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# Proceedings Editor

## Sonia Taneja

Texas A&M University- Commerce

**[Dr. Sonia Taneja \(PhD\)](#)** is an Associate Professor of Management, in the College of Business at Texas A&M University-Commerce. Dr. Taneja's primary research focus and publications are in the areas of management from the strategic perspective such as Redefining the Strategic Management, A Culture of Employee Engagement, Leaping Innovations barriers to Small Business Longevity, Empowerment from the Gender Perspective, Crisis Management, and Management History. She has published in a number of scholarly peer-review journals including, *Journal of Business Strategy*, *Journal of Applied Management and Entrepreneurship*, *International Journal of Sustainable Strategic Management*, *Journal of Management History*, and *Delhi Business Review*. Dr. Taneja has received a number of research and teaching excellence awards including McGraw-Hill/Irwin Distinguished Paper Award in 2010. In addition, she has served in many capacities for professional conferences and scholarly journals including reviewer, editor, and guest editor for *Journal of Applied Management and Entrepreneurship*. Also, she is a member of Academy of Management and Beta Gamma Honors Society, national honors society. At Texas A&M University- Commerce, she leads the College of Business Curriculum Committee to manage the curriculum at both undergraduate and graduate level. She also has an experience of teaching in business schools in India. She also has an experience in consulting services in the area of business planning to corporate organizations. Also she developed training seminars in management, built an effective network with corporate organizations and achieved successful coordination and communication between corporate associates and students seeking employment in India. Prior to joining academia in United States, Dr. Taneja worked as a Business Analyst for Target Corporation in corporate office of Target in Minneapolis.

## Meet the AOM Program Planning Team

Name	Affiliation	Role	Email
Amy Hillman	Arizona State University	AOM Program Chair	<a href="mailto:amy.hillman@asu.edu">amy.hillman@asu.edu</a>
Sharon Alvarez	University of Pittsburgh	AOM PDW Chair	<a href="mailto:salvarez@katz.pitt.edu">salvarez@katz.pitt.edu</a>
Jun Li	University of New Hampshire	Caucus Committee Chair	<a href="mailto:jun.li@unh.edu">jun.li@unh.edu</a>
Sonia Taneja	Texas A&M U. at Commerce	AOM Proceedings Editor	<a href="mailto:sonia.taneja@tamuc.edu">sonia.taneja@tamuc.edu</a>

AOM Program Department	AOM Program Support	Email
Taryn Fiore	Director of Meetings and Conferences	<a href="mailto:support@aom.org">support@aom.org</a>
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# Entrepreneurial career outcomes of women who switch to self-employment during the crises

Retno Ardianti

and

Adwin Atmadja

**Published Online:** 26 Jul 2021 <https://doi.org/10.5465/AMBPP.2021.15366abstract>

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## Abstract

This paper aims to reveal the implication of transitions from paid to self-employment during the period of economic crises, and whether such a transition may widen the gender gap in career outcomes. We use insights from the career perspective in entrepreneurship to study career outcomes in three steps. First, we study the survival rate and the career patterns of individuals who switch to self-employment in the post-crisis period. Second, we examine income, job satisfaction, and life satisfaction, as the subjective and objective measure of career success of individuals who survive in self-employment. Lastly, we look at the possible differences in entrepreneurial career outcomes between male and female self-employed in our samples. We use descriptive statistics and entropy balancing to examine the changes in career outcomes of individuals who switch to self-employment during the 1998 Asian financial crisis in Indonesia and the 2008 global financial crisis in the United Kingdom. Our findings demonstrate that in both countries, the survival rate is less than 50% for over 5 years following the transitions, with the risk of experiencing downward job mobility for those who do not survive in self-employment. In addition, our study reveals that transitions to self-employment give no gains to the individuals; as the career outcomes of those who switch to self-employment are relatively similar or even not any better than similar individuals who remain in paid employment. Lastly, we found a smaller proportion of females survive in self-employment in the long term, as those who switch to and survive in self-employment in both countries are dominated by males.



## **“Nevertheless, she persisted!” Entrepreneurial career outcomes of women who switch to self-employment during the crises.**

### **ABSTRACT**

This paper aims to reveal the implication of transitions from paid to self-employment during the period of economic crises, and whether such a transition may widen the gender gap in career outcomes. We use insights from the career perspective in entrepreneurship to study career outcomes in three steps. First, we study the survival rate and the career patterns of individuals who switch to self-employment in the post-crisis period. Second, we examine income, job satisfaction, and life satisfaction, as the subjective and objective measure of career success of individuals who survive in self-employment. Lastly, we look at the possible differences in entrepreneurial career outcomes between male and female self-employed in our samples. We use descriptive statistics and entropy balancing to examine the changes in career outcomes of individuals who switch to self-employment during the 1998 Asian financial crisis in Indonesia and the 2008 global financial crisis in the United Kingdom. Our findings demonstrate that in both countries, the survival rate is less than 50% for over 5 years following the transitions, with the risk of experiencing downward job mobility for those who do not survive in self-employment. In addition, our study reveals that transitions to self-employment give no gains to the individuals; as the career outcomes of those who switch to self-employment are relatively similar or even not any better than similar individuals who remain in paid employment. Lastly, we found a smaller proportion of females survive in self-employment in the long term, as those who switch to and survive in self-employment in both countries are dominated by males.

#### **Keywords:**

female self-employed; career patterns; income; job satisfaction; life satisfaction; crisis

## 1. Introduction

One of the observable patterns during economic crises is the rise of entry to entrepreneurship by individuals previously worked as paid employees. These patterns can be seen in some major crises, such as the 2008 global financial crises in Spain (Congregado et al., 2010) and in the United Kingdom (Myant et al., 2016), during the 1997 Asian financial crisis (Manning, 2000), and at the period of economic disaster following the hurricane Katrina (Zissimopoulos & Karoly, 2010). Even though entry to entrepreneurship might shield individuals from unemployment, however, extant studies have warned that it might also have some undesirable consequences. Studies find that the survival rate in self-employment is relatively low, particularly for those who were driven by necessity motives (Millán et al., 2014; Rocha et al., 2015). Moreover, for the transitions that take place during the crisis, the risk of failures increases almost double by 61% (Devece et al., 2016). In terms of income, individuals who switch from paid to self-employment have a significant reduction in their income (Kautonen et al., 2017), and if they move back to paid-employment, it would give them much less incomes than those consistently working as paid employees (Mahieu et al., 2019). Whereas concerning job and life satisfaction, those who are driven by necessity motives are found to be not happier with their job and their lives after the transitions (Binder & Coad, 2013, 2016).

