample of startups. However, this study also finds they do not have lower well-being than established entrepreneurs. While a worse financial situation is generally negatively related to well-being, being a startup founder moderates this link. Startup founders can maintain a good level of well-being even in financial struggles.

Practical implications – The results suggest that policies should focus on reducing the costs related to start-up activities. Further, policy support should not be restricted to new technological firms. Startups from all fields should be eligible to receive support, provided that they meet the milestones of their development. For entrepreneurship education, this study's results support action-oriented approaches that help build entrepreneurs' self-efficacy while making them aware of cognitive biases common in entrepreneurship. This study also underscores that effectuation or lean startup approaches help entrepreneurs develop their startups efficiently and not deprive themselves of resources because of their unjustified overconfidence.

Originality/value – This study contributes to a better understanding of the financial situation and well-being of founders of new firms and, specifically, startups. The personal financial situation of startup founders has been a largely underexplored issue. Compared with other entrepreneurs, this study finds that startup founders are, as individuals, in the worst financial situation. Their well-being remains, however, on a comparable level with that of other entrepreneurs.

Keywords New firm, Startup, Well-being, Financial problems, Early-stage entrepreneur

Paper type Research paper

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1. Introduction

Over the past two decades, startups have become one of the main buzzwords of the modern economy (Blank and Dorf, 2020). Millions of people each year try to start a new firm, mainly to become independent, improve their financial situation or, depending on where they are coming from, the biggest dreamers want to become the next Elon Musk, Zhang Yiming or Kunal Shah. However, startups that scaled successfully are sporadic cases (Aldrich and Ruef, 2018). On the contrary, it is well known that many nascent entrepreneurs discontinue before the launch (Parker and Belghitar, 2006). Even after the new venture foundation, most new firms struggle, stay small or go bankrupt (Gimeno *et al.*, 1997). They are often under-resourced, need more customers, face stronger competitors and face many other barriers (Morris, 2020). On a personal level, this leads to increased stress (Stephan, 2018) and increased levels of risk.

So why do people become self-employed? First, there is evidence that the self-employed are more satisfied with their jobs and have higher well-being than waged employees (e.g. Blanchflower, 2000; Hytti *et al.*, 2013; Stephan, 2018; Stephan *et al.*, 2023). We conceptualize the well-being of entrepreneurs as the "experience of satisfaction, positive affect, infrequent negative affect and psychological functioning in relation to developing, starting, growing and running an entrepreneurial venture" (Wiklund *et al.*, 2019, p. 579). Interest in entrepreneurs' well-being is growing due to its essential role in entrepreneurs' decision-making, motivation and action (Stephan, 2018). In addition, well-being is conceptualized as a power behind the success of entrepreneurial firms (Gopinath and Mitra, 2017). It is, therefore, essential to understand its antecedents. The intrinsic characteristics of the job, such as autonomy, job control, task variety and meaningfulness, have been identified as important determinants that improve well-being (Hytti *et al.*, 2013; Carree and Verheul, 2012; Shir *et al.*, 2019; Stephan and Roesler, 2010; Stephan, 2018; Dvouletý, 2023).

Our study focuses primarily on the financial situation of the self-employed and its effect on their well-being (Annink *et al.*, 2016; Bencsik and Chuluun, 2021; Bialowolski *et al.*, 2021). Previous research found that most self-employed earn less than waged employees (Sorgner *et al.*, 2017; Pantea, 2022). Other studies were convincing in showing that financial problems and a low income lower entrepreneurs' well-being (Stephan, 2018; Annink *et al.*, 2016; Bencsik and Chuluun, 2021), which is especially true for necessity entrepreneurs (Bialowolski *et al.*, 2021) who have the lowest income (Sorgner *et al.*, 2017; Pantea, 2022; Berrill *et al.*, 2021). In contrast, focusing solely on the self-employed who started out of unemployment, Dvouletý (2023) found they benefited from job autonomy and were satisfied with their lives and jobs despite low income. Further on, and specifically for early-stage entrepreneurs, there is accumulated evidence that they are prone to various cognitive biases, such as overoptimism, overconfidence, illusion of control or escalation of commitment (Thomas, 2018). They believe they can make it. It helps them to work intensively on new venture development and persevere, but they also risk to continue longer and invest more resources than they should.

Precarity was well explored and received much policy attention concerning gig workers (e.g. Friedman, 2014), but the precarity of early-stage entrepreneurs has largely been ignored. However, when these entrepreneurs invest substantial effort, time and money into something that may never yield positive outcomes, do they not risk precarity even more? Next, consider the startup founders lauded by the media and policymakers: Are they not even more endangered when compelled to reinvest all their resources into the growth of their business? FoxNews [1] featured the story of David Casares, who became homeless after trying to develop his tech startup, showing that it is possible. In line with Blank and Dorf (2020), we define startups as new opportunity-based firms founded around a new

technology or following a scalable business model that envisions significant future growth. Starting and developing new firms, and especially startups, requires financial resources. However, bank loans are badly available for new firms, especially in countries without broad support schemes for new business activity, and only a minority of startup projects receive investment from venture capital (Lukeš, 2017). Consequently, many early-stage entrepreneurs invest their or their families' money (Lee and Persson, 2016) at the expense of spending it on personal needs. They risk losing their financial resources (Hayward *et al.*, 2006), which may lead them to a precarious situation and decreased well-being.

We aim to contribute to the current literature by exploring whether the stage of entrepreneurship moderates the relationship between entrepreneurs' financial problems and well-being. We also focus on startup founders as a specific type of early-stage entrepreneurs (Stephan, 2018) because the personal financial situation of startup founders is a largely underexplored issue. Despite startup finance receiving significant attention (e.g. Nofsinger and Wang, 2011; Lee and Persson, 2016), not so does the personal finance of those who run them. While it is generally expected that they make personal sacrifices to succeed, we have not found any research that explicitly connects their financial situation and well-being. Given the importance of early-stage entrepreneurs, particularly startup founders, a better understanding of their financial situation and well-being is crucial for effective entrepreneurship policies and entrepreneurship education.

The objectives of this study are to explore how entrepreneurs running new firms perform financially when compared with the established ones, how this financial situation influences their well-being and how, in this regard, startup founders differ from the rest of early-stage entrepreneurs.

