



Staged Entry to Self-Employment — And After?

Lidia Kritskaya and Lars Kolvereid¹

Nord University Business School, Nord University, Bodø, Norway

Abstract. Some novice business owners enter directly to self-employment from paid employment. Others start as hybrid entrepreneurs by combining business ownership with salaried employment and become self-employed later, using a staged entry mode to self-employment. The purpose of this study is to investigate the relationship between the direct versus staged entry mode to self-employment and the duration of self-employment as well as the duration as hybrid entrepreneurs after the exit from self-employment. Using commitment theory, we derive hypotheses stating that staged entry to self-employment is associated with (1) shorter duration as self-employed, and (2) longer duration as hybrid entrepreneurs after the exit from self-employment. The hypotheses are tested using Propensity Score Matching. In particular, we create matched samples of self-employed incorporated entrepreneurs who used staged and direct entry to self-employment in Norway. The findings support the hypotheses. Implications for practice and research are spelled out.

Keywords: novice business owners, hybrid entrepreneurship, self-employment, commitment, duration.

Acknowledgement:

We are profoundly grateful to the Norwegian Tax Authority (“Skatteetaten”) for providing the data that made this research possible. We would also like to thank Candida Brush, Paul Westhead, and anonymous reviewers for insightful comments on earlier drafts of this article.

1. Introduction

This study concerns workers who become novice majority owners of incorporated firms in Norway. Some novice business owners are workers who are part-time engaged in their firms, so-called hybrid entrepreneurs (Folta et al., 2010; Raffiee and Feng, 2014). Folta et al. (2010) define hybrid entrepreneurs as individuals who “initiate their ventures while simultaneously working for wages” (p. 253). To “initiate their ventures”, we require individuals to become majority owners of incorporated firms. To be “working for wages”, we require hybrid entrepreneurs to be wage employed and not majority owners of their main employer. Business owners can be hybrid entrepreneurs both before and after time spent as self-employed (Ucbasaran et al., 2010).

1. Corresponding author: Lars Kolvereid, Nord University Business School, NO-8049 Nord University, Bodø, Norway. Telephone: +4775517200. Email: lars.kolvereid@nord.no.

We define the self-employed as majority owners of an incorporated firm which is their main employer. The main employer of all taxpayers in the country is registered by the tax authorities and is usually the most important source of income in a particular year. There are two different entry modes to self-employment. Direct entry to self-employment occurs when workers become business owners and quit their wage work in the same year. Staged entry to self-employment takes place when individuals start as hybrid entrepreneurs and quit their jobs and become self-employed in later years.

When people become self-employed, they form a bond to their self-employment careers. We use commitment theory (Klein et al., 2012) to derive hypotheses concerning the association between entry mode to self-employment and the subsequent duration as self-employed and as hybrid entrepreneurs after the exit from self-employment. Klein et al. (2012) define commitment as “a volitional psychological bond reflecting dedication and responsibility for a particular target” (p. 137). Targets refer to the specific foci to which an individual develops the bonds. In this study, the relevant target is the career as self-employed. Individuals can have multiple targets. Due to resource constraints, bonds to competitive targets often create conflicts and lead to preclusion of formation of commitment and interfere with the expected consequences of the commitment (Campion et al., 2020).

The entry mode to self-employment is associated with different bonds to the target of being self-employed, commitment bonds and instrumental bonds. Individuals who use direct entry to self-employment take responsibility and dedicate themselves to the target of being self-employed (Jenkins et al., 2014; Ucbasaran et al., 2010). Entry to self-employment directly from self-employment is therefore primarily associated with the formation of commitment bonds to self-employment. Commitment is positively associated with motivations, willingness, intentions and persistence to continue with the target and leads to increased duration of the behavior related to the target (Klein et al., 2012).

Instrumental bonds are formed based on weighing the costs and benefits associated with the target. Hybrid entrepreneurs rely on positive signals from their businesses and markets before they transfer to self-employment (Raffiee and Feng, 2014; Schulz et al., 2016). Staged entry to self-employment is therefore primarily associated with instrumental bonds to self-employment. Instrumental bonds stimulate further search for opportunities that maximize the present value of benefits (Amit et al., 1995; Gimeno et al., 1997; Viljamaa and Varamaki, 2015). Since instrumental bonds are associated with search for better opportunities, such bonds are negatively related to the duration of the behavior related to the target.

Bonds change over time. External factors and evaluation of the target affect the strength and type of bond to the target. We do not claim that hybrid entrepreneurs cannot become committed to a career as self-employed. We focus

on bonds that are formed at the time of entry to self-employment. Our study does not concern changes with regard to commitment or instrumental bonds over time.

Only two previous studies have investigated the relationship between the two entry modes to self-employment and subsequent outcomes. Wennberg et al. (2006) found that former part-time entrepreneurs were 1.54 times more likely to drop out of full-time entrepreneurship than individuals who entered directly as full-timers. In contrast, Raffiee and Feng (2014) found that entrepreneurs who started as hybrids survived longer as self-employed than entrepreneurs who entered into self-employment directly. Differences in research design, sample structures and definitions might explain the contradictory findings reported in these studies. We are not aware of any previous research that has investigated duration as hybrid entrepreneurs after the exit from self-employment.

The majority of novice business owners are hybrid entrepreneurs, and staged entry to self-employment is more common than direct entry (Burke et al., 2008; Folta et al., 2010). Therefore, there is clearly a need for studies that compare the outcomes of entrepreneurs who use staged and direct approach to self-employment (Demir et al., 2020; Folta et al., 2010; Raffiee and Feng, 2014; Rouchy et al., 2021; Schulz et al., 2016; Schulz et al., 2017; Xi et al., 2018). Increased knowledge about the outcomes associated with entry mode to self-employment can provide a better understanding of entrepreneurial activities, reveal the advantages and disadvantages of staged and direct entry to self-employment, stimulate entrepreneurial learning, and help us in the development of more relevant support policies.

The Norwegian Tax Authority provided the data used in this study. The data identify employees who become majority owners of incorporated firms between 2005 and 2015 and enable us to identify years of entry to and exit from business ownership as well as years of entry and exit from self-employment. The choice between direct and staged entry to self-employment is likely to be influenced by characteristics of the entrepreneurs and their businesses. We therefore start the data analysis by using Propensity Score Matching to create matched samples of entrepreneurs who use a direct and a staged approach to self-employment. By matching the two groups of entrepreneurs we isolate the effect of staged/direct entry and can investigate how entry mode, and not characteristics of the entrepreneurs and their businesses, influences the dependent variables. Ferreira (2020) and Bogenhold (2019) note that databases containing matched sample of hybrids and self-employed entrepreneurs are extremely rare and that such databases would greatly assist progress in an emerging field of research.

The article is organized as follows: we begin with a literature review on the topic of hybrid entrepreneurship before we focus on theory and derive hypotheses. The methodology section describes the research design, the data and our methodological approach. We proceed with presenting the results, followed by discussion and conclusions.

2. Literature Review

2.1. Hybrid Entrepreneurship

A decade has passed since Folta et al. (2010) defined hybrid entrepreneurs as individuals who are primarily occupied in wage employment while simultaneously starting and holding a business. Earlier the phenomenon was most commonly referred to as “part-time entrepreneurship” (Petrova 2010) or “second-job entrepreneurship” (Gruenert, 1999).

