Home-Based Self-Employment: Combining Personal, Household and Employment Influences

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Abstract

Despite the significant economic, innovative and social contributions of home-based self-employment, it is an under researched and under theorised area. We address this gap by drawing

from established entrepreneurial theory to propose and validate a more complete theoretical model that combines personal, household and employment influences. We validate our proposed model by drawing on quantitative data from a large-scale, longitudinal, UK-based, social studies dataset. Our validated model demonstrates how and why antecedent and current household and employment factors, but not personal factors, associated with being home-based interact and provide constitutive affordances that result in a setting for self-employment that is unique in more fundamental ways than simply the home location of the business. Despite being responsible for some of the world's most innovative and successful businesses, home-based businesses are often denigrated as lacking ambition or growth potential. The results of our analysis vindicate the choices of the home-based self-employed, by demonstrating that basing a business in the home is a rational choice based on an intersection of household and employment characteristics. The data used in this study predates the COVID-19 pandemic. However, it is expected that home-based self-employment will grow significantly following the pandemic, both in response to increasing acceptance of home-working and as a result of increased unemployment. It therefore behoves entrepreneurship scholars to have a robust understanding of this previously over-looked type of self-employment if we are to be able to provide guidance to policy makers and self-employment support services.

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Introduction

There has been considerable growth in home-based self-employment over the last decade (BIS, 2014; Mason et al., 2015; Price and Reuschke, 2019), fuelled by factors such as the 2008 global economic down-turn, widespread organizational restructuring/delayering, as well as the creation of new self-employment opportunities, involving, among others, knowledge workers increasingly making use of ICT in order to develop home-businesses at low cost (Betts & Huzey, 2009; Burke, 2015) and the increasing casualization of many sectors, often termed the 'gig-economy' (Poon, 2019; Healy, 2017). It is expected that there will be similar significant and rapid growth in this important segment of entrepreneurship following the COVID-19 pandemic, which has combined growing legitimisation of working at home with significant increases in unemployment that will prompt a move to self-employment (Bell and Blanchflower, 2020; Lim et al., 2020). Home-based self-employment is important as it has been associated with increased business diversity and innovation (van Gelderen et al., 2008) and widening entrepreneurial opportunity (Vorley and Rodgers, 2014; Daniel et al., 2015). Its significance is evidenced by global firms such as HP, Google, Microsoft and Facebook, which started in homes or associated buildings. However, despite their prevalence and recognised contributions, home-based self-employment is accorded less attention and respect than that based in commercial premises (Singh and Lucas, 2005), and is often referred to in disparaging terms such as life-style, pink-collar or kitchen table self-employment (Walker and Webster, 2004). In part due to its association with female self-employment, it is often viewed as 'lacking and incomplete' (Ahl and Marlow, 2012) compared to other forms of self-employment.

Home-based businesses are highly heterogeneous (Kapasi and Galloway, 2018). They span those where the home is a fundamental part of the business offering, such as bed and breakfast and home-based childcare (Di Domenico, 2008; Vorley and Rodgers, 2014) to those where the home-setting is a convenient and low-cost work-location, such as knowledge-based workers

(Phillips, 2002; Nansen et al., 2010). However, home-based businesses also have similarities, such as allowing reduced risk due to low start up and operating costs, experimentation (van Gelderen et al., 2008; Mills and Pawson, 2006) and challenges of constructing and repeatedly navigating family and household boundaries (Nansen et al., 2010).

Previous studies have included a number of variables when exploring influences on home-based self-employment. However, these studies remain atheoretical in that they do not draw on theory to explain the theoretical 'why' or 'how' (Reay and Whetten, 2011) the variables identified operate either individually or intersectionally to enable the ongoing operation of home-based self-employment compared to self-employment in other locations. This study makes an empirical and theoretical contribution. It makes an empirical contribution by including a set of variables that cover the full range of the phenomenon of interest: home/household, self (personal) and employment. Previous studies have been descriptive (e.g. Mason et al., 2011), have drawn variables from one or two of these areas (e.g. Price and Reuschke, 2019) or are comparing different groups or outcomes (e.g. van der Zwan et al., 2020) . It makes a theoretical contribution by drawing on extant entrepreneurial theories to develop the initial model and importantly, to provide a theoretical explanation for the empirically validated model. Empirical data is drawn from a large-scale, longitudinal UK sociological dataset and subject to multivariate analysis. The data used was collected in 20176 and made available for analysis in 2017. It therefore predates the COVID-19 pandemic. It is expected that home-based self-employment will grow significantly following the pandemic. The model validated by this study will provide a theoretical starting point and comparator for future studies.

The paper commences with a review of prior studies of home-based self-employment and discussion of theories of self-employment relevant to the home-based self-employment context. These are brought together to derive a proposed theoretical model of the motivations and processes that distinguish home-based self-employment from self-employment in other locations and to identify the variables used to validate the model. Information is provided on the dataset, sample, operationalization of variables and statistical analysis undertaken. The findings are presented together with a discussion of how they relate to and extend existing understanding of home-based self-employment. The paper concludes by proposing a refined version of our theoretical model. Implications for policy and practice are also discussed.

Home-Based Self-Employment Literature

The term self-employment describes all those who run a '*business for themselves and take responsibility for its success or failure*' (UK Gov, 2021). Definitions for entrepreneurship require business ownership but also add the requirement of '*identifying and exploiting new products, processes or markets'* (OECD-Eurostat, 2009 cited in Blundel and Lockett, 2011 p.5). Hence, while all entrepreneurs can be self-employed, we recognise that not all self-employed may be entrepreneurs. However, identifying the boundary is challenging and subjective. Studies have identified both similarities and differences between the groups (e.g. Szaban and Skrzek-Lubasińska, 2018), but challenges remain in practice, particularly for large datasets, for example classification is based upon approximate proxies such as being incorporated or not (Levine and Rubinstein, 2018). Many studies therefore include the larger and more certain category of self-employment to provide insights on entrepreneurship (Henley, 2007; Reuschke, 2019), while recognising that, like relying on proxies this will result in conflation of the two groups. We adopt this approach in this study.

Home-based self-employment is defined by Mason et al., (2011 p.629) as '*any business entity engaged in selling products or services into the market operated by a self-employed person, with or without employees, that uses residential property as a base from which its operation is run'.* A distinction can be made between home-based businesses where the majority of the work is undertaken at home and those where work is undertaken away from home. However, in many studies these are combined (e.g. Mason et al., 2011; Price and Reuschke, 2019). Home-based businesses include diverse activities such as craft production, personal and professional services, hospitality, care services and trades such as carpentry and plumbing (Berke, 2003; Felstead et al., 2005).

Newer and growing forms of self-employment such as freelancers are contributing to increases in home-based self-employment (Öberg 2018; Burke and Cowling, 2020; Millán et al., 2020; van der Zwan et al., 2020). Freelancers are skilled solo self-employed who sell their knowledge and experience to companies, (Van den Born and Van Witteloostuijn, 2013) and have been found to be the most likely to work from home compared to other self-employed (van der Zwan et al., 2020). Such freelancers demonstrate the importance of the home-based self-employed, both at the institutional and personal levels and hence the need to study this type of employment. Freelancers have been shown to positively contribute to the economy, with an increase in the number of freelancers associated with increased entrepreneurial activity (Burke et al. 2020). At the personal level, freelancers have been shown to have equal life satisfaction to other self-employed, which is higher than employees, but to have a significantly greater satisfaction with their leisure time (van der Zwan et al., 2020). It was suggested that this is due to *'the high flexibility that freelancers enjoy in terms of work place (home-based) …. and work rhythm'* (p.486).