2. Theory background

2.1 Entrepreneurship and well-being

Numerous prior studies have explored the relationship between entrepreneurship and well-being (Stephan, 2018; Wiklund *et al.*, 2019; Van der Zwan and Hessels, 2019; Stephan *et al.*, 2023). Well-being is one of the 17 key sustainable development goals the United Nations defines. It is essential for an entrepreneur's satisfaction and business performance, influencing entrepreneurs' motivation, resilience and decision-making processes. Research evidence shows that self-employed individuals consistently report higher job satisfaction than their employed counterparts (e.g. Blanchflower, 2000; Hytti *et al.*, 2013), even in the face of lower income, longer working hours and heightened stress levels (Stephan, 2018; Binder and Coad, 2013; Binder and Blankenberg, 2020). At the same time, job satisfaction does not automatically translate into elevated overall life satisfaction (Binder and Blankenberg, 2020); they are less satisfied with their job security (Lanivich *et al.*, 2021). For instance, in a large-scale study in the USA, the self-employed reported lower life satisfaction than employees (Bencsik and Chuluun, 2021).

The intrinsic characteristics of the job, such as autonomy, task variety and meaningfulness, emerge as important determinants of job satisfaction among the self-employed, more so than the employment status *per se* (Hytti *et al.*, 2013; Carree and Verheul, 2012; Shir *et al.*, 2019; Stephan *et al.*, 2020). The Job Demand-Control model underscores the role of autonomy, coping mechanisms and control over one's work, which is pivotal in mitigating work-related stress (Hessels *et al.*, 2017; Stephan and Roesler, 2010; Lanivich *et al.*, 2021). At the same time, there is a discernible dichotomy between the personal fulfillment from rewarding job characteristics and the stress from job demands related to entrepreneurship (Bencsik and Chuluun, 2021). Entrepreneurial activity is complex, happens under uncertainty and time pressures and requires responsibility and long working hours

(Stephan, 2018). Self-employed individuals often experience stronger feelings of both positive and negative nature (Bencsik and Chuluun, 2021). There are inconsistent findings regarding health, with studies reporting better (Stephan and Roesler, 2010) but also worse (Bencsik and Chuluun, 2021) health state of entrepreneurs relative to their employed counterparts. The impact of entrepreneurship on well-being is further complicated by its type. Solo self-employed individuals, for instance, report higher satisfaction with leisure time but are less satisfied with their income compared with employers (Van der Zwan and Hessels, 2019); moreover, they are less optimistic about the future of their business and create lower incomes (Bögenhold and Klinglmair, 2015). However, employers experience more work-related stress than solo self-employed because of higher job demands (Hessels *et al.*, 2017). These findings indicate the diverse motivations and outcomes within self-employment categories.

In summary, the literature suggests that while self-employment can enhance job control and, relatedly, job satisfaction, it may not necessarily lead to higher overall life satisfaction because of the demands of entrepreneurship (Binder and Blankenberg, 2020; Van der Zwan and Hessels, 2019; Stephan, 2018). Thus, scholars call for a dedicated theory of entrepreneurship and well-being (Stephan, 2018; Wiklund *et al.*, 2019) that accommodates the dynamic, social and contextual factors unique to entrepreneurship.

2.2 Financial struggles and entrepreneurs' well-being

As Global Entrepreneurship Monitor (GEM) reports [e.g. Global Entrepreneurship Monitor (GEM), 2023] consistently show, entrepreneurship is often perceived as a pathway to financial independence and wealth creation, yet research indicates that the reality of entrepreneurship can be financially challenging. Sorgner *et al.* (2017) highlight that entrepreneurs usually earn less than their salaried counterparts, with the disparity in income varying according to the entrepreneurs' level of education and the nature of their business. This income gap is evident, especially for self-employed positioned below the median of the earnings distribution (Pantea, 2022).

The well-being of self-employed individuals and entrepreneurs is intricately linked to their financial circumstances. Studies have consistently shown that financial hardship and low income are associated with diminished well-being among entrepreneurs (Stephan, 2018; Annink *et al.*, 2016; Bencsik and Chuluun, 2021; Kwon and Sohn, 2017), especially vulnerable solo self-employed starting of necessity (Bialowolski *et al.*, 2021) who have lower incomes than freelancers, employers and waged employees (Sorgner *et al.*, 2017; Pantea, 2022; Berrill *et al.*, 2021). Gorgievski *et al.* (2010) found that financial problems predicted psychological distress and worked as a self-fulfilling prophecy. It increased farmers' intentions to discontinue operations, which further worsened their financial situation 12 months later. During economic downturns, such as the COVID-19 pandemic, this relationship becomes more pronounced, with financial distress leading to notable declines in mental health and overall well-being (Borrescio-Higa *et al.*, 2022; Yue and Cowling, 2021). Psychological resilience factors, such as *locus* of control, self-efficacy and coping skills, can mitigate these adverse effects, emphasizing the moderating role of personal factors (Bulmash, 2016; Berrill *et al.*, 2021).

The significance of financial stability is underscored by D'Ambrosio *et al.* (2020), who found that permanent income and wealth are more substantial predictors of life satisfaction than current income. The detrimental effects of debt on well-being are also well-documented, with Richardson *et al.* (2013) noting a solid association between debt and various mental health issues, reinforcing the need for stability in entrepreneurs' lives. For entrepreneurs whose financial situations can be highly variable, the stability related to household wealth or other household income sources is crucial for maintaining well-being (Carter, 2011;

D'Ambrosio *et al.*, 2020). Moreover, financial resources should not overshadow the value of social relationships that often significantly impact well-being, especially among those with unstable incomes (Lamu and Olsen, 2016).

While self-employment and entrepreneurship can offer non-financial benefits such as autonomy, meaningfulness and job control (Hytti *et al.*, 2013; Shir *et al.*, 2019; Stephan *et al.*, 2020), financial struggles remain a primary concern that can impact well-being (Annink *et al.*, 2016; Bencsik and Chuluun, 2021). More so in early-stage businesses that struggle to overcome the liabilities of newness and smallness, such as lack of equity, low number of customers, poor business competences, lack of legitimacy or low bargaining power (Morris, 2020; Kücher *et al.*, 2020).