Even though prior studies have shed some light on the outcomes of entry to entrepreneurship, the studies have not given much attention to the long-term implications of transitions to entrepreneurship on one's career, particularly for the transitions at the time of crises. In addition, extant studies have not investigated whether transition to entrepreneurship may widen the gender gap in career success (Leslie et al., 2017). Research in this topic is not only important but also relevant, given that even without the crisis, women still need to face some barriers in starting and developing new ventures (Bullough et al., 2019; Manolova et

al., 2020). In addition, women are at greater risk to lose their jobs than men, as women are more represented in the industry sectors that are more vulnerable to the current crisis, such as in retail and hospitality industries (International Labour Organization, 2020).

To better understand the outcomes of transitions to self-employment during economic crises, we adopt the career perspective in entrepreneurship (Burton et al., 2016). Career perspective views a transition not as an end state, but as a sequence of job changes that form a career pattern of an individual. In line with this view, we study the outcomes of transitions to entrepreneurship in three steps. First, we look at the survival rate and job sequences of individuals who switched to self-employment (Koch et al., 2019; Merluzzi & Burt, 2020). Second, we examine income, job satisfaction, and life satisfaction as the subjective and objective measure of career success of individuals who survive in self-employment (Koch et al., 2019; Zhao et al., 2020). Lastly, we look at the possible differences of entrepreneurial career outcomes between male and female self-employed in the post-crisis period.

We reflect on the past to understand the implication of a current phenomenon, by studying the career patterns and outcomes of paid employees who switched to self-employment during the 1998 Asian financial crisis and the 2008 global financial crisis; the two major economic crises since World War 2. We use longitudinal data from Indonesia, the country which was worst affected by the Asian financial crisis (Hill, 2001), and the United Kingdom, the first country in the region which was affected by the global financial crisis (Lindström & Giordano, 2016).

Consistent with the insight from the career perspective, our results demonstrate that a transition to entrepreneurship is not a final destination. Our findings indicate that less than 50% of those who switch to self-employment survive in 5 years (in the United Kingdom) and 7 years (in Indonesia). Moreover, by looking at the career patterns of the individuals who switched to self-employment, we find that survival does not always equal to persistence.

Some individuals display mixed patterns; with some period in paid or unemployment, or even try again, by making re-entry to self-employment. Concerning career outcomes, our results indicate no significant gains for those who survive in self-employment. While in Indonesia the changes in income of those who switch to self-employment were relatively similar compared to similar individuals who remain in paid employment, in the United Kingdom, those who switch to self-employment receive significantly lower income compared to similar individuals who are persisting in paid employment. In addition, the job and life satisfaction of paid employed who switch to self-employment are relatively similar to those who remain in paid employment.

Our study answers the call to study entrepreneurship from the career perspective (Burton et al., 2016), by studying entry to entrepreneurship not simply as an event, but as a sequence of job changes that form the career patterns of the individuals. In addition, it contributes to the literature of entrepreneurship and crisis (Doern et al., 2019; Dushnitsky et al., 2020), by showing the impact of entrepreneurial activities during the crises, particularly among women (Manolova et al., 2020). In doing so, our study may inspire individuals who intend to switch to self-employment to carefully and professionally manage their new career, and for policymakers to bring back jobs by designing economic recovery programs that focus to help existing businesses to survive and new businesses to grow.

## **2. Literature review**

### **2.1 The timing of entry into self-employment, survival, and gender**

Timing is a key factor for successful entry into the market (Lévesque et al., 2009), and an economic crisis might not be an ideal time for starting a new venture. Even without a crisis, new ventures have to face liabilities of newness, smallness (Coad, 2018), and liability of revenue volatility (Lundmark et al., 2020). An economic crisis may put more pressure on

new ventures, given that new ventures are typically cash constraint, and cash is typically scarcer during the crisis (Devece et al., 2016). Empirical evidence show that survival rates are higher when the economy is in rapid growth than in the declining period (Geroski et al., 2010). Moreover, during a crisis, the risk of experiencing failure increased almost doubled by more than 61% compared to during normal time (Devece et al., 2016).

On average, the low chance of survival in self-employment can be higher for women than for men. Female self employed tend to start smaller business ventures that stay small, thus yielding less profit than new ventures founded by males (Ladge et al., 2019). By starting the ventures in a challenging time, the new entrepreneurs are at a higher risk to eventually terminate their entrepreneurial endeavors; ending the survival of their business as well as their jobs. Either male or female self-employed who do not survive in self-employment may end up in unemployment, unless they are able to find jobs in paid employment, or decide to try again, by making re-entry to self-employment. Prior studies by Koch et al. (2019) and by Merluzzi and Burt (2020) reveal that the pattern of entrepreneurial career is not always consistent, however, those with consistent patterns in self-employment have more successful career outcomes compared to those with intermittent patterns (Koch et al., 2019).

## **2.2. Income, job and life satisfaction of individuals who switched to self-employment during the crises.**

As the second step to reveal the career outcomes of transition to self-employment during the crisis, we examine income, job satisfaction, and life satisfaction of individuals who persist in self-employment in the post-crisis period. This second step is necessary, given that persistence in self-employment does not always equal to successful career outcomes. A study by Gimeno et al. (1997) gives an insight that entrepreneurs may remain in their job despite their firms are underperforming. Moreover, during the period of crisis, many ventures remain

in operation despite being unprofitable, because the entrepreneurs simply have no better employment alternatives (Simón-Moya et al., 2016).

We examine career outcomes of individuals who persist in self-employment by using income, job satisfaction, and life satisfaction as these three are objective and subjective measures of career success (Koch et al., 2019; Zhao et al., 2020). The use of subjective measures is essential given that entrepreneurial outcomes cannot be explained solely by economic logic (Carter, 2011). Moreover, the use of subjective measures will help to capture the existing gender differences in terms of career success that stems from the differential work values between males and females. As shown by prior studies, women are as satisfied as men with their job, despite having lower levels of business success (Ladge et al., 2019).

Regarding income, there is a common understanding in the literature that self-employed individuals have lower median income than paid employees, with income variation that is relatively larger compared to those of paid employees (Hamilton, 2000; Sorgner et al., 2017). Consistently, we expect that on average, paid employed who switch to self-employment to have a lower income than paid employed who persist in their jobs. Furthermore, given that incomes of female self-employed are known to be lower compared to their male counterparts (Marshall & Flaig, 2014), we expect that females who persist in self-employment to have lower income than males.