While freelancers are likely to have self-selected self-employment, the 'involuntary' self-employed also contribute to the numbers of home-based self-employed (Kautonen et al. 2010). These involuntary self-employed are diverse and include those that have been outsourced by their former employer, the pseudo-self-employed such as hairdressers renting a chair within a salon, and those who would like to be employees but are participating in the gig-economy as a stop-gap (Kautonen et al. 2010). The motives for many of these arrangements are for employers to avoid employment costs and obligations. Many of those operating in the gig economy will be operating through online platforms and hence will have no other premises to base their work than their home, whether this is convenient or not (Petriglieri et al., 2019). While those providing transport and delivery through online platforms will be on the road, their homes will be where they are required to store work related resources and will be an important part of registration and approval. For other platform-based work, such as AmazonTurk and People Per Hour, which offer unskilled or routine clerical work, the self-employment will be based at home (Lehdonvirta, 2018). The outcomes for these self-employed are more complex than those reported for freelancers. Whilst this employment starts as involuntary and has the poorer outcomes associated with necessity self-employment (Healy et al., 2017), over time it can become voluntary and provide benefits both to the individual and contribute to the flexible workforce that enables greater entrepreneurial activity (Burke et al., 2020).

The simultaneous growth of both skilled, voluntary home-based self-employment, represented by freelancers, and unskilled, involuntary home-based self-employment represented by much of the gig and platform economy, underscore the importance and diversity of this form of self-employment. This dichotomy is consistent with the predictions of Charles Handy (1989) that the future of work will consist of employees, skilled freelancers and those doing routine jobs

and also the observations that self-employed incomes are highly polarised with some making significant earnings and others earning much less than equivalent employees (Meager, 2015).

Theoretical perspectives of home-based self-employment

Given their range and proven utility of extant theories self-employment and entrepreneurship, it is appropriate to draw on these as a starting point for theorising home-based self-employment. Extant studies of home-based businesses, and the wider field of home-based working, highlight the diffuse boundaries between work and home life (Baines, 2002; Laegran, 2008; Di Domenico et al., 2014), suggesting the need to adopt an embedded view when theorising home-based businesses. Socially embedded theories of self-employment and entrepreneurship highlight the mutually constitutive interaction of context on an individual and their self-employment; and how that individual and employment also affects the context in which they operate (Jones and Ram, 2007; Kloosterman, 2010). Embeddedness can be considered at multiple spatial levels: home, neighborhood, national or global (Barrett et al., 2001; Wang, 2013). It can also be considered on relational bases, such as embeddedness in families or social networks, which may or may not align with spatial distributions. We draw on social embedded theories to suggest that the context, in particular the household will influence who is attracted or able to become home-based self-employed and the nature of the type of employment that they can undertake. We use the term household, rather than home, in order to reflect wider notions of social embeddedness than simply the physical dwelling place, such as social connections to and of other members of the household that stretch beyond the physical spatiality of the home (Carter, 2011).

The role of resources, which includes assets, capabilities and competences, to firm start up, operation and success are addressed by the broadly based resource-based view (RBV) of the firm (Grant, 1991; Teece, 2014). Whilst this has been applied widely to large businesses, a resource perspective has also proved insightful in studies of small and micro businesses with extant studies highlighting the importance of resources for self-employment and entrepreneurship (e.g. De Clercq and Honig, 2013; Reuschke and Houston, 2016; Peters et al., 2020; Lim et al., 2020). These include financial assets, such as start up or working capital, premises and other equipment such as production or transportation equipment. Capabilities and competences are also important resources for self-employment (e.g. Woldesenbet et al., 2012). General capabilities derived from higher levels of education are associated with successful self-employment (Roche, 2014) as are specific competences, such as entrepreneurial marketing (Stokes, 2002).

RBV asserts that heterogeneous firm resources allow firms to develop heterogeneous strategic positions, which may include price, quality and innovative positioning (Barney, 1991; Grant, 1991; Teece, 2014). Resources that meet one or more the VRIN characteristics (valuable, rare, non-imitable, non-substitutable) are more likely, other things being equal such as external market demand, to allow strategic positioning that results in successful and sustained competitive advantage (Barney, 1991). An important part of strategic positioning is location of the firm, particularly when this is either derived from or contributes to the VRIN resources of the firm (Li et al., 2016). For example, the success of many recent firms, both small and large, has been based on their strategic positioning online (e.g. Kraus et al., 2019). Success in this location is based upon specific competencies such as providing a compelling website, attracting customers and providing excellent service, in ways that are valuable to the customer and not easily imitated. Location forms an important part of strategic positioning for home-

based self-employment. Obvious examples are home-based hospitality services such as B&B, restaurants and cafes in seaside or countryside locations (Di Domenico, 2008). Locations with a sea-view, for example, are likely to meet most of the VRIN characteristics. The resources required to operate in different locations, such as online or offline, will vary and hence can be considered location dependent (Walsh et al., 2010). The prior literature discussed in the previous section suggests that there are distinctions between the resources required for home-based self-employment and self-employment in other locations. For example, given the lack of loan or investment funding available, the home-based self-employed are required to have their own sources of start-up or working capital funding such as household savings (van Gelderen et al., 2008; Campell and De Nardi, 2009). Suitable levels of unencumbered savings are likely to be limited across the population, and hence somewhat rare and liquid finance is not easily substitutable.

We draw on the resource-based view of self-employment, that includes capabilities, and combine this with the socially embedded perspective, to complete our theorization of home-based self-employment shown in Figure 1. The resources that are available will vary across individuals depending upon factors such as their age and education (Weber and Schaper, 2004; Clark and Drinkwater, 2010). They will also be shaped by the household context (Steier, 2009; Jayawarna et al., 2014; Qian, 2016), for example, financial resources available will be influenced by spousal earnings (Bryant, 2000). Hence the socially embedded and resource perspectives are tightly coupled.

Take in Figure 1 about here.

From the foregoing, we argue that home-based self-employment can be theorized by adopting a combination of both socially embedded and a resource and capability perspectives, with the high degree of mutual constitution being particularly salient in this context. It could be argued that a socially embedded view implicitly includes resources. However, we suggest that in the case of home-based self-employed, explicit recognition of these allow a balance of focus between the individual and their context, which is particularly important when isolation and working alone have been identified as prominent features of home-based self-employment (Daniel et al, 2018).

Our proposed theorization is elaborated by identifying key constructs and the relationships between them. Three *prima facie* constructs are drawn from the term home-based self-employment itself: the home or household, from or within which the business is based, the self (or personal) and the nature the employment. As discussed above, the socially embedded theorization suggests that home or household will shape the type of employment and may determine which individuals can undertake home-based self-employment (Holliss, 2017). Similarly, the individuals and the type of employment will affect the household in which they are embedded (e.g. DiDomenico, 2008). Resources will be shaped at the personal level, but will also affect and be affected by the household and the type of employment (Steier, 2009; Jayawarna et al., 2014; Qian, 2016).

Hypothesis Development

In order to generate hypotheses to guide the empirical state of our study, we draw on extant literature relating to the three constructs (personal, household and employment) shown in

Figure 1. Since there is a limited body of literature addressing home-based self-employment, we also draw on relevant studies of other groups of self-employed.

Personal

Home-based self-employment is often associated with females, prior studies find mixed results. Price and Reuschke (2019) find in the descriptive part of their otherwise inferential study that more home-based businesses are owned by men, which is consistent with the findings of Mason et al. (2011). In contrast, qualitative studies tend to cast home-based businesses as likely to be female with their strong narratives of fit with home and caring (e.g. Walker and Webster, 2004; Ekinsmyth, 2013; Vorley and Rodgers, 2014). This leads us to suggest home-based self-employment will be associated with being female. Whilst self-employment has been found to have a non-linear relationship with age (Henley, 2007; van der Zwan et al., 2020), on average the self-employed have been found to be older than employees (Simoes et al., 2016), leading us to hypothesise an association with age. Prior research provides varying findings of the relationship of education and self-employment. Jayawarna et al. (2014) in their study of all self-employed find no relationship with education, whilst Clark and Drinkwater (2010) find the ethnic self-employed are more likely to have a degree. Given, like the latter authors, we are considering a sub-set of all self-employed, we follow their findings and hypothesise that there is an association between education (operationalised as having a degree) and home-based self-employment.