Researchers have applied various definitions of hybrid entrepreneurs. Some authors include part-timers, unemployed, students, moonlighters, freelancers and/or retired individuals in their samples of hybrid entrepreneurs (Paunescu and Rosu, 2017; Petrova, 2010; Viljamaa and Varamaki, 2015; Xi et al., 2018). Other researchers focus on the blurred boundaries between self-employment and organizational employment and disregard the requirement of primary paid occupation in wage employment (Block and Landgraf, 2016; Bögenhold, 2019; Bögenhold and Klinglmair, 2016; Chirita, 2017; Demir et al., 2020). The most common way to identify hybrid entrepreneurs is to require individuals to have a dual occupational career where they combine a salaried job with business ownership. Part-time workers, students, and individuals who are retired and unable to work due to physical or mental disabilities should not be regarded as hybrid entrepreneurs (Folta et al., 2010; Schulz et al., 2016). Most researchers do not consider self-employed entrepreneurs with additional income from salaried work as hybrids, but define hybrid entrepreneurs as individuals who primarily support themselves by wage employment while simultaneously owning a business.

Researchers have separated hybrids from self-employed based on the hours spent in the business (Raffiee and Feng, 2014; Schulz et al., 2016), whether earnings from salaried work constitute more or less than half of their total income (Wennberg et al., 2006), or a combination of working hours and sources of income (Petrova, 2010, 2012).

In this study we define a hybrid entrepreneur as a majority owner of one or several incorporated businesses, none of which is his or her main employer in a particular year. Similar to the definition suggested by Folta et al. (2010), our definition identifies hybrid entrepreneurs as individuals who are primarily wage employed. The identification of the main employer in a particular year is more convenient than obtaining measures of the number of hours spent working for their businesses or the income from own businesses and other sources. One of the advantages with our definition of hybrids is that we make sure that there is only one entrepreneur in each business. This allows us to link individual characteristics to business outcomes. Table 1 illustrates the distinction made between employees, hybrid entrepreneurs and the self-employed in this study.

Table 1. Classification of individuals in the sample

	Employees	Hybrids	Self-employed
Business ownership	Not majority owners of incorporated firms	Majority owners of incorporated firms	Majority owners of incorporated firms
Main employer	External organization	External organization	Own incorporated firm

Research has shown that hybrid entrepreneurship is more common in certain age-groups and among men (Folta et al., 2010; Kritskaya et al., 2017; Kurczewska et al., 2020; Luc et al., 2018, Schulz et al., 2016), among entrepreneurs with high general human capital (Folta et al., 2010; Luc et al., 2018, Petrova, 2012; Schulz et al., 2016), low human capital specific to entrepreneurship (Burke et al., 2008; Folta et al., 2010; Petrova, 2012), and high opportunity costs (Folta et al., 2010). Individuals often become hybrids in order to test their entrepreneurial abilities and business ideas (Paunescu and Rosu, 2017; Petrova, 2010; Raffiee and Feng, 2014; Thorgren et al., 2014; Wennberg et al., 2006).

While hybrids sometimes start ventures with high potential (Folta et al., 2010) studies have found that they compared to the self-employed expect lower revenues (Bögenhold and Klinglmaier, 2016; Petrova, 2012), start smaller firms (Melillo et al., 2013) and report lower levels of sales, earnings, and labor costs, but also lower levels of deficits (Kritskaya et al., 2017). Engagement in hybrid entrepreneurship tends to be associated with higher hourly earnings compared to individuals holding two wage jobs (Schulz et al., 2017), and increased innovative behavior in their primary employment (Marshall et al., 2019).

2.2. From Hybrid to Self-Employed

The factors that affect hybrids' transformation to self-employment include business performance (Folta et al., 2010; Petrova, 2010; Raffiee and Feng, 2014; Schulz et al., 2016), age (Block and Landgraf, 2016; Thorgren et al., 2016), self-efficacy and entrepreneurial abilities (Petrova, 2010; Viljamaa and Varamaki, 2015). Chirita (2017) reported that 76% of hybrid entrepreneurs with high education did not consider transformation into self-employment as an attractive option. According to Brown and Farshid (2017), social relationships and goals concerning wage employment make hybrids less interested in business growth and self-employment. Raffiee and Feng (2014) and Schulz et al. (2016) argue that hybrids tend to stay employed in organizations if they perceive their income from wage work to be more secure than their income from the entrepreneurial activity. Viljamaa and Varamaki (2015) report that hybrid entrepreneurs who become self-employed (transitory hybrids) are more interested in increasing their turnover than hybrid entrepreneurs who remain hybrids (persistent hybrids).

2.3. Theoretical Options

Researchers have used a variety of theories to study hybrid entrepreneurship. Examples include financial theory (Petrova, 2010, 2012), appraisal theory (Jenkins et al., 2014), psychological theory with respect to conservation of resources (Thorgren et al., 2014), motivation theory (Block and Landgraf, 2016), the theory of choice overload (Nordström et al., 2016), social identity theory (Guo et al., 2019), the theory of planned behavior (Farooq and Talib, 2019), marketing theory (Ferreira et al., 2019), social cognitive theory (Pollack et al., 2019), decision theory (Klyver et al., 2020), and age theory (Cheraghi and Simarasl, 2021).

To investigate entrepreneurial outcomes such as the relationship between staged entry and performance, several researchers have used real option theory (Dzomonda and Fatoki, 2018; Raffiee and Feng, 2014; Wennberg et al., 2006). McGrath's (1997, 1999) application of real options theory provides an explanation of how entrepreneurs' decision to postpone business opportunity exploitation reduces uncertainty through accumulation of knowledge about the market and the viability of the business idea. According to McGrath (1999) the theory is particularly relevant when studying (1) innovative companies able to create disruption where individuals perceive high-variance opportunities to increase options value, (2) big companies who desire diversification, (3) portfolio entrepreneurs who have several options available to choose from, (4) firms that can afford intelligent failures and bear small social costs of failures.

Real options theory is not particularly well suited to study staged entry to self-employment in general because "the estimation of future prospects is highly uncertain" and subjective (McGrath, 1999, p. 23) and because hybrids often are risk-averse novice entrepreneurs who own small and/or imitative firms (Koellinger, 2008). A real options approach may be more appropriate when studying established larger firms and portfolio entrepreneurs. McGrath and Nerkar (2004) warned that the real options perspective might not be applicable to small firms, since smaller firms typically use more exploratory ways to develop new technical knowledge, have fewer resources and have fewer options to their disposal.

3. Theory and Hypotheses

3.1. Commitment

Becoming self-employed can be seen as a commitment to a particular occupational career (Kupferberg, 1998). Tang (2008, p. 129) defines entrepreneurial commitment as "the extent to which an entrepreneur identifies

with and is engaged in new business creation". According to him, entrepreneurs become committed to the new venture because they are alert and see potential opportunities that are oblivious to others. Entrepreneurs commit to their ventures if they perceive the opportunity to be worth pursuing (Erikson, 2002). Tang (2008) identifies three key dimensions of entrepreneurial commitment: (1) affective commitment concerning entrepreneurs desire to create a new business, (2) behavioral commitment which indicates entrepreneur's willingness to extend efforts for the new business, and (3) continuance commitment which refers to entrepreneurs' intentions to stay with the business regardless of the uncertainties and risks involved.

Klein et al. (2012) are concerned that the various dimensions of commitment suggested by other authors contribute to a redundant definition of commitment through inclusion of confounders. They argue that commitment is a unidimensional concept, defined as "a volitional psychological bond reflecting dedication and responsibility for a particular target" (2012, p. 137). Klein et al. (2012) further make clear distinction between commitment, identification, acquiescence and instrumental bonds that contribute to individuals' attachment to a target. Targets refer to the specific foci to which an individual develops the bonds. Individuals can have bonds to multiple, sometimes competitive targets for example to their organizational and entrepreneurial careers. Due to the scarcity of individuals' resources, bonds to competitive targets often create conflicts (Klein et al., 2012). Competitive targets lead to preclusion of formation of commitment and interfere with the expected consequences of the commitment.

Based on Klein et al.'s (2012) commitment theory, we define an individual's initial commitment to his or her career as self-employed as a volitional choice, accepting responsibility for and dedication to the target. Direct entry to self-employment is primarily associated with a commitment bond to self-employment. Individuals who entry to self-employment directly from paid employment take responsibility for their actions by putting all eggs in one basket. Their behaviors are often based on expectations rather than hard facts.