Unlike income, the job and life satisfaction of entrepreneurs are known to be higher than those of the paid employed (Benz & Frey, 2008; Hytti et al., 2013; Millán et al., 2013; Parasuraman & Simmers, 2001; Schjoedt & Shaver, 2007; Schneck, 2014). Procedural utility in self-employment plays a central role in explaining the higher job satisfaction of entrepreneurs (Benz & Frey, 2008a). According to this argument, high autonomy in self-employment work may serve as a good procedural work characteristic that is valued beyond income (Benz & Frey, 2008a; (Frey et al., 2004). As a result of having the ability to manage

certain processes that are embedded in the job, entrepreneurs will derive satisfaction from the job itself, instead of the outcome from the job (Frey et al., 2004). Furthermore, with the high centrality of work for entrepreneurs, the higher level of job satisfaction may spill over to their overall satisfaction with their life (Andersson, 2008; Binder & Coad, 2013; 2016; Hessels, et al., 2018; Loewe, 2015; van der Zwan et al., 2018).

Concerning the motives, the positive effect of a transition to entrepreneurship does not apply for the transition that is driven by necessity motives. For such a transition, studies by Binder and Coad (2013) and Binder and Coad (2016) show no significant positive changes in job and life satisfaction. The result suggests that externally motivated work behavior, such as a job switch to self-employment that is driven by the lack of job alternatives, instead of internal motivation will not lead to job and life satisfaction, as it does not fulfill the individual's need for autonomy (Ryan & Deci, 2000).

Given that the paid employed who switch to self-employment during the crisis may be dominated by those who have to leave their primary paid job, we, therefore, expect that transition to entrepreneurship during the crisis will not lead to greater job and life satisfaction. Regarding female self-employed, we speculate that their job and life satisfaction would be higher than their male counterparts. This is because females have lower career expectations than males (Ng et al., 2005).

### **3. Methods**

Empirical settings: We studied the 1998 Asian financial crisis and the 2008 global financial crisis as the two major crises in two different regions. We gathered longitudinal data from Indonesia, the country which is worst affected by the Asian financial crisis (Hill, 2001), and the United Kingdom, the first country in its region which was hit by the crisis (Lindström & Giordano, 2016). The two crises provide unique quasi experimental settings to

study the long-term career outcomes of the individuals who make transition to entrepreneurship during the crisis.

In Indonesia, the general collapse of financial prices in Southeast Asia region has triggered a financial crisis in the second quarter of 1997 (Cole & Slade, 1998). Between 1997-1998, the national currency was rapidly depreciated, the inflation rate rose to 78%, and overall, the economy experienced contraction by 13.7% (Suryahadi et al., 2012). The financial crisis then turned into multidimensional crisis, as people began to panic and lost trust to the government. The economic and political chaos culminated when the country's number one leader stepped down, and the economic recovery programs were launched under the new government (Suryahadi et al., 2012). During the crisis period, many individuals with low level of education lost their jobs. A year after the crisis, some of them were found to be unemployed. while some other find work in self-employment, mostly in the trade sector, or find work in the agricultural sector (Manning, 2000).

The crisis in the United Kingdom is spill-over effect from the financial crisis in the United States (Lindström & Giordano, 2016). During the global financial crisis, the United Kingdom experience a sharp drop in GDP, accounting for 6 percentage points from Quarter 2 2008 to Quarter 3 2009. The unemployment rate rose from an average 5.1 percent in 2008 to a peak of 8.3 per cent in 2011. Workers also experience a sharp fall (6.1 percent) in real wages (Myant et al., 2016). During the period, many individuals made entry to entrepreneurship, as data showed that individuals in self-employment rose from 3.7 million in September 2008 to 4.4 million in early 2014 (Myant et al., 2016).

**Data, Indonesia:** We utilised data from the Indonesian Family Life Survey (IFLS), a large-scale longitudinal household and community survey that was initiated in 1993 by RAND Corporation in collaboration with the local partners (Strauss et al., 2016). IFLS contains a wealth of information collected at the individual and household levels. Our study



relied on the employment module, which records the employment status and the income of individuals above 15 years of age. The sampling scheme in the first survey was stratified by covering 13 provinces, representing 83% of Indonesia's population. The subsequent surveys were conducted in 1997, which reinterviewed all individuals who had been in the household in the previous survey as well as the subset of members in split-off households. The timing of this survey gives us the chance to study individuals in the pre-crisis period (1997) and in the post crisis period (year 2000) onwards. Even though there are three years of gap of data collection, in the year 2000 survey, the respondents were asked about their job status between 1997-2000, which enable us to observe the job changes of individuals in our sample.

The United Kingdom; Our UK data was gathered from the United Kingdom Household Longitudinal Study (UKHLS). It is an annual panel survey covering the whole area of England, Scotland, Wales and Northern Ireland. The survey is conducted by the scientific leadership team at the UK Longitudinal Studies Centre (ULSC), in the Institute for Social and Economic Research (ISER) at the University of Essex (Boreham et al., 2012). UKHLS was started in 2009 as a continuation of the British Household Panel Survey (BHPS), an earlier version of this survey which was started in 1991. The survey interviews people aged 16 and above to collect the individual-level data. The data gathered from this longitudinal survey enable us to look at the changes in respondents' job status between the pre-and post-crisis period, as well as the changes in respondents' income, job satisfaction and life satisfaction.

**Samples;** Indonesia: We constructed a sample of paid employed individuals in time 0 (1997), who were identified as self-employed in time 1 (2000). From 4199 paid employed in 1997 that were re-interviewed in 2000, 799 of them were identified as making entry to self-employment between 1998-1999. 84.86% of them could be re-contacted in the subsequent wave of the survey (Time 2, 2007). To analyze the changes of career outcomes between time

0 and time 1, our total sample comprises of 799 paid employees who switched to self-employment and 3251 individuals who remained in paid employment.

Our UK sample was constructed by using data from the 2007 survey. We constructed a sample of paid employed individuals in time 0 (2007), who were identified as the self-employed in time 1 (2008 and 2009). From 7924 respondents who worked as paid employed in 2007, 4887 of them could be contacted in 2010. While 81 of them switched to self-employment in 2008, and another 92 individuals switched to self-employment between 2009-2010. We tracked our respondents' job status and compared those who persisted as the self-employed with those who persisted as paid employees up to five years following their transitions to self-employment.

### **Analysis:**

We first describe the survival rate of paid employees who switched to self-employment by using descriptive statistics. Next, we employed matching method to examine the effect of transition to self-employment on income, job, and life satisfaction. We used the matching method to mitigate some methodological challenges in estimating the changes in income of the paid employed who made job switch to self-employment. Given that income may reflect the individuals' knowledge, skills and experience, paid employees with the lower average income would be the group with the higher probability to be selected out of the job market when employment opportunities were scarce. Moreover, income has a positive relationship with life satisfaction (Cummins, 2000), particularly during the period of economic downturn (De Neve et al., 2018).