2.3 Early-stage entrepreneurs' financial situation

Considering the age of the firm is crucial. Carter (2011) and Hamilton (2000) contend that while the financial rewards of entrepreneurship are diverse, new ventures often need to grapple with low and unstable earnings. The size and age of the firm are predictors of financial constraints, which in turn affect the levels of financial distress experienced by entrepreneurs (Hadlock and Pierce, 2010). Their economic vulnerability is notable because of their reliance on the business as a source of income and wealth (Gutter and Saleem, 2005).

Many new businesses commence with insufficient capital, which determines their survival prospects (Atherton, 2012). In particular, necessity entrepreneurs, who start businesses because of a lack of better employment options, tend to face more significant financial vulnerability than opportunity entrepreneurs, who are driven by the pursuit of potential gains or personal fulfillment (Bencsik and Chuluun, 2021; Morris, 2020; Mueller and Pieperhoff, 2023). Low-wealth business founders do not have the personal wealth to leverage for their business needs and find it more difficult to secure external funding (Frid *et al.*, 2016; Mueller and Pieperhoff, 2023). They typically found businesses that may generate at least some income from the very beginning, working as shopkeepers, independent contractors, personal service providers or highly skilled professionals (Cieślik and Dvouletý, 2019).

Startups (Blank and Dorf, 2020) face other challenges. They need to engage in the long process of exploration, validation and refinement of the business concept (Picken, 2017), which hardly brings any significant revenues. Moreover, they often need to develop technologies and new products, which requires vast product development costs and to acquire a growing number of customers connected to substantial marketing costs (Kollmann *et al.*, 2016). To boost their growth, they need to consistently reinvest revenues in their business while trying to acquire significant external funding before they overcome the "valley of death" (Auerswald and Branscomb, 2003), i.e. before they start to generate sufficient cash flow from their operations. It poses a challenge for individuals who constitute the entrepreneurial team. Not only in business terms but also in terms of their personal finance. Thus, we hypothesize as follows:

H1. Entrepreneurs who own and manage new firms, especially startups, are in a worse financial situation when compared with those who own and manage established businesses.

2.4 Early-stage entrepreneurs: well-being during financial struggles

So, if starting a new business activity means lower income and worse financial situation (Hadlock and Pierce, 2010; Hamilton, 2000) and financial struggles decrease well-being (Annink *et al.*, 2016; Bencsik and Chuluun, 2021), how is it possible that new entrepreneurs,

especially those pursuing a business opportunity, show improvements in their well-being (Binder and Coad, 2016; Nikolova, 2019)? The entrepreneurial experience is a complex interplay between stressors, including the financial ones, non-pecuniary benefits of self-employment, such as job autonomy and higher job control (Hessels *et al.*, 2017; Stephan and Roesler, 2010) and psychological attributes, such as confidence in own entrepreneurial success in the future (Odermatt *et al.*, 2021).

The transition into self-employment is linked with increased well-being and life satisfaction (Amorós *et al.*, 2021), particularly among those who embark on entrepreneurship as an opportunity (Stephan, 2018; Binder and Coad, 2013; Binder and Coad, 2016; Nikolova, 2019). Startup founders can be considered representatives of this group. The satisfaction levels of necessity entrepreneurs are positively influenced by their ability to earn a satisfactory livelihood (Kautonen and Palmroos, 2010). Studies further show that specific human capital and intrinsic motivation can significantly affect entrepreneurs' satisfaction. These internal resources help entrepreneurs navigate the stress associated with starting a new venture (Carree and Verheul, 2012; Marshall *et al.*, 2020; Dawson *et al.*, 2014; Odermatt *et al.*, 2021). The satisfaction derived from self-directed and purposeful work can outweigh the financial insecurities of the early phase of entrepreneurship (Shir *et al.*, 2019; Stephan *et al.*, 2020).

Various resilience factors such as self-efficacy, *locus* of control, resourcefulness and optimism also predict entrepreneurial success and contribute to well-being (Rauch and Frese, 2007; Collewaert *et al.*, 2016; Al Issa, 2022). The positive illusions and self-regulation strategies that entrepreneurs use can help them maintain their drive and passion for their work, even as they face the realities of their entrepreneurial role and the ambiguity that comes with new venture creation (Stroe *et al.*, 2018; Collewaert *et al.*, 2016).

Previous research focused on various cognitive biases common to early-stage entrepreneurs (Thomas, 2018). Most research focused on overoptimism and overconfidence, but there are other biases, such as the illusion of control, escalation of commitment or the belief in the law of small numbers (Thomas, 2018). These cognitive biases serve as psychological mechanisms that can limit the negative influence of a bad financial situation on subjective well-being (Dawson *et al.*, 2014). These biases contribute to entrepreneurs' persistence and commitment to their ventures, leading to higher levels of experienced well-being despite financial difficulties (Dawson *et al.*, 2014; Odermatt *et al.*, 2021; Thomas, 2018). However, they also increase the risk that entrepreneurs will deprive themselves of resources because of these unjustified biases (Hayward *et al.*, 2006). Research also shows that entrepreneurs' positive feelings related to founding a business will decrease over time (Collewaert *et al.*, 2016).

In essence, while new entrepreneurs are likely to face significant financial obstacles, the non-monetary benefits of entrepreneurship and the buffering effects of psychological traits and cognitive biases play a critical role in maintaining or even improving their well-being during the formative years of their business (Thomas, 2018; Stephan *et al.*, 2020; Collewaert *et al.*, 2016; Odermatt *et al.*, 2021; Shir *et al.*, 2019; Stroe *et al.*, 2018). We further expect that these effects will be more potent for opportunity-based startup entrepreneurs (Stephan, 2018; Binder and Coad, 2013; Binder and Coad, 2016; Nikolova, 2019) and hypothesize as follows:

H2. The adverse effect of financial hardship on well-being is attenuated for early-stage entrepreneurs, especially startup founders, compared with their counterparts owning and managing established businesses.

In the next section, we present the sample of surveyed businesses, dependent, explanatory and control variables and statistical methods used in this study.

