



GLOBAL JOURNAL OF MANAGEMENT AND BUSINESS RESEARCH: B
ECONOMICS AND COMMERCE

Volume 14 Issue 4 Version 1.0 Year 2014

Type: Double Blind Peer Reviewed International Research Journal

Publisher: Global Journals Inc. (USA)

Online ISSN: 2249-4588 & Print ISSN: 0975-5853

The Retired, The Resigned, or The Laid-Off? Who are the Urban Self-Employed?

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GJMBR-B Classification : *JEL Code: M29 , P25*



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I. INTRODUCTION

China, as an outstanding representative in the world of transitional economies has been intensively studied for its remarkable economic success. With overwhelming world attention focused on China's market, entrepreneurship and self-employment in China are often questioned while at the same time commanding widespread curiosity. Globalization and marketization in China makes private ownership increasingly cherished. The market plays an increasingly important role, even more important than is realized outside of China. Ownership of businesses and being self-employed start to gain popularity in China; Zhang (2013) has investigated and found an important role of entrepreneurship in economic growth in China.

Entrepreneurship is often measured by self-employment. While the relationship between unemployment and entrepreneurship or self-employment has not arrived at a conclusive or consistent consensus in previous literature, the detailed unemployment forces that is associated with self-employment in China has not been studied. With the rising private business ownership and the importance of market economy, the self-employed played an increasingly critical economic role. Further examining the relationship between three unemployment types and self-employment and under-

standing who the urban self-employed are therefore become the focal point of this study.

The value of this study is to goes one step further beyond Zhang (2013) to investigate forces related to self-employment, and to be more specific, the associations between different unemployment types and self-employment propensity in China in recent years. As a rising developing economy, the insights for self-employment forces we gain from China could be extended to the developed world in general.

II. LITERATURE REVIEW

a) Unemployment and Self-employment

The relationship between unemployment and self-employment has inconsistent literature evidence. Some literature finds that unemployment positively affects the probability of self-employment (Meager, 1992; Evans and Leighton, 1989; Bogenhold and Staber, 1991). Other investigators have found a negative relationship between regional unemployment and self-employment in cross-country studies (Blanchflower and Oswald, 1990; Acs and Evans, 1994; Taylor 1996; Blanchflower and Oswald, 1998). In China, approximately one third of entrepreneurs had experienced a spell of unemployment (Yueh, 2009).

On the one hand, from the macroeconomic perspective, when the economy is in the downturn, with an increasing unemployment rate, the market demand is low and there could be limited business opportunities. Workers suffer from reduced incomes and reduced availability of capital for self-employment, resulting in higher financial risk (Congregado, 2012). On the other hand, from the individual occupational choice perspective, many individuals have chosen self-employment when facing unemployment. Facing unemployment when paid jobs are difficult to get, workers' earning needs pushed them to seek for the alternative labor market option-- self-employment (Storey and Johnson, 1987). This is particularly true when the benefits of unemployment insurance is not attractive (Martinez-Granado, 2002; Parker and Rougier, 2004).

When unemployed workers chose self-employment or entrepreneurship, some are necessity entrepreneurs and some are opportunity entrepreneurs. Opportunity entrepreneur refer to people voluntarily choose to become the self-employed due to the consideration of individual positive benefits such as time flexibility, independence or freedom, wealth, self-

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fulfillers, health, and other personal motivation factors (Dawson, 2009). Necessity entrepreneurs refer to those who were pushed into self-employment due to external negative factor such as structural unemployment, the lack of paid employment, and layoff (Dawson, 2009). Among those who are unemployed and then choose to become self-employed, a largely share comes from older individuals. Self-employment on the other hand often serves as a —bridge job|| for older individuals (Quinn, 1980; Zhang 2008). Age therefore is a related factor in this investigation.

b) Factors for Older Individuals' Self-employment

Despite the collision of the recent large-scale economic downturn and the entrance of the first baby boomer cohort into wage-and-salary retirement ages, self-employment rates among older adults continue to be an important alternative to retirement in later life (Cahill, Giandrea, & Quinn, 2013). The prevalence of self-employment increases substantially with age, both because self-employed people work longer and many wage-and-salary ¹ workers, i.e. those working for others, turn to self-employment in later life. In fact, approximately 18% of employed persons over age 65 are self-employed (Hipple, 2004).