Home-based self-employment is associated with shared incomes (Bryant, 2000) and hence may be expected to be associated with being married or cohabiting. We are unaware of previous studies that have explored self-efficacy in the home-based self-employed. We therefore draw on studies that have linked home-based self-employment to an effectual and emergent approach (van Gelderen et al., 2008; Daniel et al., 2015) and those that identify the primacy of limiting

costs (van Gelderen et al., 2008; Mason et al., 2011) in order to suggest that the home-based self-employed have less confidence in meeting exogenous goals than other self-employed and suggesting lower levels of self-efficacy. Whilst self-efficacy is seen as an enduring trait, it is also viewed as context dependent (Luszczynska et al., 2005), and hence may be affected by launching and running a business. Self-efficacy has been associated with attitude for risk (Barbosa et al., 2007; Densberger, 2014). Exploratory cross tabulations undertaken as the first stage of our analysis indicated high correlation between self-efficacy and attitude to risk, consistent with extant literature. We therefore excluded risk tolerance from further analysis. Taken together, the above leads to our first group of hypotheses H1a-H1e:

H1a: Home-based self-employment is positively associated with being female.

H1b: Home-based self-employment is positively associated with age.

H1c: Home-based self-employment is positively associated with education.

H1d: Home-based self-employment is positively associated with being married.

H1e: Home-based self-employment is negatively associated with self-efficacy.

Household

Previous quantitative studies of self-employment studies have found a negative association with childcare responsibilities (Jayawarna et al., 2014). However, qualitative studies, particularly those that consider mothers suggest that being home-based allows individuals who might otherwise be excluded due to their caring responsibilities to enter self-employment (Ekinsmyth, 2013; Duberley and Carrigan, 2013; Vorley and Rodgers, 2014). Given the qualitative support for the link between caring for children and home-based self-employment, we suggest the home-based self-employed are more likely to have childcare responsibilities than other self-employed. Given the difficulty in securing loans or investment funding for

home-based self-employment, there is a greater use of personal funds for such businesses (e.g. Campell and De Nardi, 2009). This suggests that home-based self-employment will be associated with the presence of household savings. Restrictions on operating a business from rented homes included in many tenancy agreements (Reuschke, 2016; Holliss, 2017) leads us to suggest that home-based self-employment will be associated with home ownership. Prior studies of home-based self-employment have identified an association with rural location, interpreted as resulting from a lack of alternative local employment (Reuschke and Houston, 2016; Abreu et al., 2019). Taken together, these lead to our second group of hypotheses H2a-H2d:

H2a: Home-based self-employment is positively associated with childcare responsibilities.
H2b: Home-based self-employment is positively associated with household savings.
H2c: Home-based self-employment is positively associated with home ownership.
H2d: Home-based self-employment is positively associated with living in a rural location.

Employment

Employment characteristics have also been found to differ between home-based self-employed and other self-employed. Extant literature shows that home-based work is associated with knowledge work (Chalmers, 2008; Anwar and Daniel, 2017) and hence knowledge-based industry sectors (Price and Reuschke, 2019) and occupations, such as managerial, professional and administrative (Mason et al., 2011). Consistent with this influence of industry and occupation, freelancers, who tend to be highly skilled knowledge workers, have been associated with working at home more frequently than other types of self-employed (van der Zwan et al. 2020).

The event theory of self-employment suggests previous employment events can push or pull individuals into self-employment (Clark and Drinkwater, 2000; Henley, 2017). We consider two approaches to operationalising push/pull. Firstly, low job satisfaction in previous employment as an event that can push individuals into self-employment (Kautonen and Palmroos, 2010; Georgellis and Yusuf, 2016). We are unaware of previous studies that have used satisfaction in previous job as a proxy for push/pull effects. Prior studies of self-employment using longitudinal datasets have considered transitions between economic activity categories or industry and occupational categories over time (e.g. Daniel et al., 2019). Pushed, or necessity, self-employment has been associated with transition from unemployment (Kautonen et al. 2010) or economic inactivity, such as illness or disability, (Jones and Latreille, 2011), particularly when employment opportunities are limited (Henley, 2017). Taken together this leads to our third group of hypotheses H3a-H3d:

H3a: Home-based self-employment is associated with industry sector.

H3b: Home-based self-employment is associated with occupation.

H3c: Home-based self-employment is negatively associated with job satisfaction in previous employment.

H3d: Home-based self-employment is negatively associated with transitioning from employment (compared to unemployment).

Combination of our hypotheses produces the research model shown in Figure 2.

Take in Figure 2 about here.

Method

Understanding Society Survey

The study was based upon data drawn from the UK Understanding Society survey. This extends the long running British Household Panel Survey (BHPS) and includes longitudinal data on approximately 40,000 UK households and the individuals within them (Buck and McFall, 2012; Understanding Society, 2016b). The first wave started in January 2009 with subsequent waves on an annual basis (Understanding Society, 2016b). Due to the large sample size, each wave of data collection is undertaken across overlapping 2-year periods. However, data is collected from households and the individuals within them at the same point in the 2-year cycle, resulting in annual observations. Data collection was from a combination of face-to-face interviews and self-completion questionnaires. Due to the wide range of topics addressed, content is divided into modules which are repeated with varying frequencies over the waves (Understanding Society, 2016a). Certain modules such as basic demographics, employment, income and health are repeated every wave. Other modules are repeated at regular intervals (e.g. every other year) and others on a less frequent basis.

Sample Selection

One of our variables of interest, self-efficacy has only been fully measured in wave 5 (2013/14) of Understanding Society. Since addressing the ongoing challenges of self-employment may have an impact on self-efficacy, we wished to only consider self-efficacy measured at or before the start of self-employment (indicated as T0 in Figure 2). Hence in order to form a sample for all further analysis, individuals who had become self-employed in subsequent available waves (5, 6 and 7) were identified. The resulting total sample size was 1,736 of whom 481 (27.7%) were home-based self-employed and 1,070 were self-employed in other locations.

Variables

The dependent variable for our analysis was location of self-employment categorised as the binary variable: home-based (self-employed at or from home =1) and self-employed based in other locations (self-employed from in other locations = 0). Other locations include separate business premises, client's premises and 'on the road'. All independent variables were coded as binary variables. Variables selection was guided by a balance between parsimony and capturing the complexity of home-based self-employment. A wide range of variables suggested by previous studies were explored by chi squared tests to test relationship with the dependent variable (see Table A1 in the appendix). Inclusion in the final model was a blend of those showing significant relationships (all of which addressed hypotheses) and other variables suggested by literature (which may show significance in our multivariate analysis), balanced with the notion of parsimony.

Some studies of self-employment include both age and age-squared, in order to capture non-linear age effects (e.g. Henley, 2007; van der Zwan et al., 2020). We followed these studies and included both variables in the regression model. Self-efficacy was measured according to the well accepted ten item general self-efficacy (GSE) scale (Schwarzer and Jerusalem, 1995). This uses a four-point Likert scale (ranging from 1=not at all true, to 4=exactly true). Scores were averaged over the ten items, resulting in a range from 1 to 4 (SeTotal). For the purposes of the binary logit regression, respondents were coded into two groups: higher self-efficacy (SeTotal >=3) and lower self-efficacy (SeTotal <3). Occupational status and industry sector were categorised according to the 1-digit Standard Occupational Classification (SOC) and Standard Industry Classification (SIC) respectively. In order to proxy for pushed or pulled self-employment, job satisfaction in their employment before they became self-employed (i.e. in wave 4, 5 or 6 as appropriate) was used. Job satisfaction (Jobsat) was measured according

to a centred seven-point Likert scale (1= completely dissatisfied and 7= completely satisfied). This was recoded into a binary variable: not satisfied (Jobsat <=4 =0) and satisfied (Jobsat >=5 =1). The economic status of before transitioning to self-employment was coded as one of three categories: employed, unemployed, and economically inactive (e.g. student, ill, carer, pensioner). Descriptive statistics of the variables included in the study are summarised in Table A1 in the appendix.