3. Data and methods

3.1 Sample

This study was conducted in the Czech Republic, a post-transition country with a long industrial history dating back over a century. Strong manufacturing focus survived even forty years of communism. After the societal changes in 1989, the country embraced capitalism, and a large share of the population entered self-employment (Lukeš, 2017). The main survey took place in August and September 2021 and collected data from a large representative sample of self-employed individuals and micro-enterprises of up to ten employees. The survey was conducted with the assistance of *Behavio* and *Data Collect* agencies. Representative online panels from both agencies were approached, with 3,900 self-employed individuals and entrepreneurs. Valid data were obtained from 947 respondents, representing a response rate of 24.3%.

Following the conventions used in the GEM, we consider ventures founded in 2018 or later as new businesses. From the group of new businesses, we set aside *startups*, identified as ventures founded in 2018 or later, where respondents also answered affirmatively to questions whether they consider their business a startup and whether the business has the potential for rapid growth in terms of revenue and customer base. We label the remaining businesses as *other new businesses*.

The data from the main survey contained only 26 startups and 186 other new businesses. Therefore, we administered a second round of data collection targeted primarily at new businesses. This additional survey was conducted by trained business students from a local university between October 2021 and April 2022 and yielded data from 389 businesses, including 82 startups and 198 new businesses.

In the data cleaning process, we filtered out several observations that were unfit for the analysis. First, we dropped respondents who reported serving no customers over the past six months (implying that the business is likely inactive). Second, we removed all respondents who seemed to not depend on their businesses because they had another full-time job or spent less than 10 hours a week on average doing the business at hand. Finally, we discarded observations that we identified as false self-employment – we assessed this based on the number of customers, questions related to business conducted through platforms such as Wolt, and the textual description of their business. This reduced the total sample size to $N = 1136$, of which 761 were established businesses, 78 were startups and 297 were other new businesses.

3.2 Variables

3.2.1 Key variables. The dependent variables in our analyses relate to the respondent's *well-being* and financial situation, measured by three variables: *satisfaction with income from entrepreneurship*, *disposable income* and *financial problems*. All these variables are measured through batteries of six-point Likert-type items.

The battery contained five questions for well-being, asking the respondents about how they felt over the past three months. Three items were worded positively, asking about feeling satisfied with one's own life (Diener *et al.*, 1985), relaxed and balanced and cheerful (WHO, 1998); the remaining two negatively asking about feeling downhearted (Ware *et al.*, 1996) and stressed (Cohen *et al.*, 1983); the negatively worded questions were reverse-coded to align with the rest. The eventual value of the *well-being* scale was obtained as the mean across the five items (Cronbach's $\alpha = 0.89$, avg. interitem correlation $\bar{r} = 0.61$).

Because previous studies show that subjective perceptions of the financial situation have a different impact on entrepreneurs' well-being and decisions than objective measures (Gorgievski *et al.*, 2010; Gimeno *et al.*, 1997; Carree and Verheul, 2012; Stephan, 2018), we used three alternative financial measures that focus on different angles of the respondent's finances:

(1) *Satisfaction with income from entrepreneurship* focuses on respondents' satisfaction with the amount, regularity and predictability of income from the business (mean across four questionnaire items, all measured on a 1–6 scale, $\alpha = 0.87, \bar{r} = 0.63$).

(2) *Disposable income* addresses the ability to save money and the opportunity to spend on discretionary items (2 items, $\alpha = 0.87, \bar{r} = 0.76$), adopted from Tosun *et al.* (2019).

(3) *Financial problems* related to difficulties with payments for necessities and mandatory expenses, such as rent, communal services, food and obligatory insurance payments (4 items, $\alpha = 0.94, \bar{r} = 0.79$).

A key explanatory variable in our analyses is *business type*, classifying observations into *established businesses*, *startups* and *other new businesses* – as outlined in Section 3.1.

3.2.2 Control variables. The first set of control variables includes basic demographic characteristics of the respondents: gender (in the form of a *female* indicator), *age*, the presence of *children in the household*, education (in the form of a *university degree* indicator) and degree of urbanization of the respondent's place of residence (an indicator of Czechia's two major cities, *Prague and Brno*, standing out in terms of entrepreneurial activity). Moreover, we used information on whether the respondent is the primary *breadwinner* in their household.

Another set of control variables related to the respondents' business. The industry was coded manually from an open-ended description of the entrepreneurial activity. The responses were aligned with the level-4 categories of the NACE classification. (For 1.5% of the sample, the verbal description did not suffice for reliable classification, producing missing values.) Our eventual *industry* variable aggregated the results into a cruder scale of 13 categories. Aggregation was mostly based on level-1 NACE categories.

Following Yue and Cowling (2021), who demonstrated that COVID-19 lockdowns led to reductions in self-employed working hours, associated income and decrease in well-being, we used two lower-level NACE classes to separate industries heavily affected by the COVID-19 pandemic: tourism and personal services. The *necessity* variable addresses the initial motivation for starting a business, a six-point scale with values ranging from 1 ("I started a business solely to seize an opportunity") to 6 ("I started a business solely out of necessity").

The last set of explanatory variables aims to describe the selected personality characteristics of the respondents that were found significant for entrepreneurial success in previous research (Rauch and Frese, 2007). These are scale variables measured by a battery of six-point Likert-type items. *Self-efficacy* expresses the respondent's confidence in their ability to tackle problems (three items, $\alpha = 0.88$, $\bar{r} = 0.71$, used from General Self-Efficacy Scale, Schwarzer and Jerusalem, 1995) and *locus of control* refers to the belief in the ability to influence the course of life through one's actions (three items, $\alpha = 0.79, \bar{r} = 0.55$, 2 items adopted from Levenson (1981) and one item from Owens *et al.*, 2013).

For all scale variables, battery items were not standardized before taking the mean (note that they were all measured on the same 1–6 scale). We did, however, standardize the resulting means.

3.3 Statistical analysis

Satisfaction with income from entrepreneurship, *disposable income* and *financial problems* are treated as alternative measures of the respondent's financial situation. The former is

concerned with income coming from the respondent's business and measures the level of satisfaction with it; the latter two target objective outcomes (the ability to save or pay for necessities) and aim at the overall household income (rather than that from the business only). Therefore, in all analyses, we ran three variants of all models where these variables are interchanged.

The analysis proceeded in two stages. First, we sought to describe the differences between the respondents' financial situation based on the type of their businesses. For this end, we ran multiple regressions explaining the financial indicators by *business type* and a complete set of control variables.