Matching method can overcome the methodological challenges that are associated with endogeneity and simultaneity. The method can simulate a random allocation to the treatment group (making transitions from paid to self-employment), as well as to the control

group (persist as paid employed) by utilising secondary data (Rosenbaum & Rubin, 1983). In doing so, we create and compare a control group of individuals with similar logarithm of income and other characteristics in the pre-crisis period to those who switched to self-employment. The matching process then compares the changes of income of those who switch to entrepreneurship with those who persist as the paid employed. As a result, the finding of this analysis which compare the differences in the outcome of the two comparison groups would suggest that the changes in income are explained by the transition to self-employment as the “treatment” instead of the self-selection effect of income (Caliendo & Kopeinig, 2008).

We used a set of variables that predict transition to entrepreneurship which may as well predict the performance and satisfaction in entrepreneurship (Table 1 and 3). These are human capital, sociodemographic variables, personality traits and prior characteristics of employers’ organisations (Sørensen, 2007; Sørensen & Phillips, 2011; Sørensen & Sharkey, 2014; Unger et al., 2011; Zhao et al., 2020; Zhao et al., 2010). However, the data for some of these variables are not available in IFLS dataset, such as the personality data. We matched individuals based on their initial levels of income, job, life satisfaction and other essential characteristics that were measured at the pre-crisis period or in the time when every individual in our samples was in paid employment. This is to ensure that we make equal comparisons between the individuals who switch to self-employment with those who remain in paid employment before and after the crisis. We employed Entropy balancing (Hainmueller, 2012), a method that generates balanced samples where data items at the control group are adjusted by reweighting or discarding them (Hainmueller & Xu, 2013). The method is more efficient in reducing covariate imbalance than other matching methods, and has been adopted in recent studies about entrepreneurs (Nikolova, 2019; Nikolova et al., 2020).

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The use of the matching method helps to overcome the problem with self-selection, given that our descriptive analysis by using Indonesian data (Table 1) indicates the self-selection of individuals with lower human capital attributes to self-employment. Compared to individuals who remained in paid employment, on average, the paid employed who switched to self-employment had a lower level of education and income. In addition, the data indicated that those who switched to self-employment work for smaller and private-owned organisations than those who remained in paid employment. While in the UK data (Table 2), the paid employed who switched to self-employment displayed the Big 5 personality traits that reflect the personality of entrepreneurs. Data indicated that those who switched to self-employment had higher scores for Conscientiousness, Extraversion, Openness to experience, and lower Agreeableness & Neuroticism than those who remained in paid employment. Similar to the findings from Indonesia, those who switched to self-employment in the United Kingdom had a lower level of education and work for smaller employers, despite having higher incomes than those who remained in paid employment.

Measures; following Koch et al. (2019), we measure career success by using income, job and life satisfaction. However, due to the unavailability of job and life satisfaction data for the baseline period in IFLS dataset, For the crisis in Indonesia, we could only examine income changes for individuals who switch to self-employment. We used self-reported salary or net profit from self-employment to study income in Indonesia data. Whereas in the UK data, we used self-reported annual labour income. The job satisfaction was measured as: How dissatisfied or satisfied are you with your job? While life satisfaction was measured as: How dissatisfied or satisfied are you with your life overall? Answers were given in 7 points Likert scale, from not satisfied at all =1 to completely satisfied =7.

Our outcomes variables comprises changes in income (Indonesia & UK data), changes in job satisfaction and changes in life satisfaction (UK data). We compared the changes in income of those who switched to self-employment (treatment group) with those who remained in paid employment (control group) between T0 (1997) and T1(2000) and between T0 (1997) and T2 (2007) in Indonesia. While by using the UK dataset, we compared the changes in income, job and life satisfaction for up to five years after transitions to self-employment (We observed individuals from 2007 (the baseline) until 2014). Our complete list of variables that we used in the analysis and the results of our descriptive analysis are presented in these following tables.

## **4. Findings**

### **4.1. Survival in self-employment**

As shown in Figure 1, from 799 paid employees in Indonesia (T0) who switched to self-employment in T1, 23 % of them were no longer responded to the questions on the employment module in T2. Among those who responded, 49.32% of them could be identified as self-employed, while 14% of them were in paid employment or were not in

employment (unemployed or doing unpaid work). However, given the 7 years time span between T1 and T2, we looked at respondents' self-reported annual job status between T1 and T2, to enable us to identify their job sequencrrs. Only 308 respondents made the report, which leads to a jump in missing values from 23 % to 38%.

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Insert Figure 1 about here

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Insert Figure 2 about here

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As presented in Figure 2, not everyone who was identified as self-employed in Time 2 were persisting in self-employment. 16% of them display mixed patterns, with some episodes in paid or unemployment, and eventually making re-entry to self-employment.

In the UK data, we were able to track 56.65 % of 173 paid employees who switched to self-employment for over 5 years following the transitions. Based on their job status in T5, 34.10% of them could be identified as self-employed, 13.87% were paid employed, and the remaining 8.67% were no longer in employment (Figure 3). In order to look at the percentage of individuals who were persisting in self-employment, we tracked individuals who consistently participated in the survey in the overall period of our observation. Consequently, our missing values jumped from 43% to 51%. By using this data, we found that 54% were persisting in self-employment, while the other 24% displayed mixed patterns (Figure 4).

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Insert Figure 3 about here

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Insert Figure 4 about here

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#### **4.2. Income, job satisfaction, and life satisfaction of paid employed who switch to self-employment.**

We present our estimations of the differences in income between the treatment and the control group for the Indonesia data in Table 5. We estimated the treatment effect on the treated (ATT), which is the difference of the changes in income between the treatment (paid employed who switched to self-employment) and the control group (paid employed who persisted in their jobs) in the matched sample. The results indicated that the paid employed who switched to self-employment during the Asian financial crisis in Indonesia had lower income than similar individuals who remained in paid employment. For up to two years after the transition (T1), their annual income would be 0.033 points lower, and for up to seven years after the transition (T2), their annual income would be 0.132 points lower compared to a control group of similar individuals. However, these differences were not significant either in T1 ( $p=.696$ ) or T2 ( $p=.424$ ).

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Insert Table 5 about here

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Table 6 present the results by using the UK data. As expected, our results indicated that the annual income of paid employees who transitioning to self-employment were significantly lower than similar individuals who remained in paid employment. The results were even consistent from T1 to T5. A year following the transitions, the annual income of those who switched to self-employment would be 0.988 points lower ( $p=0.000$ ) compared to

a control group of similar individuals who remained in paid employment. Furthermore, our findings indicated a narrower income gap for up to four years following the transitions.

Concerning job satisfaction, as expected, we found no significant changes in the job satisfaction of individuals who switched to self-employment. In addition, the findings indicated more positive changes in job satisfaction in the first three years following the transitions. Our results regarding life satisfaction were interesting. Despite no significant effect were found except in the third year following the transitions, the changes were found to be fluctuated. In the first two years following the transitions, the life satisfaction were negative (ATT=-.074; p=0.619) in T1, (ATT=-.481;p=0.053) in T2, then started to turn into positive signs from T3 to T5. The findings seemed to indicate that during the period of crisis, the life satisfaction of paid employed who switched to self-employment were lower than those who were persisting. However, in the post crisis period, the changes were found to be positive, although they were not significant.

