



Longitudinal Studies of Entrepreneurs and Firms: Pre-history and Post-history

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Outline

1. Using longitudinal matched employer-employee data to study entrepreneurs and firms
2. Entrepreneurial backgrounds and human capital
3. Entrepreneurial exit
4. Are former entrepreneurs rewarded or penalized by the labor market?
5. Concluding Remarks

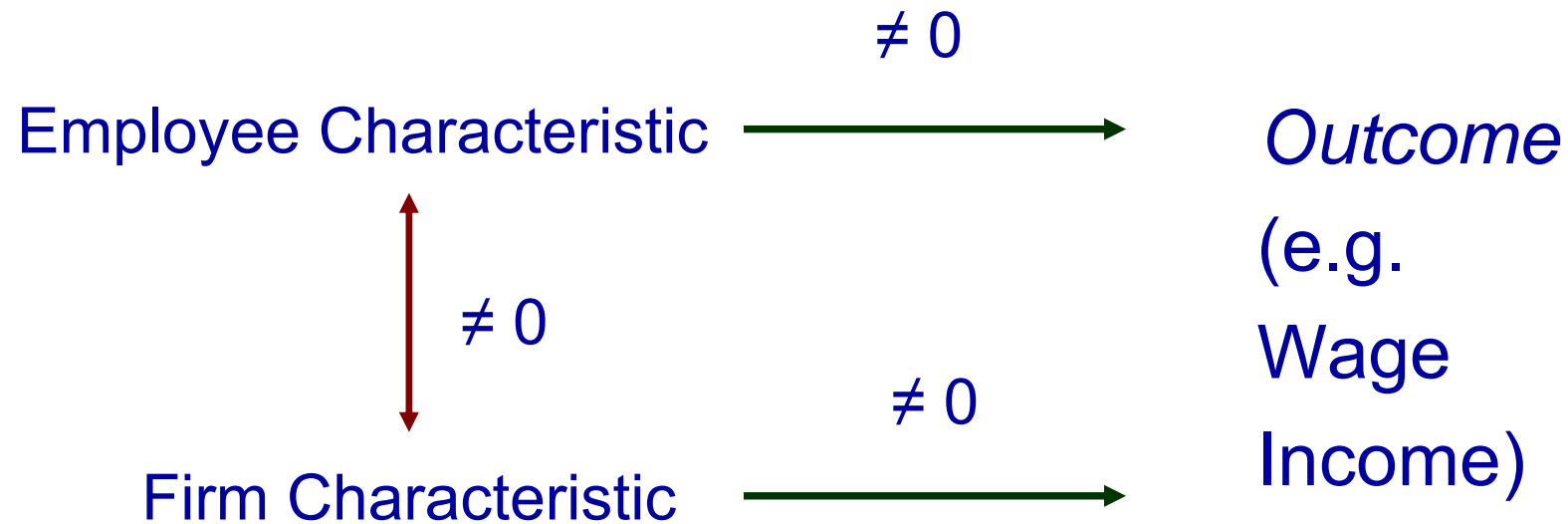


Introduction

- The longitudinal and often all-inclusive nature of large surveys matching firms, owners, and employees makes these data sources particularly useful to answer research questions where interrelated heterogeneous factors concerning firms and individuals require large, unbiased samples with the possibility to investigate a variety of factors simultaneously
- In particular, longitudinal data allow us to study the pre-history and post-history of firms and entrepreneurial experiences
- This presentation provides examples of this capability



An Example





The Data

- The *Quadros de Pessoal* Database is a longitudinal matched employer-employee microdata set covering all business units with at least one wage-earner in the Portuguese economy, including extensive information on firms, establishments, business owners and employees from 1986 to 2002
- Firms, establishments and individuals are fully cross-referenced through the use of a unique identification number, thus allowing for the recognition of entry and exit of firms and plants, as well as tracing the mobility of workers and business owners across firms and establishments over time
- Data on firms include size (employment), age, location, sector and number of plants; data on business owners and employees include gender, age, hierarchical level, tenure, and schooling



Entrepreneurial Backgrounds and Human Capital



Pre-entry Capabilities and Entrepreneurship

- Pre-entry resources and capabilities drive both entry decisions and post-entry performance
- Entrepreneurial entrants possess unique pre-entry capabilities enabling them to recognize and exploit opportunities
- Literature in organizational ecology has examined the transfer of routines and experience across firms
- A stream of management literature has argued that the success of new organizations is fundamentally shaped by the previous experiences of their top managers
- Klepper (2001, 2002) finds traction for these arguments in the context of entrepreneurial spin-offs