There are two main outcomes from commitment: (1) motivation, which represents a willingness to make an effort towards pursuing of the target, and (2) continuation or intentions to continue with the target. To stay self-employed, entrepreneurs must often sacrifice income and go through times with poor business performance, to overcome obstacles, and be willing to work hard over a long period of time. The odds for survival and the duration of self-employment depend on entrepreneurs' commitment to self-employment.

Hybrid entrepreneurs divide their attention between two targets, their entrepreneurial and organizational careers. The division of attention between competitive targets leads to the preclusion of formation of commitment to self-employment (Klein et al., 2012; Meyer et al., 2015). Empirical findings suggest that hybrid entrepreneurs are reluctant to abandon their organizational careers and often not very interested in becoming self-employed (Chirita, 2017; Ferreira et

al., 2019; Viljamaa and Varamaki, 2015; Viljamaa et al., 2017). Indudewi (2015) found that hybrid entrepreneurs would prioritize wage employment over their business if they had to make a choice between organizational and entrepreneurial careers. Hybrid entrepreneurs generally postpone their entry to self-employment until they receive external validation, such as positive signals from their businesses and markets (Folta et al., 2010). Business potential for profit and growth is usually not perceived as sufficient evidence (Ferreira, 2020).

Instrumental bonds are formed through weighting the costs and benefits of the options. We argue that staged entry to self-employment is primarily associated with initial instrumental bonds to self-employment. Instrumental bonds further stimulate further search for opportunities that maximize the present value of benefits (Amit et al., 1995; Becker, 1993; Gimeno et al., 1997; Meyer and Herscovitch, 2001).

3.2. Hypotheses

Hybrid entrepreneurs are often risk-averse and generally have high education and high general human capital (Folta et al., 2010; Luc et al., 2018, Petrova, 2012; Schulz et al., 2016). Their decisions to transfer to self-employment tend to be based on transactional instrumental bonds (Klein et al., 2012; Raffiee and Feng, 2014; Schulz et al., 2016). This means that they generally choose labor market status by selecting the option that maximizes the present value of benefits (Amit et al., 1995; Becker, 1993; Folta et al., 2010; Gimeno et al., 1997; Petrova, 2010; Raffiee and Feng, 2014; Viljamaa and Varamaki, 2015). Staged entry to self-employment is therefore associated with higher performance thresholds for their businesses (Petrova, 2010) and requires their businesses to afford an owner salary according to standards in the labor market.

Meyer and Herscovitch (2001) argue that individuals who select a target based on perception of costs, tend to search for more attractive targets and subsequently substitute the initial target with more attractive options. Klyver et al. (2020) found that nascent entrepreneurs often are engaged in job search simultaneously as they are trying to develop their ventures. They found that such parallel search for opportunities had a negative impact on nascent entrepreneurial outcomes. Former hybrid entrepreneurs who have become self-employed are often attractive in the labor market. This attractiveness makes them alert to new job opportunities. Similarly, search for opportunities in the labor market is likely to be negatively associated with outcomes from self-employment. The combination of risk aversion, high performance demands for the venture, good opportunities in the labor market, and the instrumental bonds to their self-employment careers, is likely to imply that former hybrids have shorter duration as self-employed.

Entrepreneurs who enter to self-employment directly tend to be committed to their careers as self-employed and are prepared to make large sacrifices in order to survive as self-employed (Jenkins et al., 2014; Ucbasaran et al., 2010). Their commitment to self-employment leads to persistence, which others might perceive as being contrary to individual's own interests (Meyer and Herscovitch, 2001). Persistence is sometimes a result of confirmation bias (Kahneman and Tversky, 1979; Kahneman et al., 1982), a tendency for individuals to be more willing to accept information that support their decision and to disregard information that contradict their assumptions and expectations. The combination of low financial performance requirements for their ventures and high commitment to their careers as self-employed is likely to be associated with relatively long duration as self-employed. Based on the arguments above, we hypothesize:

H1. Entrepreneurs who use staged entry to self-employment have a shorter duration as self-employed than entrepreneurs who enter into self-employment directly from paid employment.

Guided by instrumental bonds, the self-employed who initially were hybrid entrepreneurs are more alert to new employment opportunities. Entrepreneurs engage in action that is initiated, sustained and coordinated. Managing these actions can be challenging, and the difficulties experienced might lead to increased search for better opportunities in the labor market (Lomberg et al., 2019). Exit from self-employment is more likely to occur when other feasible and attractive opportunities emerge (Klyver et al., 2020), and particularly when faced with the difficulties associated with self-employment. Former hybrids have experience from combining salaried employment with business ownership, and their businesses were initially intended and designed as part-time operations. It is therefore easy for them to return to their previous status as hybrid entrepreneurs, choosing an option that maximizes the present value of benefits (Amit et al., 1995; Gimeno et al., 1997).

Direct entry to self-employment is associated with commitment to the target of being employed in their own businesses. The businesses of entrepreneurs who use direct entry to self-employment are generally designed to provide self-employment opportunities, and not to be managed on a part-time basis. They are committed to self-employment as long as the target of self-employment is available to them. A target that becomes unavailable represents a shock to the individual (Klein et al., 2012). When the target become unavailable, individuals construct new bonds to new targets (Klein et al., 2012). When self-employment is no longer an available option, business owners have to re-evaluate their entrepreneurial careers. Resource constraints and their self-employment failure can make it difficult for them to start or acquire another firm in order to become serial business owners, even in combination with wage-work. Based on these arguments we hypothesize:

H2. Entrepreneurs who use staged entry to self-employment have a longer duration as hybrid entrepreneurs after the exit from self-employment than entrepreneurs who enter into self-employment directly from paid employment.

4. Methodology

4.1. The Data

The tax authority in Norway provided the data used in this study. We asked them to create a data-file for the year 2004 containing employed non-entrepreneurs between 25 and 50 years. The age interval is the same as Folta et al. (2010) used in their study of hybrid entrepreneurs, and was chosen because individuals between 25 and 50 years of age have the highest propensity for entrepreneurship. To exclude individuals who were not members of the workforce, we required individuals to have a minimum salary of NOK 196,000 in 2004, an amount that correspond to the minimum full-time wage that year defined by one of the main labour unions in the country (Fagforbundet, 2004). Since our study concerns novice entrepreneurs, existing business owners were excluded from the data file by searching in tax records and databases containing information about business ownership and roles in businesses in 2004. Therefore, entrepreneurs such as sole proprietors, board members and majority owners in corporations were not included. We obtained background information from all individuals in the dataset, including age, gender, country of birth and main employer for every year from 2004 to 2016. A total of 686,088 individuals satisfied the selection criteria and were included in the dataset.

The next step in the process was to identify those who became owners of incorporated firms between 2005 and 2016 and self-employed in such firms. We only included incorporated firms in which the largest owner had a majority stake (i.e. at least 51 percent). We selected majority owners to be able to link personal characteristics of the owners to the firms. This procedure guarantees that there is only one clear lead entrepreneur in each business.

The data-file initially contained 12,271 individuals who were self-employed at least one year between 2005 and 2016. We excluded 1,049 entrepreneurs who became self-employed for the first time in 2016, in order to enable all self-employed to exit to hybrid entrepreneurship. We deleted 5 cases with missing values and 4 outliers, individuals who earned more than NOK 10,000,000 in 2004, reducing the sample to 11,213 individuals. We use Propensity Score Matching to create matched samples of entrepreneurs who use staged end direct entry to self-employment. This procedure reduced the sample to 8,554 individuals representing 4,277 matched pairs of entrepreneurs. The matched pairs were used in the testing of Hypothesis 1. In order to test the second hypothesis, we identified

3,716 individuals who had exited from self-employment in the matched sample of self-employed individuals. This sample contains all exits from self-employment, including former self-employed who have become hybrid entrepreneurs and remain majority business owners, as well as former self-employed who have discontinued their business ownership.