Zhang (2008) has found out that older individuals who have reached the average retirement age and are still active in the labor force are more likely than their younger counterparts to be self-employed and to be entrepreneurs. Outside of those who arrive in later life as self-employed individuals, people become self-employed in later life in response to both—push and —pull mechanisms (Zhang, 2008). With regard to —pull mechanisms, older people may find the opportunity for a flexible work schedule attractive due to the ability to balance work-life with other activities that are important during the early stages of later life such as self-care, volunteering, caregiving, or leisure activities. In this way, self-employment provides a model of employment that facilitates greater control and flexibility (Zhang, 2008). As explained by socio-emotional selectivity theory (Carstensen, 1992), as people age, their focus tend to change from career and family goals, to opportunities that allow them to focus on emotionally meaningful activities. Thus, self-employment itself may be a meaningful way for some to participate in economic activities, but it may also offer the flexibility to mix paid work with other unpaid meaningful activities.

With regard to —push mechanisms, as described by Zhang (2008), self-employment may be a choice for older workers who need to remain employed when wage-and-salary positions are not available or who feel their jobs no longer effectively utilize their human capital. Older workers' employment situation is

tenuous in times of economic uncertainty, in part because their salaries are higher and perceptions that they are less able to learn new skills. Coupled with factors associated with age discrimination, Lavarreda, Snyder, & Brown (2013) suggest that older workers were hit harder by the recent economic downturn than any other age group. Rather than being pushed out of the labor force completely, when faced with difficult options, some older workers choose self-employment.

As for the —pull mechanisms, according to Zhang (2008), many seniors would like to continue to fulfill their life by making good use of their invaluable human capital and wisdom. After working numerous years in life, seniors have accumulated abundant working experience, management skills, wisdom, networks and business ties, and they tend to be more ethical and loyal. Seniors also have better language skills. Human capital is the driver for our current economy, the knowledge economy. In this context, seniors with skills and human capital are a particularly valuable asset to our economy. Regardless of the —push or —pull mechanisms that lead to self-employment, self-employment could provide a way for older people to utilize their human capital to produce income for their own needs and benefit the overall economy (Zhang, 2008).

III. RESEARCH HYPOTHESES

Part of the reason that previous literature cannot found consistent relationship between unemployment and self-employment could lie in the diversity in unemployment types. Therefore, this study investigates further on the impacts of three different types of unemployment on self-employment. Using data from China Labor Statistical Yearbooks, we identified three types of unemployment among all unemployed individuals: being retired, laid-off, or resigned.

The three types are largely different from each other. Retired workers could retire with cumulated working experience, social ties, and even necessary wealth to be self-employed. Workers who resigned could resign for better career opportunities including certain entrepreneurial ambitions. Those two types, particularly the resigned, could be more likely to be opportunity entrepreneurs or opportunity self-employers when they choose to be self-employed or be business owners. However, for the retired, typically with fewer job opportunities elsewhere, they could also be necessity entrepreneurs or necessity self-employers if they could not find a job elsewhere but still need or want income.

People who are laid off were the ones who are unfortunate to be pushed out of wage-and-salary jobs. They could be fired due to poor performance, insufficient skills, or ethic issues. Those could become necessity entrepreneurs or necessity self-employers if they had the recourse to be self-employed. They could

¹ In this study, —wage-and-salary worker|| means workers who work for someone else as an employee, not working for themselves.

also be the ones who were laid off because company merger/acquisition issues, change of leadership and policies, or structural unemployed. Those workers do not necessarily have low skills and could not find a job elsewhere. Although they could become necessity self-employers, they could also become opportunity self-employers who on the one hand were pushed by the unemployment and on the other hand grasped the career opportunity to have more control for themselves. Moreover, those who are laid off might not go for self-employment, particularly if they lack certain skills, resources and determination to be self-employed. They could linger for government unemployment insurance benefits or await family members' help while looking for another job. Compared to the previous two types of unemployment, this group is the only one that could be eligible for unemployment insurance benefit because they are involuntarily unemployed. In addition, when the economy is suffering from downturn, the number of laid off workers will increase. The poor market demand would also self-employed businesses.