Statistical Analyses

Analysis commenced with the production of a correlation matrix using Pearson two-tailed significance tests for all the variables of interest (see Table A2 in the appendix). Several of the independent variables were positively correlated with home-based self-employment (for example, age, sex and marital status). A number of the variables were correlated with each other. For example, self-efficacy was found to be positively associated with being male and being older (>50). Such cross-correlations support intersectionality and the need for multivariate analysis. The lack of any Pearson correlations at 0.9 or above (except for age and age_squared) suggests lack of multicollinearity and suitability for inclusion of factors in multivariate analysis (Aldrich and Forrest, 1984).

In binary logistic regression the probability of the outcome variable, P(Y) is given by a regression equation of the following form (Tabachnik and Fidell, 2013):

$$\Omega i = ln\frac{P(Yi)}{1-P(Yi)} = \beta_0 + \sum_{j=1}^{k}\beta_j X_{i,j} + \in i \qquad \text{Equation 1}$$

Where, Ω is the logistic or the natural logarithm of the odds ratio of P(Y) and takes values between 0 and 1 and independent variables or predictors are represented by $X_{i,j}$, β_0 and β_j are

the intercept and coefficients respectively and ∈ is an error term. However, as with much analysis of complex social situations, it is likely that endogeneity is present. Self-efficacy was intentionally measured before business start up to address simultaneity related to this variable. However, there may be missing variables that cause endogeneity. To address this two-stage residual inclusion (2SRI) binomial logistic regression was used (Tabachnik and Fidell, 2013). Three instrumental variables were used which were drawn from the 12-item short form health questionnaire (SF12) (e.g. Bakhla et al., 2013): 1) general health; 2) had a lot of energy over the last 4 weeks and 3) felt downhearted or depressed in the last four weeks (measured on a five point Likert scale: 1= excellent, 5=poor). These three variables were correlated with a number of the independent variables in the model (e.g. gender, age, marital status), but not highly correlated with being home-based self-employed, and hence fitted the requirements of instrumental variables.

Further analysis (available on request) was undertaken to determine moderated and mediated relationships between the variables in Table 1 (Hayes, 2013). These did not provide any statistically significant relationships beyond those discussed below.

Findings and Discussion

In our sample, 28% of the self-employed reported that they were home-based. The majority of the home-based self-employed in our sample had no employees, termed solo self-employed or own account workers/self-employed (OECD, 2018), and had only one member of the household self-reporting as self-employed.

Table 1 shows the results of the binomial logit regression analysis which addresses our research hypotheses.

Take in Table 1 about here.

With regard to hypothesis H1a, when the range of variables shown in Table 1 are included, home-based self-employment is not significantly associated with gender. This challenges the frequent association of home-based self-employment with being female, which derives in part from studies, which although do not seek to be statistically representative, cast this type of employment as suitable for women, including use of terms such us 'mumpreneurs' (Ekinsmyth, 2013; Duberley and Carrigan, 2013; Vorley and Rodgers, 2014). In contrast our findings are consistent with descriptive measures that show the majority of home-based businesses are either jointly owned by men and women or owned by men (Mason et al, 2011; Price and Reuschke, 2019).

Neither the coefficient for age or age_squared was significant, providing no support for hypothesis H1b. Age has been positively associated with self-employment (e.g. Weber and Schaper, 2004; Simoes et al., 2016), including a non-linear relationship which represents a balance between gaining sufficient experience and, consistent with the resource-based view, accumulating necessary resources, particularly financial resources, and a reluctance or inability to give up paid employment when individuals have family commitments (Henley, 2007; van der Zwan et al., 2020). The univariate correlation matrix shown in Table A2 highlights the association of age over 50 with having savings, home ownership and a knowledge-based occupation. Inclusion of these variables may account for why we did not find a significant relationship with age. The findings show that home-based self-employment is not associated with education (operationalised as having a degree). Hence, we do not find support for sub-

hypothesis H1c. Our findings are consistent with those of all self-employed (Jayawarna et al., 2014) and show that there is no educational disadvantage or deficit amongst the home-based self-employed.

We also do not find support for sub-hypothesis H1d, that is we do not find home-based self-employment is associated with being married. This finding challenges extant studies that have associated home-based self-employment with being married or living as a couple, since the paid employment of one partner can help if the home-based self-employment does not provide sufficient income or if that income was variable (Bryant, 2000: van Gelderen et al., 2008). These extant studies were qualitative and hence were not based upon large-scale representative samples. Our results would suggest that home-based self-employment is also attractive both to married and singletons, that is when there is or is not another wage earner to provide support. This may be due to the lower costs involved in starting and operating home-based businesses, allowing singletons to protect themselves from insufficient or variable incomes. Alternatively, it may be that other aspects of working from home become possible or more attractive to people living without a partner, for example, more space for their business, less distractions or the desire to fill time with a worthwhile activity or for single parents with childcare responsibilities.

With regard to sub-hypothesis H1e, we find no relationship between home-based self-employment and self-efficacy and hence this hypothesis is not supported. This relationship has not been studied previously. Our null finding is to be welcomed, since it indicates that as a group, the home-based self-employed have levels of self-efficacy that were indistinguishable from those of the self-employed operating in other locations. This finding is an exoneration of the home-based self-employed. Rather than the timid bunch they are often portrayed as, that are forced to start their businesses in the home because they lack confidence in their own

abilities, our findings suggest they are, on average, equally as self-efficacious as other self-employed. This finding is consistent with that for hypothesis H1c, that there is no difference in education between the home-based and self-employed based in other locations.

Overall therefore, we find no support for the association of the personal characteristics included and home-based self-employment. Given the interest in the influence of factors such as gender, age and education, this finding is striking. Again we take this as a positive sign. It would appear that home-based self-employment is available and attractive to people of all genders, ages, educational backgrounds, marital status and self-efficacies.

With regard to hypothesis H2a, having childcare responsibilities was found to be positively , associated with home-based self-employment, although this was at $p<0.1$ significance level ($\beta=0.727$, $p<0.076$). The number of children in the household was not found to be significant, suggesting that it is the time spent undertaking caring, rather than how many children are being cared for. Previous studies have found a negative association between childcare responsibilities and self-employment. For example, Jayawarna et al (2014) find '*childcare – a form of household (HH) labour….[negatively] mediates … pathways to business creation'* (p.282). These authors consider all self-employed and the different finding to our study underlines the differential influence of childcare on the home-based self-employed. The positive association found in our study suggests that being home-based offers those with childcare responsibilities a pathway to self-employment. Having household savings was also found to be positively and significantly associated with home-based self-employment ($\beta=0.815$, $p<0.001$), which provides support for H2b. That being home-based is associated with household savings was consistent with earlier studies that find such self-employment is funded from private sources rather than third parties such as banks and venture capital (Campell

and De Nardi, 2009; Cassar, 2009). Home ownership was not found to be significantly associated with home-based self-employment, disconfirming H2c. This is a reassuring finding. Given the high incidence of living in rented accommodation, particularly amongst certain groups such as the young, often termed 'generation-rent' (e.g. Murray, 2016), and those on low incomes or living in cities with high property costs, it is heartening to find that living in rented accommodation does not appear to be a barrier to those wishing to pursue this form of self-employment. Prior studies have suggested an association between home ownership and liquidity of own-account self-employment (Millán et al., 2015), presumably by securing loans on the property. Our finding of the importance of personal financial resources such as savings (H2b), for home-based self-employment, is consistent with such constrained access to financing. However, our lack of support for H2c, suggests that the home-based self-employed may have a less liquidity constraints that the wider group of all own account self-employed, since the costs of being home based are lower (van Gelderen et al., 2008).