The data is right censored, since our observation window stops in 2016. Right censoring is generally not considered a problem if at least 10% of cases exist during the period of observation (Lancaster, 1979). This condition is satisfied in our data since 3,716 of 8,554 individuals (43.4%) in our first sample are not self-employed in 2016 and 1,691 of 3,716 individuals (45.5%) in our second sample are not business owners in 2016.

4.2. Definitions and Analysis Variables

As stated before, we define a self-employed individual as a majority owner of one or several incorporated firms, one of which is his/her main employer in a particular year. A hybrid entrepreneur is a majority owner of one or several incorporated firms, but not the majority owner of his/her main employer in a particular year. The main employer is usually the most important employer in a particular year and is specified in a tax card sent to all taxpayers in Norway by the end of each year. If this information is wrong, taxpayers have an incentive to report the correct main employer to the tax authority since the withholding tax rate is lower for salary from the main employer than from other employers. Our categorization of business owners is based on the main employer, irrespective of the number of employers.

Staged entry to self-employment is the key independent variable. We first created a dummy variable labeled “staged entry”, indicating whether business ownership occurred in a year previous to becoming self-employed (1=yes, 0=no). We then calculated the time spent as hybrid entrepreneurs before entry to self-employment, a variable labeled “hybrid duration”. This variable has the value 0 for entrepreneurs who entered directly to self-employment and have values between 1 and 10 for hybrids, calculated as the year of entry to self-employment (between 2005 and 2015) minus the year of hybrid entry.

We measure duration as self-employed, the first dependent variable, as the number of years with direct majority ownership of the main employer between 2005 and 2016. This variable can have values between 1 and 12. Our second dependent variable, hybrid duration after the exit from self-employment, is the number of sequential years as majority business owner after the last year of self-employment. We identified the year of exit from self-employment, and calculated the number of successive years as majority business owners after the last year as self-employed. Former self-employed can become hybrid entrepreneurs in any year between 2006 and 2016. Hybrid duration after exit from self-employment is

0 for individuals who quit self-employment and business ownership in the same year and between 1 and 11 for former self-employed who become hybrid entrepreneurs and remain majority business owners.

4.3. Matching Methodology

In order to control for self-selection into staged entry and isolate the effect of direct versus staged entry to self-employment we created matched samples of entrepreneurs who had used each of the two entry modes. Non-randomization threatens the study's internal validity (Grunwald and Mayhew, 2008; Rosenbaum and Rubin, 1983) since factors associated with the choice between staged and direct entry to self-employment might interfere with the dependent variables.

Propensity Score Matching (PSM) is a quasi-experimental technique that reduces systematic group differences between treated and untreated subjects based on a propensity score which indicates the probability of a case receiving a treatment based on a given set of observed covariates or characteristics (Rosenbaum and Rubin, 1983, 1984, 1985). PSM have been proven to work better than alternative techniques, such as stratification and regression adjustment (Austin, 2011).

PSM requires three conditions to be met: (1) the treatment assignment is strongly ignorable, which requires that the distribution of the covariates to be the same given the propensity score; (2) the common support assumption, which requires that all individuals with the same values receive an equal probability to receive the treatment; (3) the conditional independence assumption, requiring variables to be plausible candidates to reduce selection bias. As Elert et al. (2015) have pointed out, the last condition means that the selection of covariates should be correctly measured and based on theoretical relevance.

The credibility of PSM depends on the selection of proper covariates, i.e. predictors (Thoemmes and Kim, 2011). We follow Austin's (2008) recommendations "for the design, analysis and reporting of studies that employ propensity-score matching" (p. 2045). The variables' effect on selection of the treatment is evaluated by logistic regression in which the selected covariates are assigned as predictors, with the treatment assignment, staged entry to entrepreneurship, as the outcome variable.

4.4. Variables Used in the Matching Process

Since the business owners in our sample have already made decision about the type, mode and year of entry, we cannot randomly assign participants to the two groups. We apply PSM to eliminate self-selection bias, requiring the inclusion of those confounders that are associated with the choice between staged and direct

entry to self-employment. The variable “staged entry” represents the treatment in the Propensity Score Matching. In the PSM logistic regression estimation algorithm we did not include factors that are not relevant for the decision to use staged or direct entry to self-employment, such as the year of entry to business ownership and self-employment, or factors that represent outcomes of the choice we control for, such as survival and performance.

We control for the individuals’ labor market value of human capital by including salaried income in 2004 measured in 1,000 NOK. Research suggests that there is an association between income and the propensity to become self-employed (Amit et al., 1995; Simoes et al., 2016). Income from salaried work is positively associated with use of staged entry and negative shifts in salary income increases the odds for direct entry to self-employment (Folta et al., 2010). In Norway as in many other countries the self-employed in corporations, as opposed to unincorporated entrepreneurs, are taxed as employees and entitled to the same social security benefits as ordinary employees. Incorporated entrepreneurs do not have to worry about losing their social security benefits if they quit their jobs and become self-employed. There is therefore no need to control for social benefits. We control for age (ranging from 25 to 50 years in 2004) because older individuals are more likely to use staged entry to self-employment (Cheraghi and Simarasl, 2021). We also control for gender (male=1, female=0), since there may be gender differences in the propensity to use staged entry to self-employment (Folta et al., 2010; Luc et al., 2018, Schulz et al., 2016). We also included a dummy variable indicating residence in urban areas in 2004 (municipalities with more than 40,000 residents, 1=yes, 0=no). Research suggests that location in large clusters may be associated with higher entry rates (Luc et al., 2018; McCann and Folta, 2008). Finally, we included industry in the matching. In order to achieve one industry code for each entrepreneur, we chose the 2-digit NACE code reported for the first firm in the portfolio of firms owned.

4.5. Matching Procedure

We first carried out a logistic regression to identify differences between entrepreneurs who used direct and staged entry to self-employment. The analysis revealed a positive association between age and previous income from wage work and the propensity to use staged entry to self-employment. Men are more likely to use a staged entry approach than women. Being born abroad has no significant effect. The results showed that residents in urban areas were more inclined to use staged entry to self-employment. Entrepreneurs in the finance and real estate industries are also more likely to use staged entry to self-employment.

Based on the results from the logistic regression analysis and subsequent difference test using ANOVA, independent sample t and Chi-square tests, we included all significant variables as the covariates in the PSM. The included

variables are: age, gender, salary in 2004, urban residence and a set of industry dummies.

The treatment variable is binary (1=staged entry, 0=direct entry). Since we have a large number of cases and abundance in the dataset, we performed a one-to-one nearest-neighbor matching. This technique matches each treated case to the single most similar (by propensity score) control case. This is the most straightforward PSM-option (Thoemmes and Kim, 2011). We chose a tight caliper of 0.02 standard deviation of the logit of the estimated propensity score. A caliper is the maximum permitted difference between matched subjects. A tighter caliper can reduce bias and lead to closer matches at the cost of losing cases. Units outside the area of caliper are discarded to improve the balance of covariates.

After the matching, we performed the series of checks. We examined the balance of all observed covariates, their quadratic terms and interactions among covariates. The standardized mean difference of the covariates approached zero (Rubin, 2001). The overall χ^2 balance test is not significant, indicating that no variables or variable combinations are significantly unbalanced after the matching procedure. The relative multivariate imbalance L1 is reduced and lower than 1. After the matching there are no significant mean differences left between the two groups of entrepreneurs. See Table 2.