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Insert Table 6 about here  
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### **Robustness Test**

Given that entropy balancing provides better estimates than other available methods to estimate outcome changes (Hainmueller, 2012; Hainmueller & Xu, 2013), we used traditional propensity score matching (PSM) methods and regression analyses to compare our results, instead of using them in the main analysis. We begin by estimating the changes in our outcome variables by using PSM. We used our UK data because compared to IFLS dataset, the UK dataset covered more periods of observations and outcome indicators. As shown in Table 7, the results supported the main findings; indicating that paid employed who switched to self-employment had a significant lower incomes and similar levels of job satisfaction than



those who remained in paid employment from T1 to T5. Concerning the changes in life satisfaction, the differences were found in time 2 and time 3. In Time 2, the estimates from entropy balancing indicated that the changes were not significant, while the findings from PSM indicated that the changes in life satisfaction were significant. In Time 3, the result from PSM indicated significant changes, while the findings from entropy balancing indicated that the changes in life satisfaction were insignificant.

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Insert Table 7 about here  
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In addition to PSM, we run regression analyses to predict income, job, and life satisfaction (Table 8). Note that we use these analyses to predict values in time(n), instead of the changes between time(n) and time(n-1). The results support our main analyses particularly for income, which indicated that the self- had significantly lower income than the paid employed in the overall period of observations. Our predictors consist of job status (dummy coded; self versus paid employed), age marital status, and education that were observed in time(n). Whereas Big 5 personality traits, employers' size, job rank, sex, and income in time 0 were observed in the pre-crisis period. (T0).

We run logistic regression to predict the job and life satisfaction of the paid employed who switched to self-employment. The results showed support to the findings from the main analysis. Findings showed that the job satisfaction of the self-employed was relatively similar to those of the paid employed, except in time 3 which indicated significantly higher values. In the main analysis, time 3 was the period when the changes in job satisfaction reached their

highest point, despite the value was insignificant. Concerning life satisfaction, the findings also supported the main analysis.

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Insert Table 8 about here  
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### 4.3 Career outcomes and gender differences

In order to reveal whether transitions to entrepreneurship may widen the gender gap in career outcomes, we looked at the differences in entrepreneurial career outcomes between male and female self-employed in the post-crisis period. We started by looking at the proportion of male and female self employed in T1 and T2 (Table 9 & 10). Our data indicated that the larger proportion of paid employees who switched to self-employment in Time 1 were males (76 % in Indonesia and 63% in the UK). In T2, the data indicated that a larger proportion of males survive in self-employment than females. In Indonesia, the proportion of female self-employed even decreased from 24% to 11%, while the proportion of male self-employed increased to 79%. However, in the UK data, the proportion of female self-employed increased from 36% to 42%.

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Insert Table 9 about here  
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Insert Table 10 about here  
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Table 11 and 12 shows the differences in outcome changes. Note that the data presented in Table 11 and 12 were just simple comparisons, therefore, have not addressed the problem with self-selection. The finding in Table 11 were interesting, as it revealed that

female self- employed showed higher positive income changes than male self-employed in T2. The findings imply that despite having lower annual income than males (in T0/pre-crisis, and both T1 and T2), female self-employed, on average, were able to narrow down the income gap in the long term.

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Insert Table 11 about here  
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Table 12 shows the differences in the changes in income, job, and life satisfaction in the UK data. Our data showed that income changes were always greater for males than females, due to the consistently lower average self-employment incomes of female self-employed compared to their males' counterparts. Interestingly, while during the peak of the crisis (T1 and T2), female self-employed were less satisfied with their lives than males, the changes in their job satisfaction were more positive than their male counterparts (note that only the findings on incomes that were significant). The findings were interesting, given that prior studies showed that the correlation between job and life satisfaction is positive (e.g. Hessels, et al., 2018; Loewe, 2015; van der Zwan et al., 2018).

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Insert Table 12 about here  
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## 5. Discussion

This paper aims to reveal the implication of transition to entrepreneurship during economic crises, and whether such a transition may widen the gender gap in career success. Based on the insight from the career perspective in entrepreneurship, we study the outcomes

of transitions to entrepreneurship in three steps. First, we look at the survival rate and job sequences of individuals who switch to self-employment (Koch et al., 2019; Merluzzi & Burt, 2020). Second, we examine income, job satisfaction, and life satisfaction as the subjective and objective measure of career success of individuals who survive in self-employment (Koch et al., 2019; Zhao et al., 2020). And in the final step, we look at the differences of entrepreneurial career outcomes between male and female self-employed in the post-crisis period.

In line with the insight from the career perspective, our results demonstrate that entrepreneurial career is not always linear, and a transition to entrepreneurship is not a final destination (Burton et al., 2016; Koch et al., 2019). The survival rate in self-employment is 49% in Indonesia for over 7 years following the transitions (15,14% missing values) and 34% in the United Kingdom for over 5 years following the transitions ( 43.35 % missing values). However, survival does not always equal to persistence. By looking at the career patterns of those who switch to self-employment, some individuals display mixed patterns, with some period in paid or unemployment. Some of them even show that they try again, by making re-entry to self-employment. Our findings also indicate the threat of downward job mobility, particularly for those who do not show persistence in self-employment. These individuals experienced some episodes of unemployment during our period of observation.

By comparing the career outcomes of those who switch to self-employment during the crises with those who remain in paid employment by using the matching method, our results indicate no significant gains of such a transition. While the changes in income of those who switch to self-employment in Indonesia were relatively similar compared to similar individuals who remain in paid employment, in the United Kingdom, those who switch to self-employment receive significantly lower income compared to similar individuals who are persisting in paid employment. Despite the narrower income gap in the first four years

following the transitions, the results are all negative and significant. In addition to income, the job and life satisfaction of those who survive in self-employment are found to be relatively similar to those who remain in paid employment. The positive changes in job satisfaction are increasing over time, particularly in the first three years following the transitions. However, either in the short- or long-term period following the transitions, our results indicate that the job and life satisfaction of those who switch to entrepreneurship are significantly no different compared to those who are persisting in self-employment. Our results indicate support to prior studies on self employment income (Hamilton, 2000; Sorgner et al., 2017), and the effect of transitions to entrepreneurship on the job and life satisfaction that is driven by push instead of pull factors (Binder & Coad, 2013, 2016).