We find no association between home-based self-employment and living in a rural location, disconfirming H2d. This is in contrast to Mason et al. (2011 p.631) who find *'a rural-urban dimension'*, with more home-based self-employment in rural locations. The difference arises from the descriptive nature of the Mason et al (2011) study and the fuller, multivariate nature of this study. These authors also find a high proportion of home-based self-employment in *'affluent towns and cities…in Southern England'*. The lack of significance of the rural/urban variable in our findings may reflect a combination of both of these in our sample that cancel each other out. It also accords with findings that semi-urban locations, such as medium sized towns and the edge of cities are particularly conducive to entrepreneurship (Abreu et al., 2019).

We find no association between industry sector and being home-based self-employed, providing no support for H3a. Having an occupation of manager or administrator, both of which are associated with knowledge work, were positively and significantly associated with home-based self-employment (Manager:β=1.314, $p<0.004$: Administrator:β=1.272, $p<0.024$). This is consistent with other studies that associate home-based self-employment with knowledge work (e.g. Chalmers, 2008). Interestingly, given that many freelancers are professionals (Burke, 2020) and they have been associated with being based in the home (van der Zwan et al., 2020), we did not find an association between being a professional and home-based self-employment, despite their work being knowledge based. This lack of association may be caused by a mix of types of professionals, with some able to base their self-employment at or from home, but others unable to do so (e.g. dentists).

Satisfaction with previous employment was not significantly associated with home-based self-employment hence we do not find support for hypothesis H3c. We find negative and significant support for hypothesis H3d, that is the home-based self-employed are less likely to transition from employment compared to the self-employed based in other locations. Rather they are more likely to transition from unemployment. Extant studies have found that home-based self-employment often results from a mixture of push and pull rationales (e.g. Vorley and Rodgers, 2014). It would appear that there is a similar mixture of rationales across our sample. The lack of association with satisfaction with previous employment suggests that, for those that were employed, they were not more dissatisfied with their previous employment than other self-employed and hence cannot be considered as 'pushed' into home-based self-employment according to this measure. Previous studies have associated pushed self-employment with lower confidence (e.g. Caliendo et al., 2009). That our sample was found not to have a significantly lower self-efficacy also suggests an absence of push influences.

However, the association with transitioning from unemployment suggests that they may have been pushed into self-employment as a better alternative to that unemployment, especially if they do not think that they will find employment. It should be emphasised that, rather than being pushed into general self-employment, our findings show the more nuanced difference between home-based and other self-employed, and suggest that the unemployed are more likely to be pushed into home-based self-employment. We are unaware that this has been explored or shown in previous studies. Our resource-based perspective provides an understanding that household savings and knowledge-based occupations can provide the pull of available financial resources, when they are not available from banks or other sources, and an occupation that can be undertaken with resources that can be located in the home. Our social embedded perspective explains the importance of meeting the needs of others in the household, which our findings suggest is primarily childcare. It is difficult to assess if this is a pull or push factor. For some, they may feel they are pulled to home-based self-employment as it allows them the opportunity to balance this with childcare. For others, the high costs or lack of childcare may push them to combine this with home-based self-employment.

Support found for our hypotheses is summarised in Table 2, which also summarises the agreement and difference with extant literature provided by this study and discussed above. In discussing previous studies or including them in Table 2, we do not suggest that their findings are incorrect or not of value. Understandably in a rapidly growing body of literature, different studies seek to address different aspects of the phenomenon and hence ask different questions and use different samples, variables and methods. However, this diversity of approaches results in challenges comparing findings and a sense of fragmentation of understanding in the domain.

Take in Table 2 about here

Conclusion

Our study addresses the call to broaden entrepreneurship research to 'embrace the diversity of everyday entrepreneurship' (Welter et al., 2016). It also addresses the limitations highlighted by feminist economics that domestic and work settings are not recognised as important sites of paid and unpaid work (Kabeer et al., 2021). Being home-based is an important route to self-employment and can offer opportunity in difficult circumstances as witnessed by the growth of home-based self-employment after the 2008 global recession (Henley, 2017). It is expected that this type of self-employment will grow significantly following the COVID-19 pandemic in response to a greater acceptance of working from home and increased unemployment (Lim et al., 2020; Martinez Dy and Jayawarna, 2020). Our finding of the positive association of home-based self-employment with the transition from unemployment supports this expectation.

Our empirical findings challenged our proposed model and indicated that personal characteristics were not significantly associated with home-based self-employment. Rather when a wide range of variables are considered, it reflects an inter-relationship of household and employment factors. We thus contribute to the debate about the gendered nature of home-based self-employment. Previous qualitative studies, or quantitative studies with only limited variables suggest that home-based self-employment is predominately associated with being female. We have shown that when a wide range of other variables are included, this is not the case.

We argue that social embeddedness and the VRIN characteristics indicated by RBV are inextricably and uniquely linked and shaped by this context. The home or household, which provides the salient social embeddedness, also affords specific resources such as shared household savings. As well as affording resources, the household makes demands for resources identified by the resource-based view, for example, as shown by our empirical findings, the capability to balance work with childcare is distinctive of this type of self-employment (Baines and Gelder, 2003; Barrett, 2005). We summarise the above discussion in a validated theoretical model shown in Figure 3.

Take in Figure 3 about here

Practice and Policy Implications

COVID-19 has been referred to as 'the great homeworking experiment', as many workers and self-employed were forced to work from home, accelerating an ongoing trend. Many of these are expected to continue working from home-in the future, resulting in structural change to both employment and self-employment (Felstead, 2021). Whilst the data used in our study predates the COVID-19 pandemic, our finding of the association of transition from unemployment to home-based self-employment is consistent with the expected growth of home-based self-employment following COVID-19 being prompted in part by increased unemployment (Lim et al., 2020; Martinez Dy and Jayawarna, 2020). Our study suggests that policy makers and business advisors should recognise that being home-based self-employed reflects a rational cognitive choice and does not signify limited confidence. They should therefore treat this with the same respect and levels of support that they show other types of

self-employment. However, our study also suggests that they should recognise and support the aspects that make this type of self-employment distinct. This could include supporting the need to balance work and childcare, for example, by forming eco-systems of other businesses that are willing to support blended priorities. These other businesses could act as a network of buyers, suppliers, advisors or sub-contractors who support flexible working patterns and locations. Our findings also suggest a lack of household savings could act as a barrier. We hope that our findings that home-based self-employed are equally educated and self-efficacious as other self-employed will encourage banks and other funders to provide funds for this type of self-employment, particularly with the expected growth following COVID-19. Such funding should not be secured on property, since our findings also indicated that many home-based self-employed are not home owners. The lower costs of this type of self-employment should mean that the funding provided could be relatively modest. Given the association of home-based self-employment, and associated forms of employment such as freelancers, which are associated with innovation and economic growth (van Gelderen et al., 2008; Burke et al., 2020), funding and support for home-based self-employment could form an important part of post-pandemic economic recovery schemes.

Home based self-employment also has implications for the design of homes and towns. Forward thinking architects and town planners in the UK and internationally are recognising the growth in home-based self-employment, and home-based working more generally, and are looking at ways of enabling a wider range of business types to operate from home, for example, by encouraging multi-use property designs (Reuschke and Houston, 2016).

Limitations and Future Research

The limitations of the study should be acknowledged. It was not possible in our dataset to separate entrepreneurs from other self-employed that are not entrepreneurs. Our empirical data therefore combines both of these groups. The size of our sample and particularly cell sized limited the number of variables, and categories within variables, that we could investigate. We were unable to investigate part-time working and the presence of employees which could be included in future studies. Similarly, there is a diversity of individuals drawn to home-based self-employment. Within this heterogeneity, there may be sub-groups with similar characteristics. Future research could undertake cluster analysis in order to identify distinct groups, which may follow known categories such as freelancers or gig-economy workers or identify new groups, and undertake further analysis to characterise and understand these distinct groups. Also, our data was collected prior to the COVID-19 pandemic. Our empirical findings and model could be used as a comparator to uncover structural or temporary changes in the nature of home-based self-employment following the seismic changes experienced during the pandemic.