Table 2. Matching variables and balance diagnostics for matching estimates

	Independent sample t-test				Std. mean diff.	Means hybrids	Means non-hybrids	Std. mean diff.	Means hybrids	Means non-hybrids				
	Original data		Matched data								Original data		Matched data	
	F	t	F	t										
Gender	1.99	-7.705	.512	-.358	.013	.825	.82	.008	.811	.808				
Urban location	152.63***	-7.7***	2.696	.825	.145	.481	.408	-.018	.451	.460				
Salary 04	375.983***	-18.439***	.103	-.562	.283	7.156	5.646	.008	6.166	6.124				
Age	3.962*	-3.6***	2.063	.53	.07	38.63	38.21	-.012	38.32	38.39				
Agriculture	18.168***	2.13*	1.043	.511	-.045	.009	.014	-.012	.011	.012				
Mining	5.2*	-1.14	.739	.43	.02	.006	.004	-.009	.005	.006				
Manufacturing	222.816***	7.37***	.052	.114	-.171	.033	.063	-.003	.037	.038				
Construction	403.9***	9.815***	.55	-.371	-.216	.082	.141	.009	.095	.093				
Trade	149.406***	6.04***	1.49	-.61	-.122	.146	.189	.014	.168	.163				
Transport	43.45***	3.28***	.039	.099	-.065	.106	.126	-.002	.121	.122				
Hotels and restaurants	.239	-.244	2.576	-.802	.005	.029	.028	.018	.033	.030				
Information and communication	4.2*	-1.03	.788	-.444	.019	.046	.042	.01	.052	.050				
Financial services	1456.622***	-18.153***	3.307†	-.909	.251	.079	.011	.01	.019	.016				
Real estate	72.998***	-4.264***	.093	.152	.071	.026	.014	-.003	.020	.021				
Business services	6.42*	1.266	.504	-.355	-.025	.031	.036	.008	.035	.034				
Public services	9.538**	1.542	.300	.274	-.03	.074	.082	-.006	.083	.084				

Note: Sample size original data: N=11,213; matched data: N=8,554. Level of statistical significance: † indicates $p \leq 0.1$; * indicates $p \leq 0.05$; ** indicates $p \leq 0.01$; *** indicates $p \leq 0.001$ (two-tailed).

The industry distribution of the matched sample is as follows: Agriculture 1.1%, mining and extraction 0.6%, manufacturing 4.1%, construction 9.4%, trade 16.9%, transport 12.2%, hotel and restaurant 3.2%, information and communication 5.1%, financial services 1.7%, real estate 2.1%, professional services 32.6%, business services 3.5%, and public services 8.3%.

4.6. Dependent Variables

Table 3 shows the distribution of the dependent variables. The mode, the value that occurs most often, for the duration of self-employment is 2 years and 0 years for hybrid duration after the exit from self-employment. The relatively high number of zeros for hybrid duration can cause problems in the regression used to test Hypothesis 2. We address this and other issues after we present our findings in a separate section where we will report the results from various sensitivity tests.

Table 3. Distribution of the dependent variables

Years	Duration as self-employed		Hybrid duration after the exit from self-employment	
	Staged entry (n=4,277)	Direct entry (n=4,277)	Staged entry (n=1,920)	Direct entry (n=1,796)
0	-	-	664 (34.6%)	834 (46.4%)
1	656 (15.3%)	492 (11.5%)	435 (22.7%)	367 (20.4%)
2	864 (20.2%)	682 (15.9%)	301 (15.7%)	211 (11.7%)
3	699 (16.3%)	599 (14.0%)	170 (8.9%)	113 (6.3%)
4	547 (12.8%)	540 (12.6%)	99 (5.2%)	86 (4.8%)
5	374 (8.7%)	479 (11.2%)	80 (4.2%)	58 (3.2%)
6	265 (6.2%)	320 (7.5%)	58 (3.0%)	39 (2.2%)
7	220 (5.1%)	280 (6.5%)	51 (2.7%)	27 (1.5%)
8	175 (4.1%)	216 (5.1%)	33 (1.7%)	20 (1.1%)
9	182 (4.3%)	233 (5.4%)	17 (0.9%)	15 (0.8%)
10	154 (3.6%)	186 (4.3%)	12 (0.6%)	15 (0.8%)
11	141 (3.3%)	134 (3.1%)	0	11 (0.6%)
12	0	116 (2.7%)	-	-

5. Results

5.1. Testing of Hypotheses

Entrepreneurs who enter into self-employment early are likely to survive longer as self-employed within the given observation period than entrepreneurs who become self-employed in later years. We therefore include the first year of self-

employment as a control variable when testing Hypothesis 1 and estimating the effect of entry mode on self-employment duration. Similarly, entrepreneurs who exit from self-employment early are likely to survive longer as business owners (again, within the observation period) than entrepreneurs who exit from self-employment in later years. Therefore, we control for the year of exit from self-employment when testing Hypothesis 2 and estimating the effect of entry mode on hybrid duration after the exit from self-employment. We first test the hypotheses by entering a dummy variable indicating the use of staged entry to self-employment, then by substituting the dummy variable by a continuous variable of hybrid duration prior to becoming self-employed.

As shown in Table 4, Hypothesis 1 concerning the (negative) association between staged entry and duration as self-employed is supported (at $p \leq 0.001$) when using the dummy variable for staged entry as well as when using the continuous variable for hybrid duration prior to self-employment. Hypothesis 2, regarding the (positive) association between staged entry and duration as business owner after exit from self-employment, is also supported (at $p \leq 0.001$) when using the dummy variable for staged entry and when using the continuous hybrid duration variable.

Table 4. Durations as self-employed and as business owner after exit from self-employment

	Duration as self-employed (n=8,554)		Hybrid duration after the exit from self-employment (n=3,716)	
	M1	M2	M3	M4
First year as self-employed	-0.542*** (-59.335)	-0.537*** (-58.072)	-	-
Last year as self-employed	-	-	-0.278*** (-17.449)	-0.284*** (-17.822)
Staged entry	-0.040*** (-4.425)	-	0.108*** (6.706)	-
Hybrid duration prior to self-employment	-	-0.045*** (-4.896)	-	0.112*** (6.995)
Adj. R Square	0.301	0.301	0.081	0.082
F Change	1839.147***	1843.276***	165.675***	167.149***

Note: The coefficients reported are standardized betas and t-values are reported in parentheses. Level of statistical significance: † indicates $p \leq 0.1$; * indicates $p \leq 0.05$; ** indicates $p \leq 0.01$; *** indicates $p \leq 0.001$ (two-tailed).

5.2. Sensitivity Tests

We carried out several sensitivity tests by changing our definitions of hybrid entrepreneurs and the self-employed, by testing the hypotheses after including additional control variables, and by investigating the effect of interactions.

Our categorization of individuals into hybrids and self-employed is made on an annual basis. Business creation is a time-consuming process where events such as the formation of a legal entity and entry to self-employment can be months apart. Direct entry to self-employment is therefore more likely to occur when individuals become business owners early in the year than late in the year. We therefore divided hybrids into “true hybrids” with minimum 2 years as hybrids before entry to self-employment and “annuals” who only spend only one year as hybrids before entry to self-employment. When replacing our original hybrid variable with the “true hybrid” variable, the support for the two hypotheses was strengthened.

Instead of requiring hybrid entrepreneurs to be owners of incorporated firms, we coded hybrids as owners of sole proprietorship prior to entry to incorporated self-employment. This alternative definition of hybrid entrepreneurs did not change our findings much. Not all registered firms are active firms with economic transactions. We therefore checked whether the results were sensitive to economic activity in the business. We changed our definition of hybrid entry by requiring hybrids to own businesses with economic activity showing profits or losses before becoming self-employed and required businesses to have economic transactions after exit from self-employment. Again, this alternative definition of hybrid entrepreneurs and business ownership after exit from self-employment did not change our results noticeably.