It seems that being opportunity or necessity self-employers is not the key dividing point for the diverging relationship between unemployment and self-employment. More importantly, whether workers are eligible or received unemployment insurance could be more relevant; equally relevant could be the macroeconomic factors. We therefore instead of using necessity versus opportunity self-employer, we just focused on the three types of unemployment. The laid-off propensity would be the only representing potential unemployment insurance eligible group and the laid-off also could reflected the macroeconomic ups and downs. Please note that we only focus on urban self-employment to exclude rural self-employment that could be less knowledge-based or quite different from urban self-employment. Our research hypotheses are:

The model is presented as follows:

$$DP(SE)_{it} = \alpha + \beta_1 DP(Retired)_{it} + \beta_2 DP(Laidoff)_{it} + \beta_3 DP(Resigned)_{it} + \beta_4 AgeGroup_{it} + \beta_5 Female_{it} + \sum \lambda_k Year_{it} + \varepsilon_{it}$$

α, β, λ are regression coefficients.

i, t denotes individuals and year respectively.

k denotes the number of years, from 2005 ($k=1$) to 2009 ($k=5$).

D denotes a differenced term.

P denotes propensity. In this study it is in percentage points.

$DP(SE)$ denotes self-employment propensity change from year $t-1$ to year t , in percentage points.

$DP(Retired)$ denotes retirement propensity change from year $t-1$ to year t , in percentage points.

$DP(Laidoff)$ denotes layoff propensity change from year $t-1$ to year t , in percentage points.

$DP(Resigned)$ denotes resignation propensity change from year $t-1$ to year t , in percentage points.

$AgeGroup$ is for age groups with 1 for age group of 16-19, 2 for 20-24, 3 for 25-28, 4 for 30-34, 5 for 35-39, 6 for 40-44, 7 for 45-49, 8 for 50-54, 9 for 55-59, 10 for 60-64, 11 for 65 and up.

$Female$ denotes the gender dummy variable with 1 means female and 0 for male. $Year$ denotes the year dummy variables.

ε_{it} denotes the random error term.

1. Among the unemployed individuals for the recent years, a higher retirement propensity is related to a higher urban self-employment propensity.
2. A higher resignation propensity is associated with a higher urban self-employment propensity.
3. A higher lay-off propensity have a negative or insignificant association with urban self-employment propensity.

IV. METHODOLOGY

We used the data from the China Labor Statistical Yearbooks for annual employment and unemployment data covering years of 2005 through 2009, across eleven age groups and two genders. We therefore conducted a panel data modeling for this analysis.

Our dependent variable, $DP(SE)$, measures the changes of self-employment propensity from one year to a later year. The self-employment propensity is measure by self-employment rate for a specific age group of a specific year, then weighted by the corresponding population size to represent the unbiased population representation.

Our key independent variables include the propensity of being retired, $DP(Retired)$, being laid-off, $DP(Laidoff)$, and resignation, $DP(Resigned)$. Similarly, those three variable propensity rates also used corresponding population weights.

Our control variables include age, gender, and year. Age is the measured by age groups, with a higher value meaning an older age group. Totally 11 age groups are included starting with age of 16, the starting workforce eligibility age. Gender and year variables are dummy variables.

The model estimates are followed by diagnostics, such as VIF multicollinearity test, Breusch-Pagan (1979) and Cook-Weisberg (1983) test for heteroskedasticity, and residual plot examination. Panel data regression diagnostics are necessary to check the robustness of the model.

V. DESCRIPTIVE STATISTICS

The data shows that there is a slight upward trend for the mean self-employment propensity (in percentage) among all workers. For the three types of unemployment under observation, only the propensity of the resigned has a clear and consistent upward trend.

This indicates an increasingly large pool of career opportunities for workers, which is consistent with the rising China's economy during those years.