Common definitions of home-based self-employment include those that work 'at home' and those that work 'from home' (Mason et al., 2011). Future studies could compare these groups and could consider the need for differential theoretical bases to elucidate why and how these modes of home-based self-employment operate and their similarities and differences. Additional influences on the home-based self-employed could also be investigated. For example, networks are consistently identified as important to the self-employed (e.g. Kim et al, 2013; Stephens, 2013). Future studies could extend the notions of social embeddedness included in this paper to impacts of and on the neighbourhood, region or country on the home-based self-employed (Reuschke and Houston, 2016).

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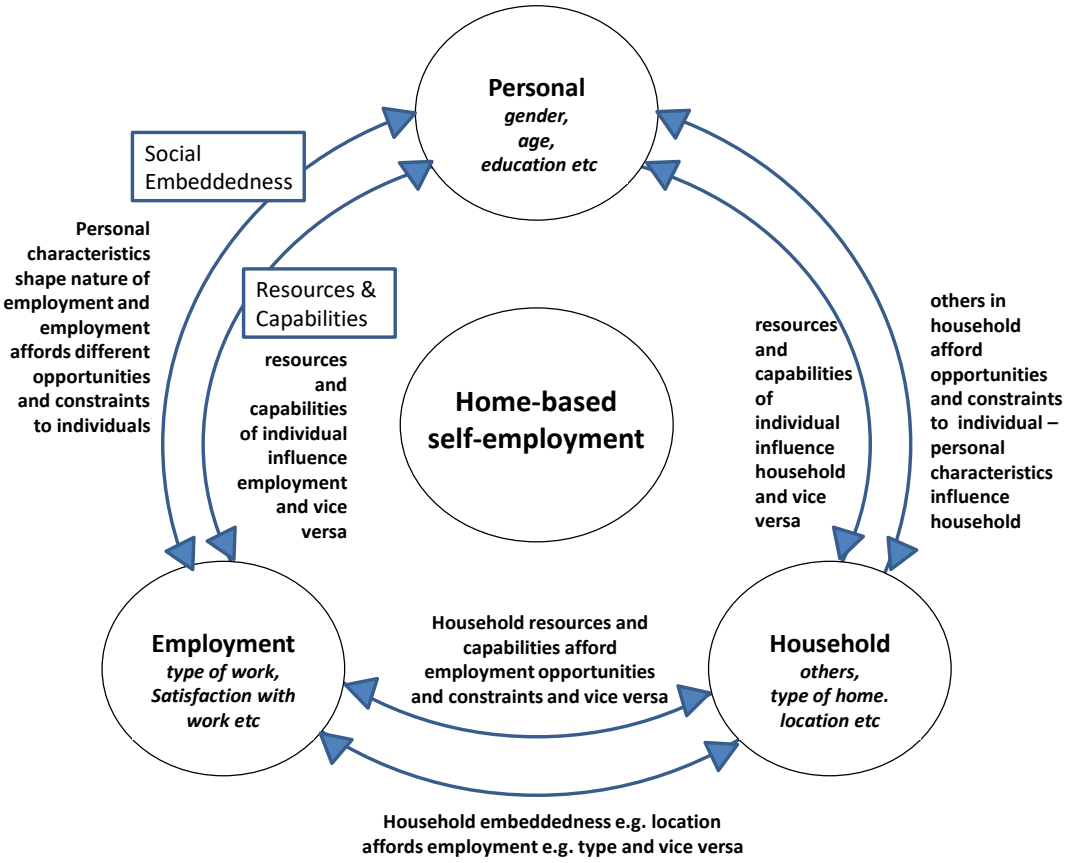