Next, we studied how the business type affects the impact of financial situation on the respondents' well-being. We again used multiple regressions, this time with *well-being* as the dependent variable and interaction between *business type* and financial indicators as key explanatory variables. (Again, a complete set of controls was included in the model).

As all our dependent variables were Likert scales obtained from multiple questionnaire items, we applied (multiple) linear regression, as opposed to ordinal regression alternatives, which are typically used for single-item analyses (for a detailed discussion of this issue see, e.g. Carifio and Perla, 2007; Norman, 2010). Throughout the analyses, our statistical inference is based on Huber–White heteroskedasticity–robust (HC1) standard errors (White, 1980). Across all regressions and explanatory variables, the variance inflation factors (VIFs) scored below 3, suggesting no collinearity issues (e.g. Wooldridge, 2019).

In our business type definition, we followed the GEM classification of business stages to distinguish new and established businesses, leading us to use the cutoff of 2018 for the foundation year. Arguably, in the very early stages of the business life cycle, the financial considerations and the way economic conditions affect well-being might be very specific (Bencsik and Chuluun, 2021; Mueller and Pieperhoff, 2023; Auerswald and Branscomb, 2003). Naturally, there is a limit to how long one can sustain a business while not being able to cover mandatory household expenses. Therefore, as a robustness check, we re-ran all the analyses with the foundation year cutoff changed to 2020 in the definitions of startups and other new businesses.

4. Results

Table 1 presents descriptive statistics and pairwise correlations. Regarding the sample's demographic characteristics, 41% were women, the mean age of our respondents was 40.4 and 41% had a university degree. These characteristics align with previous empirical evidence from the Czech Republic, which has documented an existing gender gap among business owner-managers and a high occurrence of university graduates among entrepreneurs (Lukeš *et al.*, 2013). About 38% of the respondents lived in either of Czechia's major cities, Prague and Brno; according to the figures published by the Czech Statistical Office (2023), these cities account for 29% of all registered and active economic subjects.

The largest pairwise correlations occurred among the different financial indicators; this was expected and does not pose an issue in our statistical analyses, as we use each of these indicators in a separate model. The remaining correlations are all relatively weak, except for the correlation between *locus of control* and *self-efficacy* ($r = 0.58$). Overall, the collinearity among explanatory variables was tolerable, yielding VIF below 2.5 across all regressions.

H1 predicted that the financial indicators vary systematically with business type; in particular, new firms and startups are more susceptible to financial issues. As Table 2 shows, our data provide empirical evidence for this hypothesis. The differences are particularly pronounced in the case of the *financial problems* indicator: relative to established businesses with comparable values of the control variables, startups and

Table 1.
Descriptive statistics and pairwise correlations of numeric variables

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. Well-being	3.80	1.14	1										
2. Satisfied w/ ent. income	3.71	1.22	0.39**	1									
3. Disposable income	3.46	1.45	0.36**	0.62**	1								
4. Financial problems	2.28	1.28	−0.24**	−0.36**	−0.60**	1							
5. Female	0.41	0.49	−0.11**	−0.11**	−0.10**	−0.00	1						
6. Age	40.40	11.73	0.04	−0.09**	−0.02	−0.22**	0.03	1					
7. University degree	0.41	0.49	0.06*	0.01	0.09**	−0.01	0.06	−0.19**	1				
8. Prague or Brno	0.38	0.49	−0.00	0.04	−0.02	0.13**	−0.01	−0.28**	0.25**	1			
9. Children in household	0.35	0.48	−0.00	0.01	0.03	−0.06*	−0.05	0.10**	−0.03	−0.18**	1		
10. Necessity	2.59	1.50	−0.11**	−0.18**	−0.12**	−0.01	0.05	0.19**	−0.00	−0.10**	0.05	1	
11. Locus of control	4.67	0.89	0.34**	0.37**	0.25**	−0.23**	−0.03	0.00	−0.01	0.03	−0.03	−0.19**	1
12. Self-efficacy	4.76	0.91	0.30**	0.29**	0.26**	−0.23**	−0.03	0.04	−0.04	−0.02	0.04	−0.13**	0.58**

Notes: *$p < 0.05$; **$p < 0.01$
Source: Authors' own work

	Satisfaction w/ income from entrepreneurship	Disposable income	Financial problems
Female	−0.0552	−0.142*	−0.0177
Age	−0.00823**	−0.00564	−0.00948**
University degree	−0.0157	0.216***	−0.177**
Urban (Prague or Brno)	−0.00755	−0.103	0.183**
Children in household	0.0430	0.0294	−0.0307
Necessity entrepreneurship	−0.100**	−0.0859**	−0.00274
Locus of control	0.298***	0.171***	−0.193***
Self-efficacy	0.0925**	0.140***	−0.101**
Breadwinner			
Respondent	ref.	ref.	ref.
Respondent and sb else	0.0155	0.102	−0.220***
Somebody else	−0.367***	−0.0658	−0.114
Business type			
Established business	ref.	ref.	ref.
Other new business (f. 2018+)	−0.104	−0.167*	0.275***
Startup	−0.324**	−0.618***	0.882***
Industry dummies	Yes	Yes	Yes
R^2	0.213	0.152	0.188
N	1113	1113	1113
p(business type)	0.024	<0.0001	<0.0001

Notes: (i) Last row shows the p-value of a Wald test for joint significance of *business type* dummies (based on a heteroscedasticity-robust variance matrix); (ii) *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. Each column represents one regression model
Source: Authors' own work

Table 2. Regressions explaining financial measures

other new businesses scored worse by 0.88 and 0.27 sample standard deviations (SD) of *financial problems*, respectively. For *disposable income* and *satisfaction with income from entrepreneurship*, the results are qualitatively similar, although smaller in magnitude. Overall, we find good support for *H1*.

Results regarding the negative effect of financial hardship on well-being are reported in Table 3. Models 2, 3 and 4 each include one of the financial indicators, along with an interaction with *business type* that accounts for possible moderation effects, postulated in *H2*. Model 1 serves as a baseline, with no financial indicator in the regression; this model explains about 15% of the sample variation in *well-being*. First, note that none of the models indicates substantial differences in terms of well-being between different business types (the coefficients on *business type* dummies are small and insignificant). Next, for established businesses, the financial indicators have the expected effect on well-being. For instance, a 1 SD increase in *satisfaction with income from entrepreneurship* is associated with a 0.41 SD increase in *well-being* (Model 2), with the effect being highly significant ($p < 0.001$). The effect is somewhat dampened for new businesses, and for startups, it disappears altogether. Figure 1 provides a visual overview of the estimated impact of financial struggle on the well-being of startup founders and other early-stage entrepreneurs.