Information about individuals’ main employer and business ownership enables us to distinguish between the self-employed and hybrid entrepreneurs each year. In our sample of former self-employed, 1,498 of 3,716 cases (40.3%) exit from self-employment and business ownership the same year and thereby score zero on the variable “hybrid duration after exit from self-employment”. Since closing incorporated firms involves bureaucratic processes and takes time, most entrepreneurs lose the income from their businesses before their businesses are removed from government registers. We therefore carried out an alternative test of H2 by adding a constant (10) to all scores on the dependent variable “hybrid duration after exit from self-employment” followed by log transformation. The results were almost identical to those reported in Table 4. H2 still received strong support (at $p \leq 0.001$).

We also altered our coding of the self-employed by checking for the existence of holding companies. Some business owners, perhaps particularly successful self-employed, can for organizational and tax reasons establish holding companies. This can be done in different ways, but one common practice is to establish a new company that purchases the shares of the original firm. If this occurs, the entrepreneur is no longer direct owner of the original firm, but only indirect owner through the holding company. Therefore, we adjusted the number of years as self-employed by adding years in which the main employer remains the same as in the last year of direct majority ownership of the main employer and the entrepreneur is a majority owner of another firm. This other firm is likely to

be the new holding company. The results from the testing of hypotheses were practically the same as before.

We also checked whether the hypotheses were supported in regression analyses after including additional control variables. This included the variables used in the Propensity Score Matching into the regressions as well as controlling for Management Buy-Outs (MBOs), situations where a firm employee later becomes the majority owner of the firm. While the hypotheses still received support, the results indicated that some of the control variables had a significant effect on the duration variables. For example, older entrepreneurs and MBO-entrepreneurs have significantly longer duration as self-employed than other entrepreneurs. Entrepreneurs in the construction, trade, IT and public service industries have longer duration as self-employed, while the hotel/restaurant industries are associated with shorter duration. Total income in 2004 is associated with longer duration as business owners after the exit from self-employment. Entrepreneurs who were self-employed in the transport industry are not likely to continue as business owners for a very long time after the exit from self-employment.

Finally, we checked whether interactions between the variables had any significant effect on the duration variables. The most interesting interactions turned out to be between entry mode and industry. The interaction between staged entry and industry was positively significantly associated (at $p \leq 0.05$) with duration as self-employed in the public service industry, marginally positively (at $p \leq 0.1$) in the trade industry, and significantly negatively associated (at $p \leq 0.05$) with duration as self-employed in the hotel and restaurant industry and in the financial service industry. With duration as business owners after the exit from self-employment as the dependent variable, the interaction between staged entry and industry was significantly negative for the sectors trade and construction, and for the hotel and restaurant industry (at $p \leq 0.01$).

6. Discussion

6.1. Summary of Findings

In this study we find that entrepreneurs who use staged entry to self-employment have shorter durations as self-employed, but longer durations as business owners after the exit from self-employment.

The present study answers the calls for further research on more robust evidence of the outcomes from staged entry to self-employment (Folta et al., 2010; Raffiee and Feng, 2014; Rouchy et al., 2021; Schulz et al., 2016; Xi et al., 2018). This study also extends commitment theory into the domain of hybrid entrepreneurship. The methodological contribution of this research concerns the

focus on novice entrepreneurs who are majority owners of incorporated firms, the sensitivity analysis where we check the effect of changing our definitions of hybrid entrepreneurs and the self-employed, and the use of Propensity Score Matching to control for self-selection between staged and direct entry to self-employment.

The results reported here with regard to the association between staged entry and the odds of survival as self-employed are similar to those of Wennberg et al. (2006), but notably different from those reported by Raffiee and Feng (2014). Raffiee and Feng's (2014) study differs from the present study with regard to the data (survey data versus tax authority data), the unit of analysis (spells versus individuals), sample size (2,198 spells versus 8,554 self-employed entrepreneurs), dependent variable (spell duration versus self-employment), and the inclusion of all entrepreneurs versus majority owners of incorporated firm. All of these issues can have contributed to the contradictory results, but the latter point is perhaps particularly important. Raffiee and Feng's (2014) approach allows hybrids and self-employed to be owners of the same business. It is probably easier to enter into self-employment if the firm already is an ongoing operation run by another member of the entrepreneurial team.

6.2. Limitations and Suggestion for Future Research

This study has several limitations, several of which open avenues for future research. Commitment is central in our theoretical reasoning, but we have no direct measures of this concept. Future research is needed to check our assertion that entrepreneurs who use a staged entry approach to self-employment have lower initial commitment to their careers as self-employed than entrepreneurs who become self-employed directly from paid employment.

While the findings we report are consistent with commitment theory, there are several other theoretical perspectives that could lead to similar hypotheses and increase our understanding of the advantages and disadvantages of different entry modes to self-employment. There might be a lot of potential theoretical perspectives that interact, opening intriguing paths forward conceptually. Examples include motivation theory, learning and revelation mechanisms, theories of exposure, human capital development, and opportunity cost reasoning.

In our analysis we require the self-employed to be majority owners of their businesses. It is possible that some of the entrepreneurs have not exited from business ownership, but simply have reduced their ownership share and are therefore no longer self-employed according to our definition.

We cannot be certain that we have included all relevant control variables. Unfortunately, the tax Norwegian authority has no information about education. Since education in Norway is free, controlling for education in the present

circumstances is probably less important than it would be in studies from other countries. Moreover, we believe that requiring all participants to be minimum 25 years old in 2004 has reduced the need to include education as a control variable. Since most students have completed their formal education when 25, much of the education effect is accounted for by our measure of income in 2004. We were able to control for MBOs, but not for management buy-ins and other forms of acquisitive entries to business ownership. This is relevant because acquired firms are likely to survive longer than de novo entries. Further, we did not control for franchising. Franchisors survive longer than independent businesses (Lafontaine et al., 2019). We did not control for “necessity” or “opportunity” entrepreneurship, but argue that that is less important as “necessity” entrepreneurship is not very common in Norway and other countries in Western Europe. We did try out several other control variables, which turn out to be noise only. Examples include marital status and number of children in the household.

We would like to encourage researchers to replicate this study in their countries to examine how the limitations of this study may have influenced the results. Our research design prevented us from studying entrepreneurial teams, and hybrid entrepreneurship in teams is a promising research area. Habitual entrepreneurs also deserve future research attention. This is not an easy topic as multiple business owners often organize their portfolio of firms in a hierarchy consisting of one or several holding companies and daughter companies. A further complication is that the entrepreneur’s ownership share in each of these firms can vary.

6.3. Implications

The research has several practical implications. Staged entry to self-employment appears to be less risky than direct entry. It is therefore important for entrepreneurs who decide to enter into self-employment directly from paid employment to consider strategies that can reduce the risk involved. They should have realistic budgets and make sure that there is sufficient demand for their products and services. It is important that their businesses can afford to compensate the owners with a satisfactory salary. It is also important that the businesses have sufficient equity capital at start-up. Under-capitalization of new firms is a well-known problem (Schäfer and Talavera, 2009), which seems to be more common among entrepreneurs with limited financial resources (Frid et al., 2016). Entrepreneurs who enter into self-employment directly should also be aware of the possibility that their businesses will not perform according to their expectations and prepare for that possibility.

Choi and associates (Choi and Shepherd, 2004; Choi et al., 2008) developed a theory of the timing of exploitation. According to this theory, innovative entrepreneurs should delay exploitation of the opportunity in order to accumulate knowledge. Staged entry to self-employment is therefore particularly relevant for

entrepreneurs with novel business ideas, but most new firms are imitative (Davidsson and Steffens, 2011; Koellinger, 2008). McGrath (1999) argues that uncertainty can be resolved if the opportunity is pursued by a team of entrepreneurs. It is therefore possible that hybrid entrepreneurs should find partners with previous business ownership and industry experience. Partners can often extend the relevant social network and are likely to specify more demanding goals and growth aspirations for the business (McGrath, 1999).

7. Conclusion

The present study contributes to the entrepreneurship literature by using a coherent theoretical grounding and providing empirical support for the hypotheses. The study suggests that individuals who choose staged entry to self-employment form initial instrumental bonds to their careers as self-employed, reducing their duration as self-employed, but enabling them to continue as hybrid entrepreneurs after the exit from self-employment.