The overall retirement propensity among the unemployed also slightly trends up, though with fluctuations. The propensity of layoff had a little rise in 2006 and then trended down, and with an overall minor decline, comparing that in 2009 to that in 2005. This observing period of 2005-2009 is a high growth period with GDP growth rate ranging from 8.7% in 2009 to 11.4% in 2007, with 2006 and 2007 the highest growth rate, according to data from the National Bureau of Statistics.

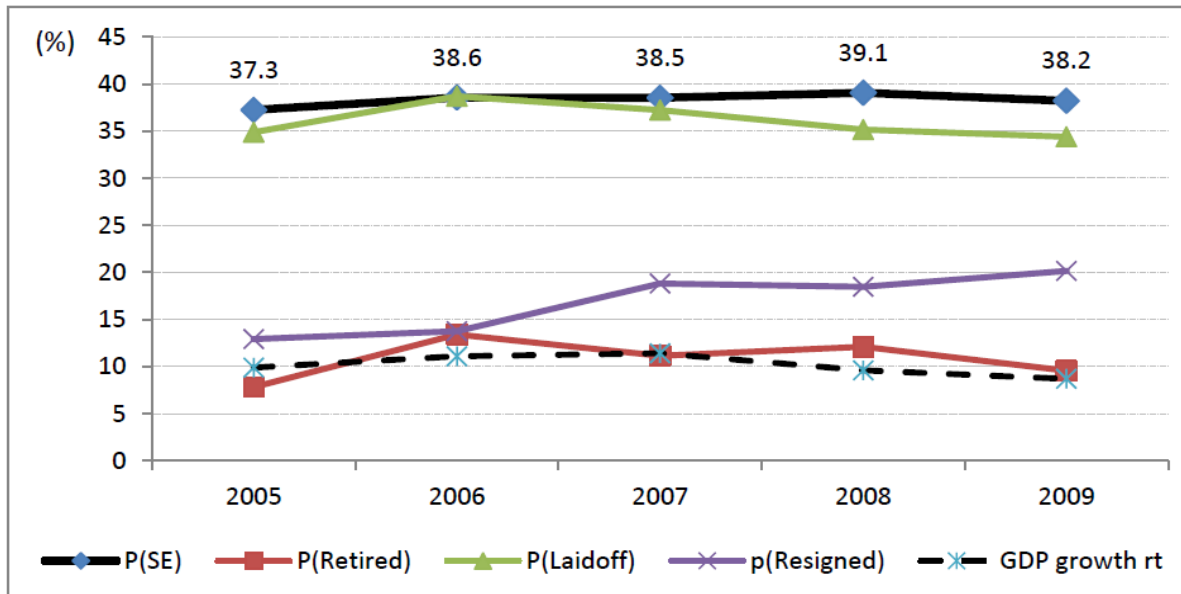


Figure 1 : Self-employment and Unemployment Type Propensity and GDP Growth Rate by Year

Based on our variable summary statistics (shown in Table 1), the mean change of self-employment propensity from one year to a later year was -0.24. This means averagely the self-employment rate dropped by 0.24 percentage points in the following year in China for years of 2005-2009. Please note that self-employment rate here is defined by the self-employed among all workers, not among the labor force or among the population.

The mean change of retirement propensity was 0.17, indicating an averagely 0.17 percentage point increase in the next year for the retirement propensity

among the unemployed. There is a gradually enlarging retirement population during the observing years. This reflects the aging situation among the unemployed.

The change of layoff propensity among the unemployed decreased by 0.51 percentage point yearly and the change of resignation propensity among the unemployed increased by 1.97 percentage points yearly.

The mean age group is valued at 5.3, meaning the average workers' age in China during 2005-2009 is between 35 and 39. Among China's workers for years of 2005-2009, 48% are female.