Although the moderation effects follow a similar pattern across all financial indicators, the effects' size and statistical significance vary. The differences between business types are large and significant ($p < 0.001$) in the case of *satisfaction with income from entrepreneurship* (Model 2); for *disposable income* (Model 3), the effects are of comparable magnitude and significant on $p < 0.05$ level ($p = 0.039$); for *financial problems* (Model 4), the

	(1)	(2)	(3)	(4)
Female	−0.243***	−0.221***	−0.198**	−0.242***
Age	0.00627*	0.00988***	0.00812**	0.00475
University degree	0.184**	0.176**	0.118*	0.153*
Urban (Prague or Brno)	−0.0290	−0.0158	0.000611	−0.00230
Children in household	−0.0265	−0.0463	−0.0382	−0.0327
Necessity entrepreneurship	−0.0565	−0.0203	−0.0316	−0.0582*
Locus of control	0.244***	0.154***	0.193***	0.210***
Self-efficacy	0.147***	0.111**	0.112**	0.133***
Breadwinner				
Respondent	ref.	ref.	ref.	ref.
Respondent and sb else	0.0537	0.0469	0.0254	0.0153
Somebody else	0.119	0.246**	0.139	0.0981
Business type				
Established business	ref.	ref.	ref.	ref.
Other new business (f. 2018+)	0.0509	0.0986	0.102	0.0960
Startup	0.0445	0.104	0.0777	0.0727
Satisfaction with income from ent.		0.411***		
Other new bus. × satisf. inc. ent.		−0.251***		
Startup × satisf. inc. ent.		−0.512***		
Disposable income			0.302***	
Other new bus. × disp. income			−0.0159	
Startup × disp. income			−0.346*	
Financial problems				−0.185***
Other new bus. × fin. problems				0.0421
Startup × fin. problems				0.164
Industry dummies	Yes	Yes	Yes	Yes
R^2	0.154	0.253	0.228	0.178
N	1113	1113	1113	1113
p(interaction terms)		<0.0001	0.039	0.402

Table 3. Regressions explaining respondents' *well-being*

Notes: (i) The last row shows the p-value of a Wald test for the joint significance of both interaction terms (based on a heteroscedasticity-robust variance matrix); (ii) *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$. Columns present individual models differing in the included financial indicators (*satisfaction with income from entrepreneurship*, *disposable income* and *financial problems*)
Source: Authors' own work

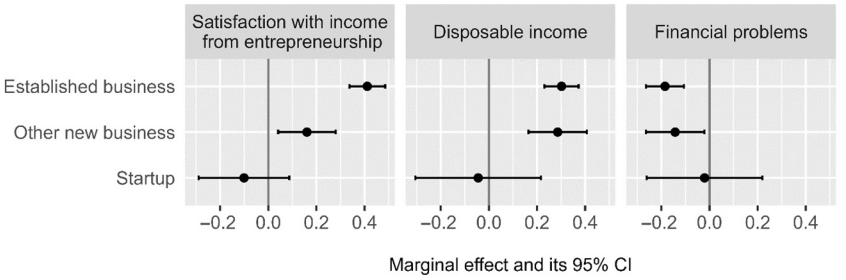

Figure 1. Marginal effect of financial indicators (*satisfaction with income from entrepreneurship*, *disposable income* and *financial problems*) on *well-being* across different business types

Note: The plot visualizes results from Models (2); (3) and (4) from Table 3
Source: Authors' own work

effects are smaller in magnitude and insignificant ($p = 0.40$). Overall, the degree of support for *H2* depends on the operationalization of financial hardship.

It is worth noting that the different indicators of financial hardship perform differently in terms of explanatory power. *Satisfaction with income from entrepreneurship* is the most efficient predictor of the three: the R-squared for Model 2 is 25.3%, 9.9 percentage points above the value for the baseline Model 1. In other words, the information about satisfaction with income from entrepreneurship explains an additional 9.9% of the sample variation in well-being on top of what can be explained by the complete set of our control variables. To compare, adding the terms that involve *disposable income* and *financial problems* to Model 1 only increases the R-squared by 7.4 pp and 2.4 pp, respectively.

In the Appendix, we include results from the regressions that employ a different cutoff for the classification of new businesses (foundation year 2020 instead of 2018; see Section 3.3). In particular, Appendix Figure A1 and Tables 1 and 2 reproduce the results in Figure 1 and Tables 2 and 3, respectively, for the alternative version of the *business type* variable. The results are consistent with our original analysis, with two noteworthy differences. First, new businesses shifted further away from established businesses in most respects; this is not a surprising effect of keeping only the youngest ventures in the category of new businesses. Second, some of the results regarding the research hypothesis appear less significant; presumably, this is a consequence of the reduced number of observations of new businesses and startups. Notwithstanding these minor differences, our results appear reasonably robust.

5. Discussion

We find support for *H1*: Entrepreneurs who founded new firms, especially startups, have a worse financial situation than those already established on the market. This finding is accentuated by the *financial problems* variable that captures entrepreneurs' real problems in paying basic costs related to their everyday lives. So, we add to the evidence that new ventures often offer only low earnings (Carter, 2011; Hamilton, 2000), which makes early-stage entrepreneurs financially vulnerable because of their dependence on income from business activity (Gutter and Saleem, 2005). Moreover, we prove that investments into early startup growth, such as business model refinement (Picken, 2017), product development or marketing (Kollmann *et al.*, 2016), limit funds available for founders' personal use.