By looking at gender differences in career patterns and outcomes, our findings indicate that entrepreneurship is male dominated career, with a higher proportion of males switch to self-employment during the crises in both countries. Nevertheless, we found a small proportion of females who are able to persist in their self-employment career in our long period of observation. Concerning outcomes, although in line with our expectation that females have lower self-employment incomes than males, the data indicate that income gap is getting narrower in the long term (T2, Indonesian data), while in the UK data, female self-employed consistently display lower income gap.

Our study answers the call to study entrepreneurship from the career perspective (Burton et al., 2016) by studying entry to entrepreneurship not as an event, but as a sequence of job changes that forms the career patterns of the individuals. In addition, it contributes to the literature of entrepreneurship and crisis (Doern et al., 2019; Dushnitsky et al., 2020), particularly among women (Manolova et al., 2020). Our study shows that in a challenging time when employment opportunities are scarce, transitions to self-employment may serve as a temporary shield from unemployment. And for those who is not able to show persistence in

self-employment, the threat of experiencing downward job mobility in the post crisis period is real, unless the individuals can secure paid employment jobs. Moreover, either in normal time or in a time of crises, entry to entrepreneurship seems to be male-dominated actions, given that those who switch to and survive in self-employment are dominated by males.

Our study may inform individuals of the career implications of transitioning to self-employment during the crisis. With less than a half of those who switch to self-employment survive in the long term, and the career outcomes that are similar or even no better than persisting in paid employment, the decision for switching to self-employment should be taken carefully and professionally. Those who switch to self-employment should consider working with professional mentors, joining accelerators, or participating in programs that help them to start and grow the new ventures. The individuals need to manage their new ventures professionally; to help them to survive and achieve positive outcomes in their entrepreneurial career. For policymakers, economic recovery programs that help existing businesses to survive and new businesses to grow should be given a priority, given that such programs are important for job creation. Moreover, in a time when women are at greater risk to lose their jobs than men such as in the current crisis, intervention programs to help women to find jobs in paid employment and to survive in self-employment are needed more than ever.

Our study is not without limitation. First, we have a small sample size in our treated group, particularly in our UK sample (N=173). This limitation and the problem with re-contacting rate in a longitudinal survey have affected our ability to assess the implications of transitions to self-employment in a longer time horizon. We limit our analysis up until 5 years following the transitions, as the number of observations continues to decline. Second, due to the small sample of female self-employed, we are only able to make simple comparison analysis to study gender differences and career outcomes. Future research needs to study

women in greater details, in order to reveal the implication of crises on women's entrepreneurial career.

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**TABLE 1.****Variables used in entropy balancing (IFLS data)**

Variable Name	Definition	Total	Switched to SE in T1	Stayed in PE in T1
Outcome variable		(N=4050)	(N=799)	(N=3251)
Δ Log Income	Changes in annual income from the baseline (T0=1997) to T1(2000) and to T3 (2007)	.62 (.79)	.69 (1.15)	.61 (.70)
Covariates				
Age	Respondents' age at Time 0	35.59 (11.60)	38.06 (12.20)	34.98 (11.37)
Gender	Dummy coded variable (Male = 1, Female=0)	.68 (.46)	.76 (.42)	.66 (.47)
Marital status	Dummy coded variable (Married = 1, Not married=0)	.72 (.44)	.78 (.40)	.71 (.45)
Education	Highest level attended	2.20 (1.09)	1.86 (1.00)	2.27 (1.10)
Log income in PE	The logarithm of income in paid employment in Time 0 (pre-crisis)	14.45 (.98)	14.08 (1.01)	14.53 (.95)
Org. size	The categorical ordinal scale of the number of employees employed by employers	2.19 (1.01)	1.76 (.91)	2.30 (1.01)
Org. type	Dummy coded variable (Government=1, Private=0)	.21 (.41)	.06 (.24)	.25 (.43)

**TABLE 2.****Correlation (IFLS data)**

	1	2	3	4	5	6	7	8	9
1. Age									
2. Marstat	.433**								
3. Sex	.071**	.153**							
4. Education	-.071**	-0.030	-.123**						
5. Emp_type	.188**	.218**	-0.017	.357**					
6. Emp_size	-.086**	0.031	-0.017	.296**	.165**				
7. Log_income 97	.064**	.179**	.208**	.465**	.351**	.323**			
8. Transition to SE	.106**	.066**	.083**	-.146**	-.181**	-.210**	-.181**		
9. Δ income	-.061**	-.042*	-0.010	-0.016	.063**	-.071**	-.377**	.038*	

\*. Correlation is significant at the 0.01 level (2-tailed).

\*\*. Correlation is significant at the 0.05 level (2-tailed).

**TABLE 3.****Variables used in entropy balancing (UKHLS data)**

Variable Name	Definition	Total	Switched to SE	Stayed in PE
Outcome variable		(N=4887)	(N=173)	(N=4714)
Δ Log Income	Changes in annual income from the baseline from Time 0 to Time n	.04 (.46)	-.62 (1.71)	.06 (.34)
Δ job satisfaction	Changes in life satisfaction from Time 0 to Time n	.083 (1.42)	.32 (2.22)	.07 (1.38)
Δ life satisfaction	Changes in life satisfaction from Time 0 to Time n	.01 (1.00)	-.01 (1.29)	.01 (.99)
Covariates				
Age	Respondents' age at Time 0	39.79 (11.94)	38.56 (13.09)	39.83 (11.89)
Gender	Dummy coded variable (Male = 1, Female=0)	.47 (.49)	.63 (.48)	.46 (.49)
Marital status	Dummy coded variable (Married = 1, Not married=0)	.56 (.49)	.53 (.50)	.56 (.49)
Education	Highest level attended	.13 (.34)	.11(.32)	.13 (.34)
Log income in PE	The logarithm of income in paid employment in t1 before the crisis	7.26 (.75)	7.38(.83)	7.26 (.75)
Org. size	The categorical ordinal scale of the number of employees employed by employers	4.91 (2.39)	4.05 (2.37)	4.95 (2.39)
Org. type	Dummy coded variable (Government=1, Private=0)	.63 (.48)	.81 (.38)	.62 (.48)
Job rank	Categorical version of job position based on the National Statistics Socio-economic Classification. (Large employers & higher management=1, Higher professional =2, Lower management & professional= 3, Intermediate= 4 Small employers & own account=5, Lower supervisory & technical =6, Semi-routine=7, Routine=8)	2.43 (1.03)	2.42 (1.09)	2.43 (1.03)
Agreeableness	Composite score from 7 points Likert's scale of self-reported measure on agreeableness.	5.42 (.93)	5.41 (.97)	5.42 (.93)
Conscientiousness	Composite score from 7 points Likert's scale of self-reported measure on conscientiousness.	5.38 (.97)	5.40 (1.02)	5.38 (.97)
Extraversion	Composite score from 7 points Likert's scale of self-reported measure on extraversion.	4.55 (1.11)	4.60 (1.18)	4.55 (1.11)