Table 1 : Summary and Variables

Variable	Mean	Std. Dev.	Min	Max
DP(SE)	-0.24397	1.252352	-3.7	5.9
DP(Retired)	0.169193	8.482766	-25.7	38.6
DP(Laidoff)	-0.50791	4.800101	-22.2	26.3
DP(Resign)	1.972804	3.835846	-11.1	11.3
AgeGroup	5.302829	2.31687	1	11

Female	0.484949	0.499811	0	1
Yr_2006	0.19876	0.399097	0	1
Yr_2007	0.19997	0.400008	0	1
Yr_2008	0.201331	0.401025	0	1
Yr_2009	0.201785	0.401363	0	1

VI. PANEL DATA MODEL ESTIMATES

Our panel data modeling results is presented in Table 2. Our results support our research hypotheses. Both of the retirement rate and the resignation rate among the unemployed are positively related to self-employment propensity. Controlling for all other variables, when retirement propensity change among the unemployed trends up by one percentage point, the self-employment propensity change among all workers increase by 0.01 percentage points. This is statistically significant at 0.01 level.

Holding other variables constant, when resignation propensity change among the unemployed goes up by 1 percentage point, the self-employment propensity change increased also by 0.01 percentage points and this is statistically significant at 0.1 level. This shows that those who are retired and those who resigned from their previous jobs in China during the years of 2005-2009 are more likely to be self-employed, compared to other types of unemployment, no matter they are pushed or pulled into self-employment. As mentioned earlier, those who resigned from their previous jobs could be the ones who have alternative career ambitions and options that their current jobs cannot satisfy and therefore they are very likely to shift to self-employed if other wage-and-salary jobs as an employee cannot satisfy those ambitions.

Those who are retired with skills and social capital have the resources to be self-employed; others who are retired but would like to or need to continue

working might find it difficult to find a wage-and-salary job as an employee and therefore are pushed into self-employment. Our result shows that those two types of unemployment, retired and resigned, contribute to a higher self-employment propensity.

However, the layoff propensity among the unemployed does not seem to have a clear association with the self-employment propensity change. The coefficient for the layoff propensity change is statistically insignificant. This could be related to the diversity of unemployment reason among those laid-off, as mentioned earlier. For those who lack skills, they might not have the skills and resources to be self-employed as well. For those who lost their jobs for structural reasons, they might not necessarily lack any skills or resources to be self-employed and they might easily find jobs elsewhere. This could also be related to the fact that the higher level of laid-off largely reflected the macroeconomic downturns; macroeconomic downturn means fewer employment opportunities, including overall limited self-employment opportunities. Although one may argue that the period of 2005-2009 is the booming period for China's economy, it does not exclude the macroeconomic growth ups and downs. A longer time horizon that includes major macroeconomic booms and busts would be even better, but it does not mean that the period of 2005-2009 does not reflect macroeconomic fluctuation at all. However, the general economic boom means the market demand influence would be very limited.

Table 2: Panel Data Model Results

Dep Var= DP(SE)	Coef.	Sig
DP(Retired)	0.0122	***
DP(Laidoff)	-0.0024	
DP(Resign)	0.0127	*
Female	-0.7900	***
Yr_2007	-1.0018	***
Yr_2008	-0.3074	***
Yr_2009	-0.8882	***
AgeGroup	-0.0502	***
Constant	0.7382	***
Number of obs	=	1732
F(8, 1723)	=	93.35
Prob > F	=	0.0000
R-squared	=	0.3024
Adj R-squared	=	0.2991

It is not surprising that female workers are associated with lower self-employment propensity. This is consistent with situation in most other countries. Being female reduces the self-employment propensity yearly change by 0.79 percentage point, holding all other variables constant. This gender effect is also statistically significant at 0.01 level. Females are typically assumed more child responsibilities and also our society is largely male-dominated, though women are playing increasingly and more visible role in our economic world.

For the year control variables, compared to the self-employment propensity change from 2005 to 2006, all later years' yearly self-employment propensity changes are smaller.

An interesting finding is the age effect. As we know, older ages are associated with higher self-employment rate among all workers (Zhang, 2008). This study shows that older ages are also associated with a decline in self-employment rate change among all workers. Controlling for all other variables, an older age group is associated with 0.05 percentage point drop for self-employment rate change among all workers. This indicates that on the one hand, older workers are more likely to be self-employed, on the other hand, this older age effect is declining with later years. This could be related to the booming economy in China during those years that reduce the need for post-retirement work for earnings. This could also be related to recent years' development of various senior citizen programs and communities that play an increasingly important role in satisfying many seniors' needs for social activities and engagement.