Second, our results show no substantial differences in well-being between startup founders, other early-stage entrepreneurs and established entrepreneurs. In line with previous studies (Annink *et al.*, 2016; Bencsik and Chuluun, 2021), we find that for established businesses, a better financial situation positively influences their well-being. This effect mostly disappears for startups and is dampened for new businesses. Thus, we find partial support for *H2*. Overall, our results support the explanation that the non-monetary benefits of entrepreneurship and the buffering effects of psychological traits (Stephan *et al.*, 2020; Shir *et al.*, 2019; Stroe *et al.*, 2018) and cognitive biases (Thomas, 2018; Odermatt *et al.*, 2021) help maintain early-stage entrepreneurs' well-being. We also support the expectation that these effects will be stronger for opportunity-based startup founders (Stephan, 2018; Binder and Coad, 2016; Nikolova, 2019).

Furthermore, we find differences based on the variable used to capture the financial situation. The most subjective variable, *satisfaction with income from entrepreneurship,* predicts well-being better than the other two, more objective-situation-based variables. This finding is in line with previous studies showing that subjective rather than objective perceptions of success are more important for entrepreneurs' well-being and decisions (Gorgievski *et al.*, 2010; Gimeno *et al.*, 1997; Carree and Verheul, 2012; Stephan, 2018). People differ in how they approach the actual situation. Their cognitive biases, such as optimism,

(over)confidence and many others, influence how they cognitively process the difficulty of real situations (Dawson *et al.*, 2014; Marshall *et al.*, 2020; Thomas, 2018). As Stephan *et al.* (2023) suggest, entrepreneurs may justify their sacrifices by enhancing their work-related satisfaction. This may help them to persist in their entrepreneurial endeavors and commit themselves and their resources to their new firms. At the same time, it may lead entrepreneurs to delay closing down and making additional investments into their firms, either from their savings or through debts (Shepherd *et al.*, 2009; Stephan, 2018), which may lead to even bigger financial problems.

6. Conclusion

We contribute to the existing literature on entrepreneurial well-being (Stephan, 2018; Stephan *et al.*, 2023) by focusing on startup founders as a specific subsample of early-stage entrepreneurs. Their situation concerning finance and well-being has been so far largely neglected. However, owing to the importance of startup founders for entrepreneurship policies and education, it is crucial to understand the difficulties of their entrepreneurial activity. This study improves the understanding of the financial situation and well-being of founders of new firms and, specifically, startups. We found that early-stage entrepreneurs are less satisfied with their financial situation, have lower disposable income and report bigger financial problems than their established counterparts. The situation is even worse for the subsample of startup founders. However, we also find they do not have lower well-being than established entrepreneurs. Whereas a worse financial situation is generally negatively related to well-being, being a startup founder moderates this link. Startup founders can maintain a good level of well-being even in financial struggles. We also find that subjective perception of income coming from entrepreneurial activities has a stronger effect on well-being when compared with the other two more objective measures of financial problems. Thus, we contribute to the development of evidence that subjective perception of financial situation is more critical for entrepreneurs' well-being and decisions than more objective measures of success (Gorgievski *et al.*, 2010; Gimeno *et al.*, 1997; Carree and Verheul, 2012; Stephan, 2018), which has important implications for entrepreneurship education.

6.1 Implications for entrepreneurship policy and education

Regarding entrepreneurship policies that aim to support new firms, we agree that encouraging the broadest possible participation in entrepreneurship is inefficient (Shane 2009; Acs *et al.*, 2016). At the same time, business angels, venture capitalists and government officials try to pick the winners with the most promising scaling potential, which is naturally connected to new technologies and their applications. However, there is a risk of a bias toward technology startups, often very financially demanding, at the expense of other startups focused on business model innovation or simply on doing something better than existing competition. These non-technological startups can also bring significant growth in revenues and employment. Indeed, high-growth firms are heterogeneous and span various industries (Mason and Brown, 2013). Moreover, in our study, startups were not restricted to technological fields but included firms from other sectors, such as finance, trade, or education. Our recommendation for entrepreneurship policies is not to try to "pick the winners" initially but to implement policies that reduce the costs related to start-up activities. These are primarily related to low administrative burden, easy-to-grasp legislation and efficient and quick state administration. Subsequently, the policy support should not be restricted to new technological firms. Startups from all fields should be eligible to receive the support, provided that they meet the milestones of their development, i.e. policies should help "winners" to stay on track rather than trying to pick them in the beginning (Lukeš *et al.*, 2019).

Regarding entrepreneurship education and training, our study clearly shows that psychological characteristics, such as self-efficacy and *locus* of control, improve entrepreneurs' financial situation and well-being. Thus, it can be recommended to focus on developing these characteristics in general education and entrepreneurship training. Some sound recommendations can be found in action-oriented training, e.g. in Gielnik *et al.* (2015), despite a recent longitudinal study (Bohlayer and Gielnik, 2023) emphasizing the importance of a person's orientation toward learning from mistakes. This is connected to the second recommendation related to entrepreneurship education. It is to make to-be-entrepreneurs aware of many cognitive biases existing in entrepreneurship, such as the illusion of control, the belief in the law of small numbers, the escalation of commitment and others (for a review, see Thomas, 2018). Knowledge of these biases may help them to recognize them when launching a new firm. Finally, as our study confirms, startups struggle financially. Thus, approaches to startup development such as effectuation (Sarasvathy, 2001) or lean startup (Blank and Dorf, 2020) help to-be entrepreneurs learn how to develop a startup as efficiently as possible and pivot it at the right times due to permanent feedback loops from the market. It also helps early-stage entrepreneurs to terminate their efforts as cheaply as possible and not deprive themselves of resources because of their unjustified overconfidence (Hayward *et al.*, 2006). These recommendations are valid not only for entrepreneurship educators but also for early-stage entrepreneurs. Finally, our results show that dual income in the household significantly lowers financial problems. When people think about launching a new firm, they should carefully consider what social and financial support is available from their close others.