Founder Human Capital and Early Success

- “Opportunities do not come to fruition without unique insights, perspectives, and interpretations by the founders, and are not transformed into wealth generation without organizing actions” (Busenitz, West, Shepherd, Nelson, Chandler and Zacharakis, 2003)
- Scholars in economics and organizational ecology have argued that new firms are unsure about the fit between their competences and market requirements prior to entry and need time to get set up, make organization-specific investments, develop specific knowledge, trust and appropriate routines
- Newly formed entrepreneurial teams begin with a set of endowments: knowledge, skills, experience, cognition and social ties that should help young firms survive the critical years after start-up



Founders' Backgrounds and Human Capital

- Longitudinal data allow us to study the importance of pre-entry entrepreneurial capabilities using the backgrounds of founders: education, career history, and occupational background can be used as proxies for the accumulation of knowledge, skills, experience, and social ties
- Founders with greater human capital should be less uncertain about their efficiency and learn about markets faster, so their firms should be more likely to survive the early years after start-up
- Specific forms of entrepreneurial human capital can be associated with phenomena that have been highlighted by entrepreneurship research as being related with the extent of opportunity identification and exploitation: spin-offs and habitual entrepreneurship



Key Arguments

- Formal education should help individuals acquire abilities to better recognize and exploit opportunities
- People with more work and managerial experience should be more likely to have developed the necessary skills to organize new businesses and raise capital
- Spin-off founders should be more likely to have specific knowledge about customer demand, products, technologies, suppliers and competitors, to exploit prior scientific and technical training, and use new knowledge and technological developments to target unfulfilled customer needs
- Entrepreneurial human capital may also manifest itself in habitual entrepreneurs, who can learn from their previous experiences



Control Variables

Industry Characteristics:

- Economies of scale
- Barriers to entry
- Market concentration
- Industry life cycle

Firm Characteristics:

- Initial size
- Employee human capital



Empirical Analysis

- We concentrate on people who started firms in Portugal during the period 1995-96, looking at their background over the previous eight years and at the survival probability of their entrepreneurial efforts three years after start-up
- A *Logit* model is used to explain the probability of survival after three years of entrepreneurs who started a business in 1995 and 1996



Main Results

- Control variables have the expected effects – Employee human capital only significantly enhances the chances of survival for relatively large firms (more than 10 employees – about double the average size of entrants)
- Start-ups are more likely to survive the critical first three years if founders have some managerial experience
- Spin-offs have a greater chance of survival and industry experience of founders also significantly improves survival probabilities
- Businesses started portfolio entrepreneurs have a significantly higher probability of survival, but business ownership experience per se has no significant impact on survival chances
- Schooling and work experience – the more general forms of human capital – do not have significant effects on survival chances



Entrepreneurial Exit



Exit and Failure

- In empirical economics firm has been associated mostly with failure
- However, exit may signal success (e.g. if company is acquired), and firm survival may not (e.g. if performance is below standards)
- One way to deal with these differences is to focus on exit as an entrepreneurial choice which is dependent on firm performance and on alternative opportunities



Modes of Exit

- Empirical work has looked at modes of exit in different ways:
 - Merger/acquisition vs. liquidation/bankruptcy
 - Involuntary (bankruptcy, insolvency) vs. voluntary (entrepreneurs' lack of willingness to continue in business)
 - Closure due to bankruptcy vs. divestment due to failure to reach financial/income goals
- More recent work uses data on exit by both firms and entrepreneurs to distinguish between 'sell-off', 'closure' and 'full exit'



Voluntary Exit

- Recognition of a better business opportunity
- Re-entry by starting-up (or acquiring) a different firm
- Resource re-allocation towards other markets
- Better occupational prospects as a paid employee