Neuroticism	Composite score from 7 points Likert's scale of self-reported measure on neuroticism.	3.67 (1.23)	3.44 (1.25)	3.68 (1.23)
Openness	Composite score from 7 points Likert's scale of self-reported measure on openness to experience.	4.55 (1.09)	4.77 (1.04)	4.54 (1.09)

**TABLE 4.**  
**Correlation (UKHLS data)**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
1. Age																				
2. Sex	.035*																			
3. Marstat	.400**	.045**																		
4. Education	.067**	.056**	.069**																	
5. Parent SE	-.218**	-.020	-.082**	.013																
6. Agreeableness	.053**	-.166**	.052**	-.021	.037															
7. Conscientiousness	.142**	-.102**	.114**	.004	.004	.375**														
8. Extraversion	-.185**	-.139**	-.085**	-.018	.032	.140**	.144**													
9. Neuroticism	-.067**	-.254**	-.034*	-.028	.044	-.044**	-.131**	-.177**												
10. Openness	-.078**	.075**	-.043**	.101**	.056*	.176**	.164**	.238**	-.090**											
11. Emp_size	0.002	.076**	.013	.110**	-.082**	-.035*	0.012	-.007	-.017	.042**										
12. Emp_type	-.142**	.229**	-.085**	-.113**	.037	-.087**	-.053**	-.001	-.052**	-.053**	-.155**									
13. Job_rank	.038**	0.023	.098**	.220**	.020	-.035*	0.013	.010	.006	.169**	.215**	-.199**								
14. Log income 07	.145**	.363**	.146**	.178**	-.015	-.091**	.049**	-.041**	-.133**	.142**	.275**	-.059**	.478**							
15. Job_sat	.068**	0.004	.076**	0.009	.043	.110**	.131**	.068**	-.156**	0.009	-.063**	-.039**	.046**	.079**						
16. Life_sat	-.040**	0.003	.082**	0.004	.051*	.132**	.143**	.110**	-.224**	.032*	-.046**	-.0005	0.028	-.0016	.420**					
17. Transition to SE	-.020	.060**	-.011	-.011	.028	-.003	0.004	0.009	-.034*	.035*	-.069**	.072**	-.0001	.029*	-.0009	0.013				
18. Δ job_sat	0.006	-.045**	-.0002	0.026	-.002	.005	-.0004	-.0003	.022	0.009	0.005	-.0013	-.0018	-.069**	-.541**	-.117**	.031*			
19. Δ life_sat	.035*	-.0005	0.000	0.018	-.008	-.003	-.0021	-.0001	.007	0.007	0.021	-.0004	-.0012	-.0012	-.138**	-.498**	-.0005	.300**		
20. Δ income	-.123**	-.039**	-.055**	-.0003	-.025	.008	-.0029	0.000	.021	0.003	-.0017	-.0015	-.053**	-.279**	-.0011	.040**	-.245**	.071**	-.002	

\*. Correlation is significant at the 0.01 level (2-tailed).

\*\* . Correlation is significant at the 0.05 level (2-tailed).

**TABLE 5.**

**Results from Entropy Balancing based on IFLS data**

Time	Δ income		
	ATT	S.E	p.value
1	-.033	.085	.696
2	-.132	.165	.424

ATT= Average Treatment of the Treated

**TABLE 6.**  
**Results from Entropy Balancing ( the United Kingdom data)**

Time	Δ Job Satisfaction			Δ Life Satisfaction			Δ income		
	ATT	S.E	p-value	ATT	S.E	p-value	ATT	S.E	p-value
1	.101	.353	.774	-.074	.150	.619	-.988	.272	.000
2	.325	.282	.250	-.481	.249	.053	-.560	.162	.001
3	.449	.328	.172	.372	.176	.035	-.379	.185	.041
4	.231	.383	.545	.023	.265	.930	-.344	.161	.034
5	.305	.258	.238	.240	.318	.452	-.432	.176	.014

**TABLE 7.**  
**Results from Propensity Score Matching (the United Kingdom data)**

Time	Δ Job Satisfaction			Δ Life Satisfaction			Δ income		
	ATT	S.E	p-value	ATT	S.E	p-value	ATT	S.E	p-value
1	-.074	.377	0.845	-.111	.170	0.515	-1.00	.239	0.000
2	.326	.269	0.227	-.636	.280	0.023	-.639	.138	0.000
3	.400	.329	0.225	.025	.240	0.917	-.337	.089	0.000
4	.625	.468	0.182	-.322	.250	0.199	-.317	.051	0.000
5	.130	.338	0.700	.260	.133	0.051	-.501	.113	0.000

**TABLE 8.**  
**Results from Regression analyses (United Kingdom data)**

Time	Income	Job satisfaction	Life satisfaction
Time 1	-1.029* (.092)	.321 (.268)	.092 (.272)
Time 2	-.590* (.092)	.260 (.288)	-.584** (.289)
Time 3	-.428* (.101)	.633* (.319)	.244 (.324)
Time 4	-.345* (.106)	.368 (.340)	-.287 (.331)
Time 5	-.425* (.123)	.252 (.369)	.389 (.406)

\*Significant at 0.01 \*\*Significant at 0.05 Paid employed as the reference category

**TABLE 9.****Survival and gender differences (Indonesian data)**

Switched to SE (N=799)		Self-employed (N=394; 49%)		Paid employed (N=109; 14%)		Not in employment (N=109; 14%)		Missing (N=187; 23%)	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
76%	24%	313 (79%)	81 (11%)	90 (83%)	19 (17%)	70 (64%)	39 (36%)	137 (73%)	50 (27%)

**TABLE 10.****Survival and gender differences (the United Kingdom data)**

Switched to SE (N=173)		Self-employed (N=59; 34%)		Paid employed (N=24; 14%)		Not in employment (N=15; 9%)		Missing (N=75; 43%)	
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
63%	36%	34 58%	25 42%	18 75%	6 25%	8 53%	7 47%	49 65%	26 35%