The possibility to combine business ownership with salaried employment motivates many individuals to pursue entrepreneurial opportunities. The digitalization of the society appears to have resulted in an increasing number of hybrid entries, since new working models allow more flexible schedules for work and learning. Folta et al. (2010) and Petrova (2012) argue that hybrid entrepreneurship represents a growing and independent category in the labor market, which should be recognized by researchers and support systems. Hybrids can hire others to manage their business and some hybrids become multiple business owners. Hybrids can also make important contributions to corporate venturing and innovative strategies in established organizations. Because so many firms are owned by hybrids, they are important to the economy. All of these factors contribute to the importance of research on hybrid entrepreneurs.

References:

- Amit, R., Muller, E. and Cockburn, I. (1995), "Opportunity costs and entrepreneurial activity", *Journal of Business Venturing*, 10(2): p 95-106.
- Austin, P.C. (2008), "A critical appraisal of propensity score matching in the medical literature between 1996 and 2003", *Statistics in Medicine*, 27(12): p 2037-2049.
- Austin, P.C. (2011), "An introduction to propensity score methods for reducing the effects of confounding in observational studies", *Multivariate Behavioral Research*, 46(3): p 399-424.
- Becker, G.S. (1993), *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education* (Third ed.). Chicago, IL: University of Chicago Press.
- Block, J.H. and Landgraf, A. (2016), "Transition from part-time entrepreneurship to full-time entrepreneurship: The role of financial and non-financial motives", *International Entrepreneurship and Management Journal*, 12(1): p 259-282.
- Bögenhold, D. (2019), "Are hybrids the new normal? A labour market perspective on hybrid self-employment", *International Review of Entrepreneurship*, 17(4): p 429-448.
- Bögenhold, D. and Klinglmair, A. (2016), "Independent work, modern organizations and entrepreneurial labor: Diversity and hybridity of freelancers and self-employment", *Journal of Management and Organization*, 22(6): p 843-858.
- Brown, T.E. and Farshid, M. (2017), "To grow or not to grow, that is the question", *Entreprendre & Innover*, 2017(3): p 29-37.
- Burke, A.E., FitzRoy, F.R. and Nolan, M.A. (2008), "What makes a die-hard entrepreneur? Beyond the 'employee or entrepreneur' dichotomy", *Small Business Economics*, 31(2): p 93-115.
- Campion, E.D., Caza, B.B. and Moss, S.E. (2020), "Multiple jobholding: An integrative systematic review and future research agenda", *Journal of Management*, 46(1), p 165-191.
- Cheraghi, M. and Simarasl, N. (2021), "Age effects on entry into entrepreneurship of the unemployed, employed and self-employed", *International Journal of Entrepreneurship and Small Business*, 42(3): p 259-281.
- Chirita, G.M. (2017), "Mainstream or incidental phenomenon overlooked by public policy? The case of Quebec", *Entreprendre & Innover*, 2017(3): p 20-28.
- Choi, Y.R., Lévesque, M. and Shepherd, D.A. (2008), "When should entrepreneurs expedite or delay opportunity exploitation?", *Journal of Business Venturing*, 23(3): p 333-355.
- Choi, Y.R. and Shepherd, D.A. (2004), "Entrepreneurs' decisions to exploit opportunities", *Journal of Management*, 30(3): p 377-395.
- Davidsson, P. and Steffens, P. (2011), "Comprehensive Australian Study of Entrepreneurial Emergence (CAUSEE): Project presentation and early results", in: Reynolds, P.D. and R.T. Critin (eds.), *New Business Creation. An International Overview*. New York, NY: Springer, p 27-51.
- Demir, C., Werner, A., Kraus, S. and Jones, P. (2020), "Hybrid entrepreneurship: A systematic literature review", *Journal of Small Business & Entrepreneurship*, forthcoming. First published online 30 July 2020.
- Dzomonda, O. and Fatoki, O. (2018), "Demystifying the motivations towards hybrid entrepreneurship among the working populace in South Africa", *Academy of Entrepreneurship Journal*, 24(4): p 1-9.
- Elert, N., Andersson, F.W. and Wennberg, K. (2015), "The impact of entrepreneurship education in high school on long-term entrepreneurial performance", *Journal of Economic Behavior & Organization*, 111: p 209-223.
- Erikson, T. (2002), "Entrepreneurial capital: The emerging venture's most important asset and competitive advantage", *Journal of Business Venturing*, 17(3): p 275-290.
- Fagforbundet. (2004), "Tariffoppgjøret 2004", *Tariffinfo*, 2004(4).
- Farooq, M. and Talib, N. (2019), "Hybrid entrepreneurial intention: A comparative study of public and private sector employees", *Journal of Research in Psychology*, 1(1): p 21-26.
- Ferreira, C.C. (2020), "Experiential learning theory and hybrid entrepreneurship: Factors influencing the transition to full-time entrepreneurship", *International Journal of Entrepreneurial Behavior & Research*, 26(8): p 1845-1863.

- Ferreira, C.C., Ferguson, S.L. and Pitt, L.F. (2019), "Entrepreneurial marketing and hybrid entrepreneurship: The case of JM Reid Bamboo Rods", *Journal of Marketing Management*, 35(9-10): p 867-885.
- Folta, T.B., Delmar, F. and Wennberg, K. (2010), "Hybrid entrepreneurship", *Management Science*, 56(2): p 253-269.
- Frid, C.J., Wyman, D.M., Gartner, W.B. and Herchavarria, D.H. (2016), "Low-wealth entrepreneurs and access to external financing", *International Journal of Entrepreneurial Behavior & Research*, 22(4): p 531-555.
- Gimeno, J., Folta, T.B., Cooper, A.C. and Woo, C.Y. (1997), "Survival of the fittest? Entrepreneurial human capital and the persistence of underperforming firms", *Administrative Science Quarterly*, 42(4): p 750-783.
- Gruenert, J.C. (1999), "Second job entrepreneurs", *Occupational Outlook Quarterly*, 43(3): p 18-26.
- Grunwald, H.E. and Mayhew, M.J. (2008), "Using propensity scores for estimating causal effects: A study in the development of moral reasoning", *Research in Higher Education*, 49(8): p 758-775.
- Guo, F., Restubog, S.L.D., Cui, L., Zou, B. and Choi, Y. (2019), "What determines the entrepreneurial success of academics? Navigating multiple social identities in the hybrid career of academic entrepreneurs", *Journal of Vocational Behavior*, 112, p 241-254.
- Indudewi, F.Y.R. (2015), "Success factors of hybrid entrepreneurs: Case study of Universitas Ciputra Academician", *Mediterranean Journal of Social Sciences*, 6(5 S5): p 84-90.
- Jenkins, A.S., Wiklund, J. and Brundin, E. (2014), "Individual responses to firm failure: Appraisals, grief, and the influence of prior failure experience", *Journal of Business Venturing*, 29(1): p 17-33.
- Kahneman, D. and Tversky, A. (1979), "Prospect theory: An analysis of decisions under risk", *Econometrica*, 47(2): p 263-292.
- Kahneman, D., Slovic, P. and Tversky, A. (eds.). (1982), *Judgment under Uncertainty: Heuristics and Biases*. Cambridge, MA: Cambridge University Press.
- Klein, H.J., Molloy, J.C. and Brinsfield, C.T. (2012), "Reconceptualizing workplace commitment to redress a stretched construct: Revisiting assumptions and removing confounds", *Academy of Management Review*, 37(1): p 130-151.
- Klyver, K., Steffens, P. and Lomberg, C. (2020), "Having your cake and eating it too? A two-stage model of the impact of employment and parallel job search on hybrid nascent entrepreneurship", *Journal of Business Venturing*, 35(5), article 106042.
- Koellinger, P. (2008), "Why are some entrepreneurs more innovative than others?", *Small Business Economics*, 31(1): p 21-37.
- Kritskaya, L., Kolvereid, L. and Isaksen, E.J. (2017), "Hybrid entrepreneurs: Characteristics and achievements", *Entreprendre & Innover*, 2017(3): p 7-19.
- Kupferberg, F. (1998), "Humanistic entrepreneurship and entrepreneurial career commitment", *Entrepreneurship & Regional Development*, 10(3): p 171-188.
- Kurczewska, A., Mackiewicz, M., Doryn, W. and Wawrzyniak, D. (2020), "Peculiarity of hybrid entrepreneurs—revisiting Lazear's theory of entrepreneurship", *Journal of Business Economics and Management*, 21(1): p 277-300.
- Lafontaine, F., Zapletal, M. and Zhang, X. (2019), "Brighter prospects? Assessing the franchise advantage using census data", *Journal of Economics & Management Strategy*, 28(2): p 175-197.
- Lancaster, T. (1979), "Econometric methods for the duration of unemployment", *Econometrica*, 47(4): p 939-956.
- Lomberg, C., Thiel, J. and Steffens, P. (2019), "The hare and the tortoise: The impact of action-versus state-orientation on entrepreneurial progress and persistence", *International Small Business Journal*, 37(6): p 604-625.
- Luc, S., Chirita, G.M., Delvaux, E. and Kepnou, A.K. (2018), "Hybrid entrepreneurship: Employees climbing the entrepreneurial ladder", *International Review of Entrepreneurship*, 16(1): p 89-114.