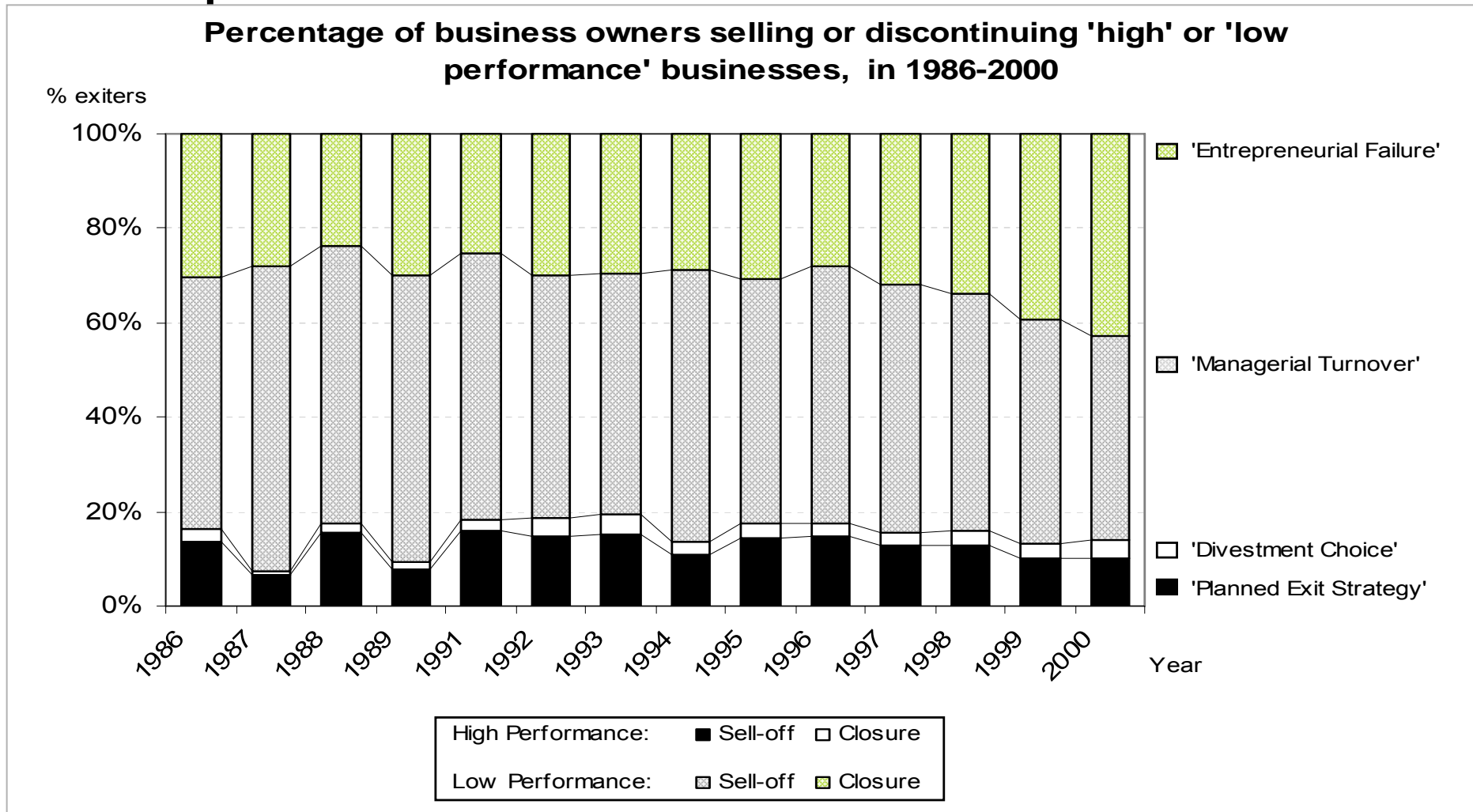
Framework of Analysis

PERFORMANCE

MODE OF EXIT

	LOW	HIGH
CLOSE	<p><i>“Entrepreneurial Failure”</i></p> <p><i>(Bankruptcy, insolvency)</i></p>	<p><i>“Divestment Choice”</i></p> <p><i>(Detecting/creating a better entrepreneurial opportunity)</i></p>
SELL	<p><i>“Managerial Turnover”</i></p> <p><i>(Preventing higher losses)</i></p>	<p><i>“Successful exit strategy”</i></p> <p><i>(Capturing a premium over the firm’s current market price)</i></p>

Entrepreneurial Exit in Portugal: 1986-2000





Main Results

- A considerable number of exits from business ownership take place despite above average performance, suggesting that exit should be dissociated from failure
- Better performance is positively associated with ‘sell-off’
- Experience in the labor market acts as a deterrent of entrepreneurial exit
- Higher education increases the chances of exiting entrepreneurship (higher opportunity cost?)