Our model diagnostics indicates there is no concern for multicollinearity issues. The Breusch-Pagan / Cook-Weisberg test for heteroskedasticity also shows no major concern for heteroskedasticity. Neither does our residual plot cause any major concern. The detailed diagnostic statistics are presented in the Appendix.

VII. LIMITATION OF THE STUDY

A major limitation of the study is the data. We used the Labor Statistical Yearbook that is aggregated labor data across age, gender, and other factors. However, to best investigate the unemployment forces for self-employment, the best dataset would be longitudinal micro data at individual level. We did not have the luxury for the data we want. We therefore had to use population weights to apply to population group data that we used. This situation removed much noise of uncontrollable inter-personal heterogeneity for individual level data and allowed us to simplify the study into limited variables of interest; however, it also only allowed us to model over the population group averaged values and killed the necessary statistical variation that is often helpful for evidence-based research.

Another limitation of the study is that we only have 5 years of data for this investigation. China was in economic boom during the 5 observed years, with only limited economic fluctuation. A longer time horizon will give us more evidence on how macroeconomic factor that largely affect the quantity of the laid-off is related to self-employment and then we can single out the negative association between unemployment and self-employment. This would better assist us investigating the difference unemployment forces for self-employment.

This study focused on the association between the self-employment and three types of unemployment; it did not imply causation. It is possible that the three types of unemployment caused different self-employment effects; it is possible that the three types of unemployment and self-employment propensities had co-movement and statistical association; it is also possible that self-employment impacted the three different unemployment types. It is one of our future research interests to investigate on the causal loop.

Also, this study overall is an exploratory study. Our model can further be fine-tuned to better address the research questions by adding more variables and trying out different model specifications. This will be another future research direction to continue this investigation.

VIII. CONCLUSION

China, as a high-growth economy, has attracted much academic attention. Entrepreneurship, that is often tangibly measured by self-employment, is found to be important for economic growth in China, as well as in many other countries. Despite numerous research on push and pull factors for entrepreneurship and self-employment, it has been a puzzle on the relationship between unemployment and self-employment. The forces of unemployment for self-employment have not been found with consistent evidence. This study therefore tested the forces of three different types of unemployment in self-employment propensity. We found that retirement and resignation among those unemployed are associated with self-employment rate growth, while the effect of those laid-off is unclear.

Those who voluntarily left their wage-and-salary jobs are an important contribution to the self-employment propensity. Those who resigned are the ones most likely to be opportunity entrepreneurs or opportunity self-employers. This reflects the pull effect of self-employment among those who have career ambition for more freedom, control, self-fulfillment, and other motivations.

The retirement propensity change has a positive association with self-employment propensity change. Consistent with findings from other countries, older workers who are retired tend to have a higher self-employment propensity. Older workers retired with skills,

business ties, and even wealth to be self-employed if they choose to continue working. Also older workers tend to lack opportunities to be employed elsewhere and therefore self-employment becomes their alternative working option.

The laid-off propensity change has a statistically insignificant association with self-employment propensity change. This reflects three situations of the laid-off. For those who are laid off due to poor work performance or insufficient skills could be the ones who do not have sufficient skills or resources to easily be self-employed as well, but they could also be necessity self-employers who cannot find jobs elsewhere but self-employment. For those who are laid off due to merger/acquisition or other structural unemployment, they do not necessarily have low skills. They might find jobs elsewhere instead of being self-employed, but they might also choose to be self-employed for better control of their economic life. For those who are laid off because of macroeconomic downturn, the macroeconomic downturn means lower market demand and could also mean limited self-employment opportunities. However, as the observing period of 2005-2009 is a booming period of China, the macroeconomic downturn effect would be largely limited.

Another interesting finding is that older age groups are associated with a negative self-employment propensity change. Although older workers have higher self-employment rates, during the years of 2005-2009, we see from our model a downward trend of older workers' self-employment propensity. This could be related to the booming economy in China that reduces the need to retirees to further seek for employment for earnings; it could also be related to recent years' seniors' community and program progress in China.

The study is not without flaw. We wish for better data that has individual level data and cover more years for both economic booms and bust. As an explorative study, much is proposed to be done in the future to continue this investigation.

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