- Marshall, D.R., Davis, W.D., Dibrell, C. and Ammeter, A.P. (2019), "Learning off the job: Examining part-time entrepreneurs as innovative employees", *Journal of Management*, 45(8): p 3091-3113.
- McCann, B.T. and Folta, T.B. (2008), "Location matters: Where we have been and where we might go in agglomeration research", *Journal of Management*, 34(3): p 532-565.
- McGrath, R.G. (1997), "A real options logic for initiating technology positioning investments", *Academy of Management Review*, 22(4), p 974-996.
- McGrath, R.G. (1999), "Falling forward: Real options reasoning and entrepreneurial failure", *Academy of Management Review*, 24(1): p 13-30.
- McGrath, R.G. and Nerkar, A. (2004), "Real options reasoning and a new look at the R&D investment strategies of pharmaceutical firms", *Strategic Management Journal*, 25(1), p 1-21.
- Melillo, F., Folta, T.B. and Delmar, F. (2013), "What determines the initial size of new ventures?", Paper presented at DRUID Celebration Conference 2013, June 17-19, Barcelona, Spain.
- Meyer, J.P. and Herscovitch, L. (2001), "Commitment in the workplace: Toward a general model", *Human Resource Management Review*, 11(3): p 299-326.
- Meyer, J.P., Morin, A.J. and Vandenberghe, C. (2015), "Dual commitment to organization and supervisor: A person-centered approach", *Journal of Vocational Behavior*, 88: p 56-72.
- Nordström, C., Sirén, C.A., Thorgren, S. and Wincent, J. (2016), "Passion in hybrid entrepreneurship: The impact of entrepreneurial teams and tenure", *Baltic Journal of Management*, 11(2): p 167-186.
- Petrova, K. (2010), "Part-time entrepreneurship, learning and ability", *Journal of Management Policy and Practice*, 12(1): p 64-75.
- Petrova, K. (2012), "Part-time entrepreneurship and financial constraints: Evidence from the Panel Study of Entrepreneurial Dynamics", *Small Business Economics*, 39(2): p 473-493.
- Pollack, J.M., Carr, J.C., Michaelis, T.L., and Marshall, D.R. (2019), "Hybrid entrepreneurs' self-efficacy and persistence change: A longitudinal exploration", *Journal of Business Venturing Insights*, 12: article e00143.
- Paunescu, C. and Rosu, R. (2017), "Propensity for hybrid entrepreneurship among females", *Entrepreneur & Innover*, 2017(3): p 38-49.
- Raffiee, J. and Feng, J. (2014), "Should I quit my day job? A hybrid path to entrepreneurship", *Academy of Management Journal*, 57(4): p 936-963.
- Rosenbaum, P. and Rubin, D. (1983), "The central role of the propensity score in observational studies for causal effects", *Biometrika*, 70(1): p 41-55.
- Rosenbaum, P. and Rubin, D. (1984), "Reducing bias in observational studies using subclassification on the propensity score", *Journal of the American Statistical Association*, 79(387): p 516-524.
- Rosenbaum, P. and Rubin, D. (1985), "The bias due to incomplete matching", *Biometrics*, 41: p 106-116.
- Rouchy, P., Tavassoli, S. and Wernberg, J. (2021), "Heterogeneous hybrid entrepreneurs—framing the variation in entrepreneurial effort and motives for hybrid entrepreneurship", *International Journal of Entrepreneurship and Small Business*, 42(1-2): p 115-129.
- Rubin, D.B. (2001), "Using propensity scores to help design observational studies: Application to the tobacco litigation", *Health Services and Outcomes Research Methodology*, 2(3-4): p 169-188.
- Schäfer, D. and Talavera, O. (2009), "Small business survival and inheritance: Evidence from Germany", *Small Business Economics*, 32(1): p 95-109.
- Schulz, M., Urbig, D. and Procher, V. (2016), "Hybrid entrepreneurship and public policy: The case of firm entry deregulation", *Journal of Business Venturing*, 31(3): p 272-286.
- Schulz, M., Urbig, D. and Procher, V. (2017), "The role of hybrid entrepreneurship in explaining multiple job holders' earnings structure", *Journal of Business Venturing Insights*, 7: p 9-14.
- Simoes, N., Crespo, N. and Moreira, S.B. (2016), "Individual determinants of selfemployment entry: What do we really know?", *Journal of Economic Surveys*, 30(4): p 783-806.
- Tang, J. (2008), "Environmental munificence for entrepreneurs: Entrepreneurial alertness and commitment", *International Journal of Entrepreneurial Behavior & Research*, 14(3): p 128-151.

- Thoemmes, F. and Kim, E.S. (2011), "A systematic review of propensity score methods in the social sciences", *Multivariate Behavioral Research*, 46(1): p 90-118.
- Thorgren, S., Nordstrom, C. and Wincent, J. (2014), "Hybrid entrepreneurship: The importance of passion", *Baltic Journal of Management*, 9(3): p 314-329.
- Thorgren, S., Siren, C., Nordstrom, C. and Wincent, J. (2016), "Hybrid entrepreneurs' second-step choice: The nonlinear relationship between age and intention to enter full-time entrepreneurship", *Journal of Business Venturing Insights*, 5: p 14-18.
- Ucbasaran, D., Westhead, P., Wright, M. and Flores, M. (2010), "The nature of entrepreneurial experience, business failure and comparative optimism", *Journal of Business Venturing*, 25(6): p 541-555.
- Viljamaa, A. and Varamaki, E. (2015), "Do persistent and transitory hybrid entrepreneurs differ?", *International Journal of Economics and Management Engineering*, 9(3): p 936-940.
- Viljamaa, A., Varamaki, E. and Joensuu-Salo, S. (2017), "Best of both worlds? Persistent hybrid entrepreneurship", *Journal of Enterprising Culture*, 25(4): p 339-359.
- Wennberg, K., Folta, T.B. and Delmar, F. (2006), "A real options model of stepwise entry into self-employment", in: A. Zacharakis (Ed.), *Frontiers of Entrepreneurship Research 2006*, Babson Park, MA: Babson College, p 119-132.
- Xi, G., Block, J.H., Lasch, F., Robert, F. and Thurik, R. (2018), "Mode of entry into hybrid entrepreneurship: New venture start-up versus business takeover", *International Review of Entrepreneurship*, 16(2): p 217-240.