**Are Former
Entrepreneurs
Rewarded or Penalized
by the Labor Market?**



Differences between Earnings of Former Business Owners and Paid Employees

- If business owners have higher levels of human capital than paid employees and are able to acquire specific knowledge/human capital while running a business, they may earn higher wages when they switch to paid employment than those with comparative skills who have remained in paid employment
- However, exit from business ownership may bring with it a perception of failure, and business ownership experience may be less valued by employers than corporate employment experience



Empirical Evidence

- A few recent studies report either a negative effect of business ownership experience on post–self-employment wage, or no significant effect (Ferber and Waldfogel, 1998; Williams, 2000; 2003; Bruce and Schuetze, 2004; Niefert, 2005; Kaiser and Malchow-Møller, 2006)
- However:
 - Most of these studies concentrate on personal characteristics only
 - Studies only look at wages, and not at the individual's occupational/hierarchical status within the firm



Our study

- We look at individuals who were paid employees in at least one year between 1986 and 2003, including those who are always wage workers and those who experience both business ownership and paid employment
- Individuals who exit business ownership but remain in the same firm are excluded
- Hierarchical levels are coded using the International Standard Classification of Occupations (ISCO) and the International Classification by Status in Employment (ICSE)

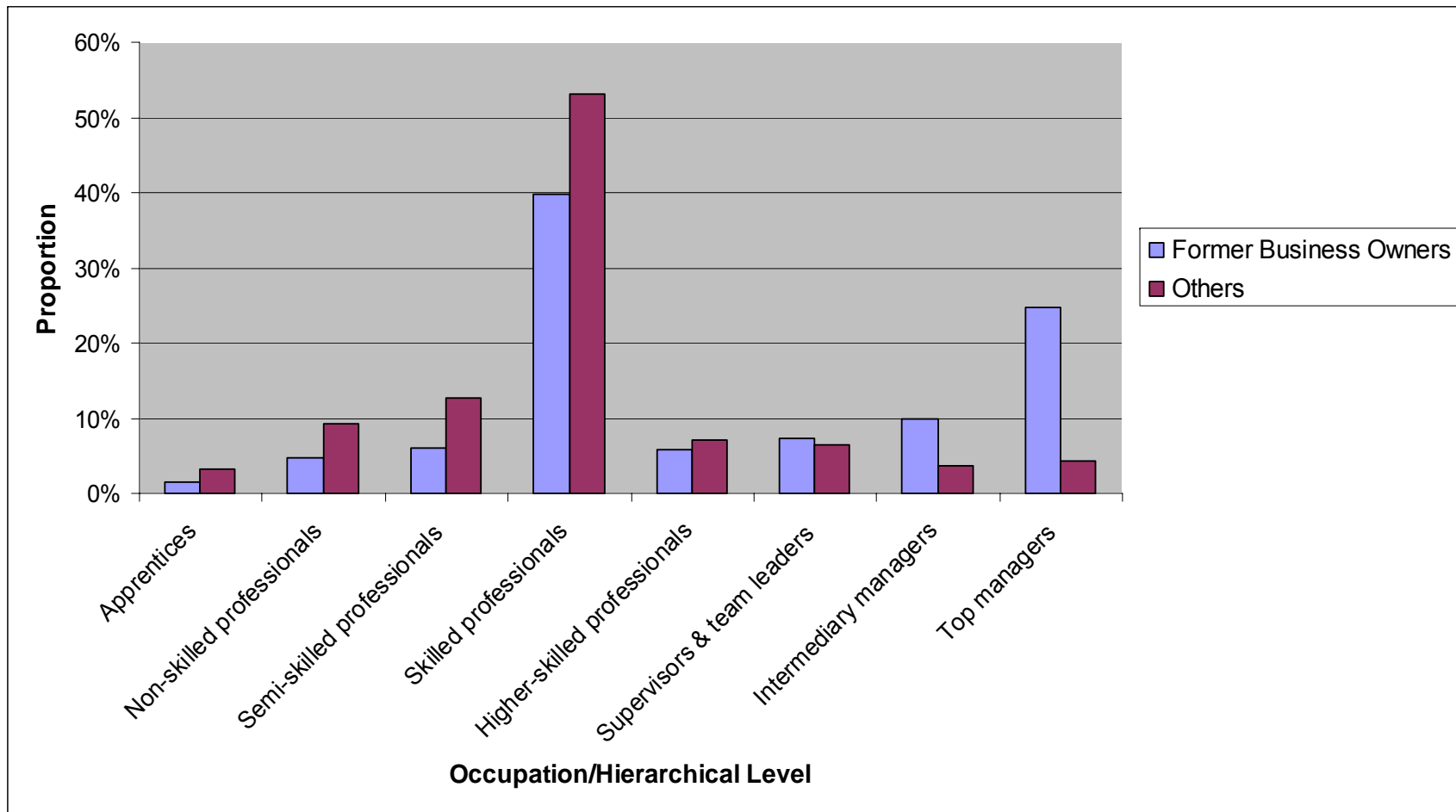


Descriptive Statistics (1995-2003)