Figure 1: Theoretical Model of Home-Based Self-Employment

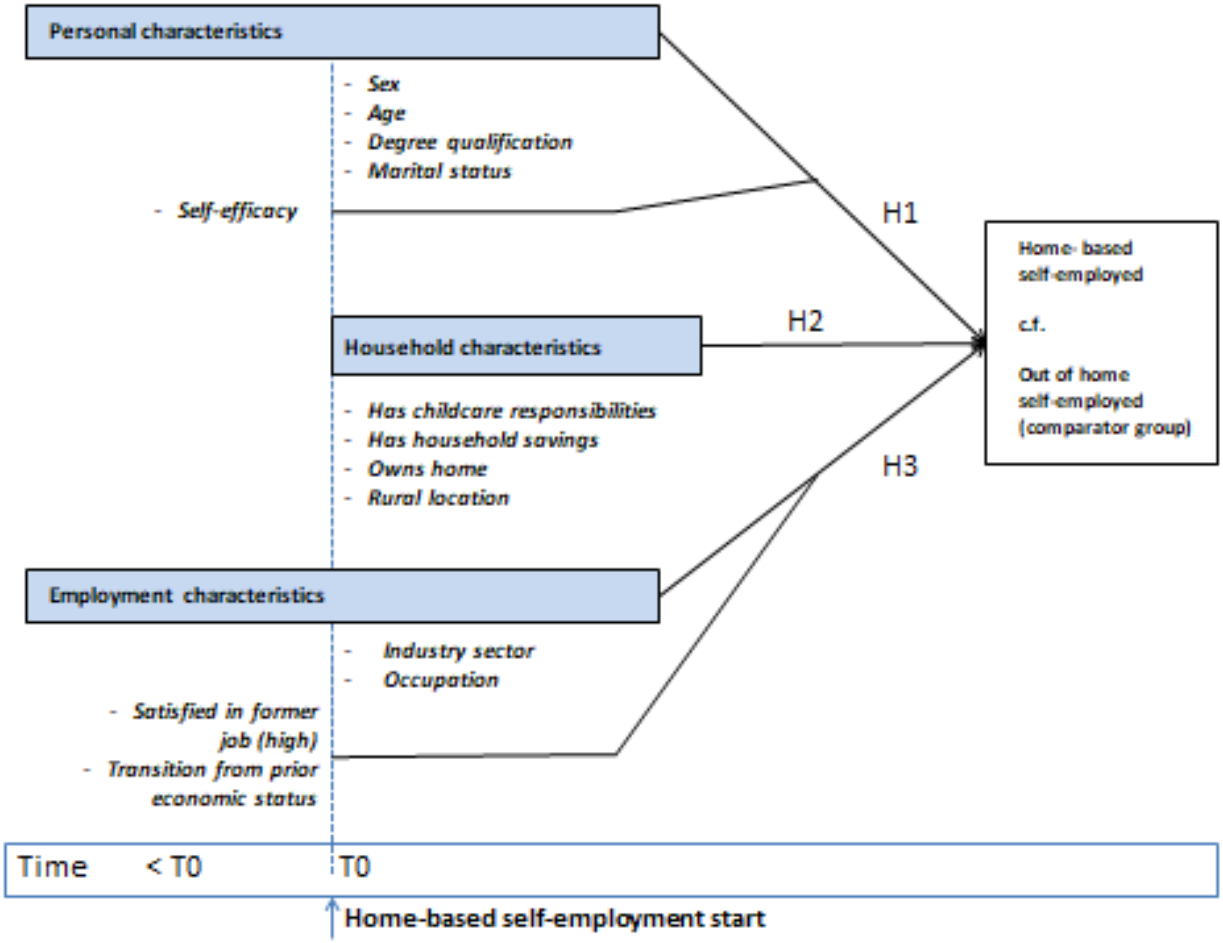

Figure 2: Research Model

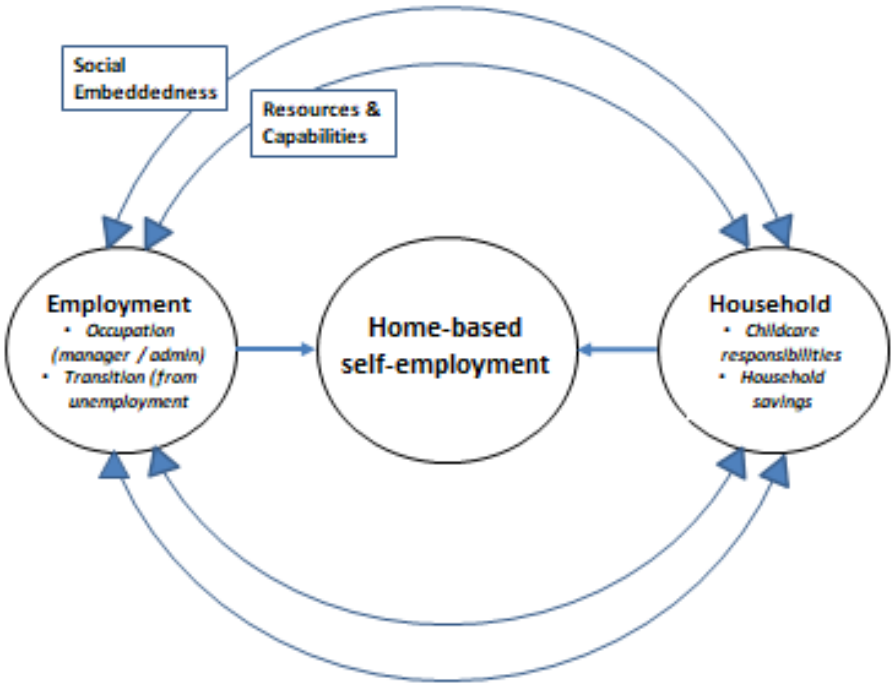

Figure 3: Empirically Validated Theoretical Model

Table 1: Binomial Logit Regression Analysis

	B	S.E.	Wald	Sig
Constant	8.899	9.125	0.951	0.329
Personal				
Female	0.246	0.271	0.828	0.363
Age	0.000	0.013	0.000	0.985
Age_squared	-0.005	0.004	1.170	0.279
Education (has degree)	0.155	0.235	0.435	0.509
Marital status	0.265	0.412	0.414	0.520
Self-efficacy	0.085	0.277	0.093	0.760
Household				
Childcare responsibility	0.727^	0.410	3.150	0.076
No children *(ref: ≥2 children)*	-0.498	0.420	1.406	0.236
One child	-0.394	0.428	0.848	0.357
Has household savings	0.815***	0.245	11.063	0.001
Home ownership	-0.139	0.247	0.316	0.574
Urban or rural area	-0.106	0.240	0.196	0.658
Employment				
Manufacturing	-0.038	0.474	0.007	0.935
Wholesale/Retail	0.489	0.460	1.132	0.287
IT/Professional	0.354	0.412	0.738	0.390
Education/Arts/Health	0.492	0.416	1.402	0.236
Manager	1.314**	0.456	8.314	0.004
Professional	0.430	0.449	0.919	0.338
Administrator	1.272*	0.563	5.095	0.024
Tradesperson	-0.136	0.428	0.101	0.750
Satisfied in previous job	-0.265	0.222	1.427	0.232
From employment	-0.820*	0.338	5.896	0.015
From inactive	-0.234	0.402	0.338	0.561
Instrumental variables				
General Health	-0.559^	0.332	2.830	0.092
Had a lot of energy	0.219	0.229	0.916	0.338
Felt down	0.472	0.469	1.010	0.315
Cox and Snell R squared	0.161			
Nagelkerke R squared	0.220			

p≤ 0.001 ***, p≤0.01**, p≤0.05*, p≤0.1^

Table 2: Summary of Findings and Relationship to Extant Literature

No.	Hypothesis	Support for Hypothesis	Agreement with Prior Literature	Difference to Prior Literature
Personal Characteristics				
H1a	Home-based self-employment is positively associated with being female.	Not supported	Mason et al., 2011*: Price and Reuschke, 2019^^	Walker and Webster, 2004***; Ekinsmyth, 2013***; Vorley and Rodgers, 2014***
H1b	Home-based self-employment is positively associated with age.	Not supported	-	Henley, 2007**; Simoes et al., 2016**
H1c	Home-based self-employment is positively associated with education.	Not supported	Jayawarna et al., 2014**	Clark and Drinkwater, 2010^^^
H1d	Home-based self-employment is positively associated with being married.	Not supported	van der Zwan et al., 2020^	Bryant, 2000***; van Gelderen et al., 2008***
H1e	Home-based self-employment is negatively associated with self-efficacy.	Not supported	No previous studies	No previous studies
Household Characteristics				
H2a	Home-based self-employment is positively associated with childcare responsibilities.	Supported	van der Zwan et al., 2020^	Jayawarna et al., 2014**
H2b	Home-based self-employment is positively associated with household savings.	Supported	Campell and De Nardi, 2009***; Cassar, 2009**; Millán et al (2015)****	-
H2c	Home-based self-employment is positively associated with home ownership.	Not supported	Holliss, 2017***; Price and Reuschke, 2019^^	Millán et al (2015)****
H2d	Home-based self-employment is positively associated with living in a rural location.	Not supported	Mason et al, 2011*; Holliss, 2017***	Mason et al (2011)*
Employment Characteristics				
H3a	Home-based self-employment is associated with industry sector.	Not Supported	Chalmers, 2008^^^^; Anwar and Daniel, 2017**; Price and	-

			Reuschke, 2019^^; van der Zwan et al., 2020^	
H3b	Home-based self-employment is associated with occupation.	Supported	Price and Reuschke, 2019^^; van der Zwan et al., 2020^	-
H3c	Home-based self-employment is negatively associated with job satisfaction in previous employment.	Not supported	No previous studies	No previous studies
H3d	Home-based self-employment is negatively associated with transitioning from employment (compared to unemployment)	Supported	Kautonen et al. 2010"; Jones and Latreille, 2011**; Henley, 2017**	-

Methods and samples for studies with different findings: * descriptive statistics of home-based business (may be reported as part of a wider inferential statistical study), ** multivariate analysis of all self-employed, ***qualitative study hence smaller sample may not be representative, **** all own account self-employed, ^ freelancers (associated with working at home), ^^ all home-based self-employed (dependent variables = success measures), ^^^ ethnic minority self-employed, ^^^^ all home workers, " all involuntary self-employed

Appendix

Table A1: Descriptive Statistics

Variable description	% of Home-based self-employed (at and from home)	% of Self-employed based in other locations	% of all self-employed	Row N=	Total group N=
Personal					
Gender Female	52***	35	41	535	
Gender Male	48	65	59	785	1320
Age <35	24***	31	29	382	
Age 35-49	35	38	37	488	
Age 50-64	32***	25	27	356	
Age 65+	10***	6	7	94	1320
Married/civil partnership	57	55	55	663	
Single, never married	27**	34	32	380	
Divorced	11	8	9	111	
Widowed	2	1	2	18	
Separated	2	3	3	30	1208
Sub-total formerly married	15**	12	14	159	
White	78	76	77	1002	
South Asian	7	10	9	116	
Other BAME	16	14	14	189	1307
Degree+ Level	57***	44	48	633	1318
HE Level	56	42	46	544	
A Level	12	12	12	143	
GCSE	22	29	27	313	
Zero	11	17	15	172	1172
High self-efficacy 3+ mean score	78	77	78	865	1116
High risk taker (7-10 out of 10)	46	48	47	377	799
Household					
Mainly responsible for childcare	14***	4	7	108	1581
No. of children in household <16: 0	75***	85	81	982	
1	11***	7	8	100	
2	10***	7	8	97	
3	4	2	3	31	1210
Rural location	27	27	27	352	799
London South East & East of England	38	39	38	510	
North of England	22	19	20	262	
Midlands & South West of England	25	24	24	317	
Devolved Nations	19	18	18	234	1320
Own fully (inc mortgage/shared own)	71	66	67	925	1374
50%+ share monthly household income	28***	17	20	280	1110