6.2 Limitations and future research directions

First, this study targeted small companies with less than ten employees; thus, our findings do not apply to a small proportion of well-funded, mostly technological startups that were able to proliferate in the early stages. Future research should consider differences between sectors. Founders of well-funded technological firms may be expected to be better off financially due to their savings or the agreement on remuneration with external capital providers. Second, similarly to previous studies that used large data sets to analyze the relationships between the self-employed financial situation and well-being (Annink *et al.*, 2016; Bencsik and Chuluun, 2021), we admit that our study was cross-sectional, so we cannot directly claim that financial situation impacts well-being in the causal sense. We used time anchor "in the last six months" in our more objective finance-related variables, i.e. *disposable income* and *financial problems*, so the items precede the time of data collection in a logical sense. Even so, we recommend that future research adopts a longitudinal research design to predict causality better, such as the approach used by Gorgievski *et al.* (2010). Moreover, a recent study found that well-being increases the probability of entering self-employment (Henao García *et al.*, 2022), so the longitudinal design might also include a time before the business launch. Thirdly, the Czech Republic, like any country in the world, has some specifics, for instance, a large share of solo self-employed in the population (Czech Statistical Office, 2023). Thus, the results cannot be generalized to other countries. For instance, Kwon and Sohn (2017) reported that self-employed in Indonesia had significantly lower job satisfaction than employees, which is the opposite result compared with most studies conducted in developed countries. We recommend doing studies in other countries to distinguish startups from other new firms when researching the relationships between entrepreneurs' financial situation and well-being and to build additional evidence on this underexplored topic. Finally, we suggest that future research delves deeper into moderated moderation mechanisms. Our findings show that sociodemographic and psychological characteristics matter with regard to both financial situation and well-being, and a recent study confirmed the interplay between gender,

financial losses and well-being (Caliendo *et al.*, 2023). More specifically, future research should explore how sociodemographic characteristics, such as gender or education, and psychological characteristics, such as self-efficacy or *locus* of control, moderate the moderation effect of business stage and business type on the relationship between entrepreneurs' financial situation and well-being.

Note

1. www.foxnews.com/us/homeless-man-gets-hundreds-of-job-offers-after-handing-out-resume-at-stoplight-in-californias-silicon-valley

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Appendix

Table A1. Regressions explaining financial measures (with an alternative definition of new firms: foundation threshold set to 2020)

	Satisfaction w/ income from entrepreneurship	Disposable income	Financial problems
Female	−0.0549	−0.135*	−0.0230
Age	−0.00610*	−0.00335	−0.0145***
University degree	−0.0273	0.199***	−0.145*
Urban (Prague or Brno)	−0.00988	−0.106	0.185**
Children in household	0.0521	0.0356	−0.0481
Necessity entrepreneurship	−0.101**	−0.0845**	−0.000343
Locus of control	0.296***	0.174***	−0.194***
Self-efficacy	0.0933**	0.141***	−0.103**
Breadwinner			
Respondent	ref.	ref.	ref.
Respondent and sb else	0.0182	0.115	−0.236***
Somebody else	−0.363***	−0.0600	−0.118
Business type			
Established business	ref.	ref.	ref.
Other new business (f. 2020+)	−0.0688	−0.229**	0.176*
Startup	−0.143	−0.519***	0.795***
Industry dummies	Yes	Yes	Yes
R^2	0.208	0.143	0.167
N	1113	1113	1113
p(business type)	0.554	<0.0001	<0.0001

Notes: (i) Last row shows the p-value of a Wald test for joint significance of *business type* dummies (based on a heteroscedasticity-robust variance matrix); (ii) *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$
Source: Authors' own work

	(1)	(2)	(3)	(4)
Female	−0.241***	−0.219***	−0.196**	−0.235***
Age	0.00519	0.00749**	0.00631*	0.00294
University degree	0.189**	0.192**	0.133*	0.168**
Urban (Prague or Brno)	−0.0289	−0.0199	−0.00183	−0.00589
Children in household	−0.0302	−0.0602	−0.0457	−0.0385
Necessity entrepreneurship	−0.0545	−0.0246	−0.0311	−0.0545
Locus of control	0.245***	0.154***	0.192***	0.209***
Self-efficacy	0.147***	0.114**	0.112**	0.133***
Breadwinner				
Respondent	ref.	ref.	ref.	ref.
Respondent and sb else	0.0541	0.0466	0.0154	0.0121
Somebody else	0.119	0.231**	0.132	0.0902
Business type				
Established business	ref.	ref.	ref.	ref.
Other new business (f. 2020+)	−0.0177	0.0154	0.0458	−0.0122
Startup	0.0314	0.113	0.0384	0.0789
Satisfaction with income from ent.		0.359***		
Other new bus. × satisf. inc. ent.		−0.287**		
Startup × satisf. inc. ent.		−0.488***		
Disposable income			0.295***	
Other new bus. × disp. income			−0.0410	
Startup × disp. income			−0.418*	
Financial problems				−0.172***
Other new bus. × fin. problems				0.119
Startup × fin. problems				0.117
Industry dummies	Yes	Yes	Yes	Yes
R^2	0.153	0.244	0.226	0.176
N	1113	1113	1113	1113
p(interaction terms)		<0.0001	0.047	0.472

Notes: (i) The Last row shows the p-value of a Wald test for the joint significance of both interaction terms (based on a heteroscedasticity-robust variance matrix). (ii) *$p < 0.05$; **$p < 0.01$; *** $p < 0.001$. Columns present individual models differing in the included financial indicators (*satisfaction with income from entrepreneurship*, *disposable income* and *financial problems*)
Source: Authors' own work

Table A2. Regressions explaining respondents' *well-being* (with an alternative definition of new firms: foundation threshold set to 2020)

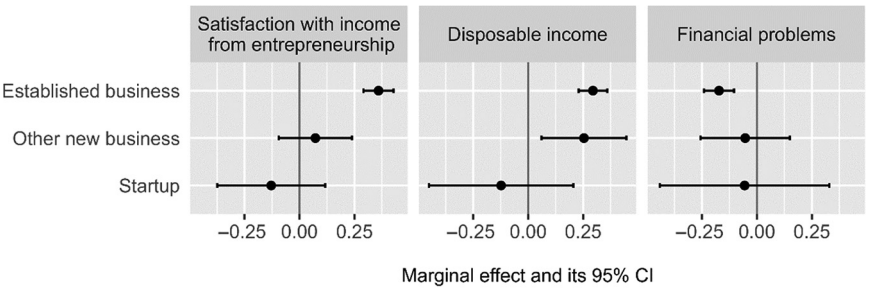

Figure A1.
Marginal effect of financial indicators (*satisfaction with income from entrepreneurship*, *disposable income* and *financial problems*) on *well-being* across different business types (with an alternative definition of new firms: foundation threshold set to 2020)

Note: The plot visualizes results from models (2), (3) and (4) from Table 2 in appendix

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