**TABLE 11.****Outcome changes and gender (Indonesian data)**

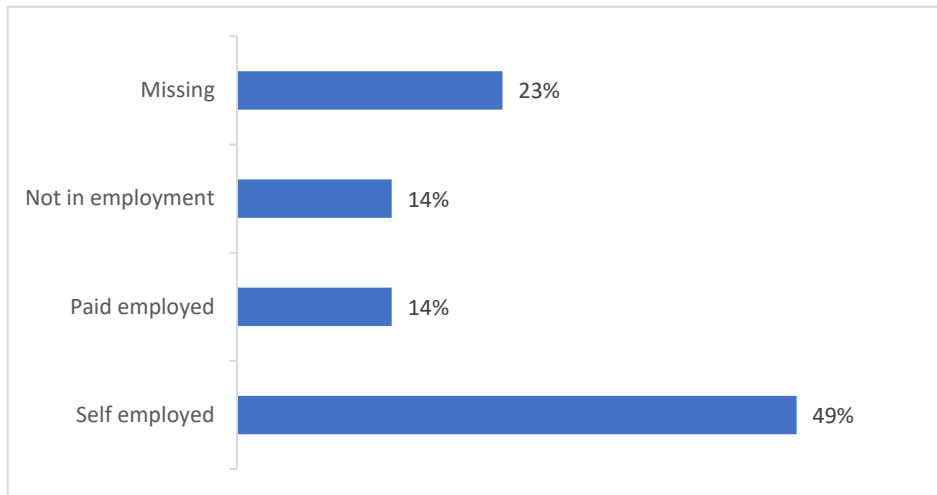
Time	$\Delta$ income	
	Male	Female
1	.705 (.053)	.648 (.093)
2	1.464(.091)	1.899 (.172)

**TABLE 12.****Outcome changes and gender (the UK data)**

Time	$\Delta$ Job Satisfaction		$\Delta$ Life Satisfaction		$\Delta$ income	
	Male	Female	Male	Female	Male	Female
1	-.077 (.235)	.931 (.298)	.048 (.129)	-.163 (.197)	-.779 (.191)	-.417 (.242)
2	.754 (.220)	1.083 (.324)	-.358 (.198)	-.676 (.344)	-.643 (.151)	-.397 (.191)
3	1.266 (.383)	.581 (.282)	-.232 (.239)	-.142 (.351)	-.638 (.195)	-.350 (.296)
4	.527 (.324)	.500 (.472)	-.156 (.273)	-.315 (.419)	-.342 (.204)	-.133 (.198)

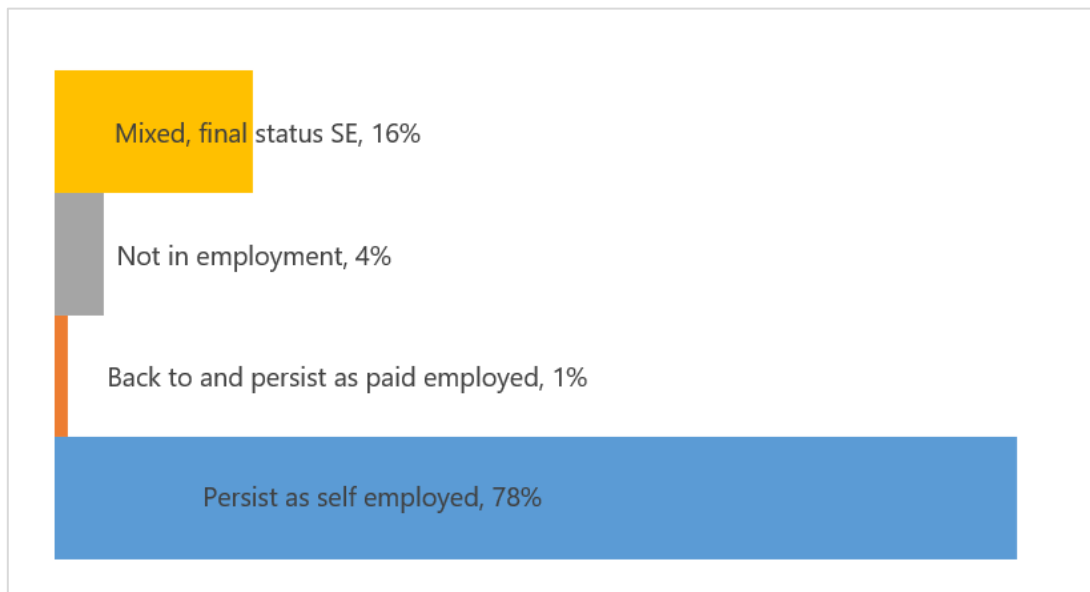
**FIGURE 1**

**Survival rate in self-employment for over 7 years after the transition (Indonesian data, based on respondents' job status in 2007 survey)**



**FIGURE 2.**

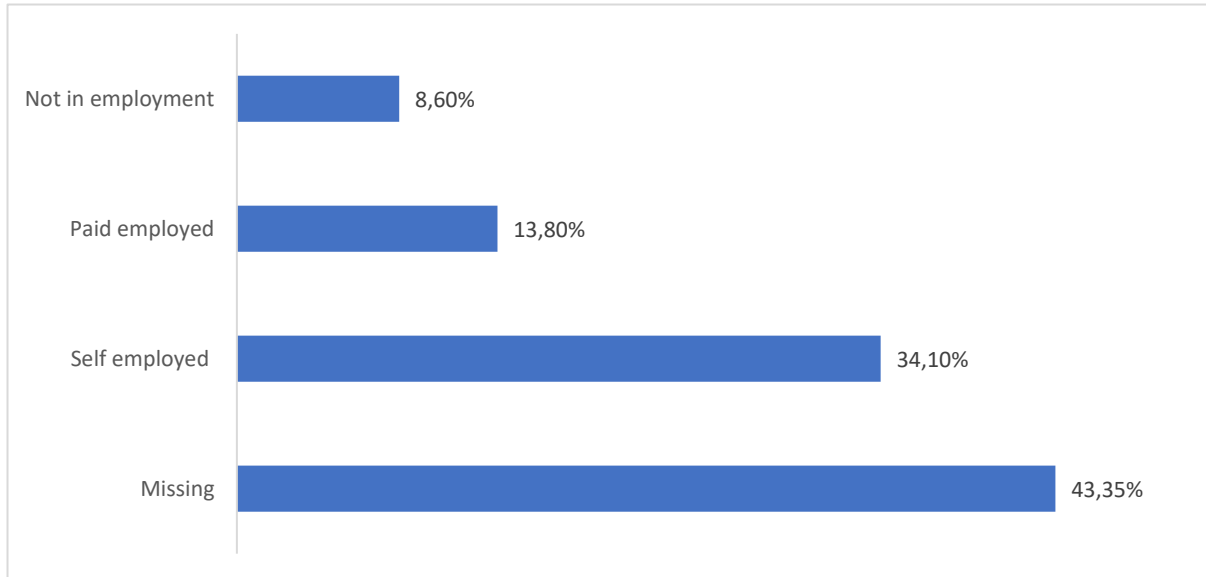
**Career patterns of paid employees who switched to self-employment during the crisis (Indonesian data)**





**FIGURE 3.**

**Survival rate in self-employment for over 5 years after the transition (the UK data)**



**FIGURE 4.**

**Career patterns of paid employees who switched to self-employment during the crisis (the UK data)**