Have Savings	34***	23	27	296	1111
Net h/h income monthly £2k+	59	60	60	351	589
Living comfortably	64	61	62	750	1210
Employment					
Agriculture/Primary	2	2	2	23	
Manufacturing/construction	14**	24	22	217	
Wholesale/Retail/food & accommodation	18	21	20	217	
IT & Professional Services	34**	24	27	289	
Education/Arts/Health	26**	20	22	238	
Personal services	6	9	8	86	1074
Manager	23***	14	17	181	
Professional	41***	32	35	377	
Admin	8***	4	5	56	
Trade/service	19***	30	27	289	
Operative	8***	21	17	176	1082
Satisfaction with previous job	49	36	39	680	1056
Transition from prior employment status (in wave 4, n=395)					
From employed	54	64	60	237	
From unemployed	17	16	16	64	
From economically inactive (e.g. student, mother, ill)	29	20	24	94	395

Results of chi square tests: * >.05, ** >.01, ***>.001

Table A2: Correlation matrix for variables in logit regression model

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Home-based self-employed	1															
2	Sex	.170**	1														
3	Age	.109**	-0.018	1													
4	Childcare	.182**	.357**	-.184**	1												
5	No children	-.116**	-.512**	.293**	-.629**	1											
6	One child	.063*	.293**	-.158**	.285**	-.623**	1										
7	Two plus children	.091**	.388**	-.231**	.544**	-.714**	-.103**	1									
8	Marital status	.082**	.080**	.297**	-0.015	-0.009	0.011	0.001	1								
9	Manufact/Primary	-.113**	-.282**	-0.020	-.077*	.171**	-.095**	-.132**	-0.023	1							
10	Personal services	-0.038	.144**	-0.053	0.017	-.111**	.072*	.077*	-0.055	-.160**	1						
11	Ed/Art/Health	.067*	.232**	.066*	0.045	-.085**	.087**	0.028	0.030	-.289**	-.157**	1					
12	IT/Professional	.104**	0.028	0.020	0.028	-0.011	-0.016	0.029	0.022	-.329**	-.179**	-.324**	1				
13	Wholesale/Retail	-0.040	-.074*	-0.033	-0.010	0.002	-0.026	0.021	0.004	-.273**	-.148**	-.268**	-.305**	1			
14	Manager	.124**	-0.031	.085**	0.010	-0.007	0.022	-0.012	-0.005	-0.026	-0.011	-.135**	0.049	.121**	1		
15	Professional	.095**	0.048	0.059	-0.011	0.042	-0.031	-0.025	0.024	-.285**	0.008	.326**	.208**	-.275**	-.328**	1	
16	Administrator	.085**	.174**	0.039	0.056	-0.047	0.007	0.054	0.059	-0.028	0.008	-.065*	.095**	-0.014	-.105**	-.171**	1
17	Tradesperson	-.116**	-0.017	-.095**	-0.012	-.066*	0.045	0.043	-0.039	.238**	.069*	-0.035	-.229**	-0.006	-.271**	-.441**	-.141**
18	Operator	-.158**	-.114**	-.072*	-0.016	0.060	-0.040	-0.040	-0.017	.124**	-.085**	-.202**	-.099**	.246**	-.200**	-.326**	-.104**
19	Home ownership	0.053	0.022	.123**	0.039	0.028	-0.041	0.001	-0.007	-0.008	0.034	0.045	0.054	-.124**	0.006	.076*	-0.001
20	>50% share of income	.115**	-0.007	0.050	0.041	0.007	0.021	-0.028	0.005	-0.024	0.024	0.030	0.024	-0.049	-0.034	.072*	.089**
21	Has savings	.124**	0.010	.221**	-0.021	.105**	-.093**	-0.050	-0.029	-.077*	-0.018	-0.006	.176**	-.100**	.067*	.182**	0.036
22	Education (degree)	.123**	.108**	0.033	.071*	-.065*	0.018	.067*	-0.043	-.196**	-0.002	.171**	.134**	-.119**	0.036	.365**	-0.012
23	Urban/rural	0.002	0.053	.115**	0.012	0.004	0.010	-0.014	.068*	.084**	0.025	-0.010	0.017	-.113**	0.003	-0.013	0.031
24	Self-efficacy	0.016	-.081**	.059*	-0.008	.066*	-0.053	-0.036	-0.006	0.022	-0.018	0.010	0.063	-.096**	0.029	0.052	-0.048
25	Satisfied in former job	.123**	.102**	.059*	.124**	-0.056	0.016	.057*	0.017	-0.035	.070*	.067*	0.022	-.104**	0.036	0.013	0.034
26	General health	-0.010	-0.017	-.072**	.092**	-0.027	-0.002	0.036	-.078**	0.016	-0.037	0.004	0.022	-0.020	0.019	0.052	-0.009
27	Have energy	-0.011	-0.044	0.056	0.007	0.010	0.010	-0.021	0.000	0.060	0.041	-0.025	0.017	-.086**	-0.033	-0.003	0.015
28	Feeling down	-0.014	0.051	-.069*	-0.035	-0.038	.059*	-0.004	0.006	0.012	0.045	-0.022	-.080*	.074*	-0.022	-0.034	0.042
29	From employed	-.082*	-.148**	-0.021	-.074*	.148**	-.081*	-.115**	0.007	.080*	-0.031	-0.024	0.053	-.093**	.170**	0.024	0.014
30	From unemployed	-0.026	-.128**	-.073*	-.095**	0.052	0.004	-.068*	-0.050	0.043	-0.024	-.069*	-0.025	.077*	-.108**	-0.055	0.013
31	From inactive	.112**	.263**	.079*	.156**	-.205**	.087**	.180**	0.030	-.128**	0.056	.084*	-0.042	0.047	-.112**	0.015	-0.027
32	Age_squared	-.109**	0.018	-1.000**	.184**	-.293**	.158**	.231**	-.297**	0.020	0.053	-.066*	-0.020	0.033	-.085**	-0.059	-0.039

		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
17	Tradesperson	1															
18	Operator	-.269**	1														
19	Home ownership	0.031	-.143**	1													
20	>50% share of income	-.077*	-0.020	0.032	1												
21	Has savings	-.133**	-.171**	.116**	-0.017	1											
22	Education (degree)	-.177**	-.286**	.101**	0.034	.177**	1										
23	Urban/rural	0.040	-0.051	.074*	-0.004	.059*	-0.011	1									
24	Self-efficacy	-0.012	-0.056	0.049	-0.019	.078*	0.045	0.009	1								
25	Satisfied in former job	-0.016	-0.054	.101**	.147**	.064*	0.036	0.013	.102**	1							
26	General health	-0.023	-0.054	0.040	0.010	0.049	.064*	0.006	.190**	0.024	1						
27	Have energy	0.018	0.006	.075*	0.033	0.035	0.041	0.018	.211**	.096**	.281**	1					
28	Feeling down	-0.016	0.062	-.070*	.090**	-.070*	-.098**	-0.013	-.256**	-0.044	-.230**	-.204**	1				
29	From employed	-.095**	-.103**	.117**	0.008	.098**	.110**	0.002	.096**	0.015	.107**	0.052	-.074*	1			
30	From unemployed	0.062	.102**	-.123**	-0.002	-.143**	-.086**	-0.060	-0.043	-0.031	-0.060	-0.022	0.007	-.486**	1		
31	From inactive	0.061	0.039	-0.034	-0.007	0.000	-0.058	0.044	-.075*	0.007	-.074*	-0.042	.077*	-.748**	-.217**	1	
32	Age_squared	.095**	.072*	-.123**	-0.050	-.221**	-0.033	-.115**	-.059*	-.059*	.072**	-0.056	.069*	0.021	.073*	-.079*	1

** p< 0.01 level (2-tailed). * p<0.05 level (2-tailed).