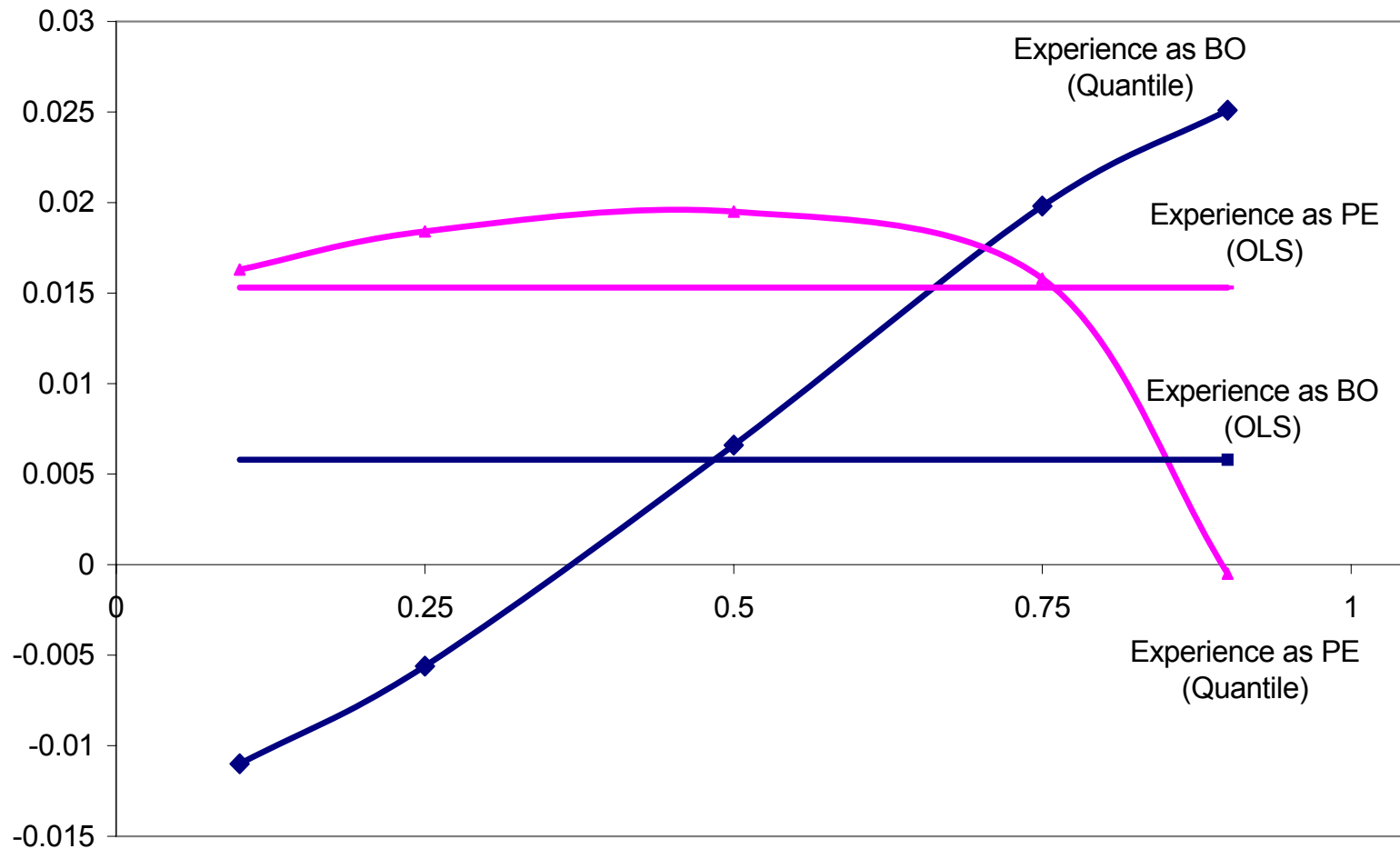
	Former business owners		Always paid employees	
	<i>Mean</i>	<i>St. dev.</i>	<i>Mean</i>	<i>St. dev.</i>
Wage per hour	1.547	0.674	1.477	0.576
Age	43.687	9.678	39.076	10.638
9-years education	0.175	0.380	0.152	0.359
Secondary education	0.151	0.358	0.122	0.327
University education	0.078	0.268	0.031	0.173
Experience in BO	4.963	5.689	0.000	0.000
Experience in PE	8.751	6.950	14.176	8.548
Experience in NE	2.475	2.860	1.418	2.345
Firm size	2.997	1.778	4.504	2.302
No. of observations	152,874		5,807,687	



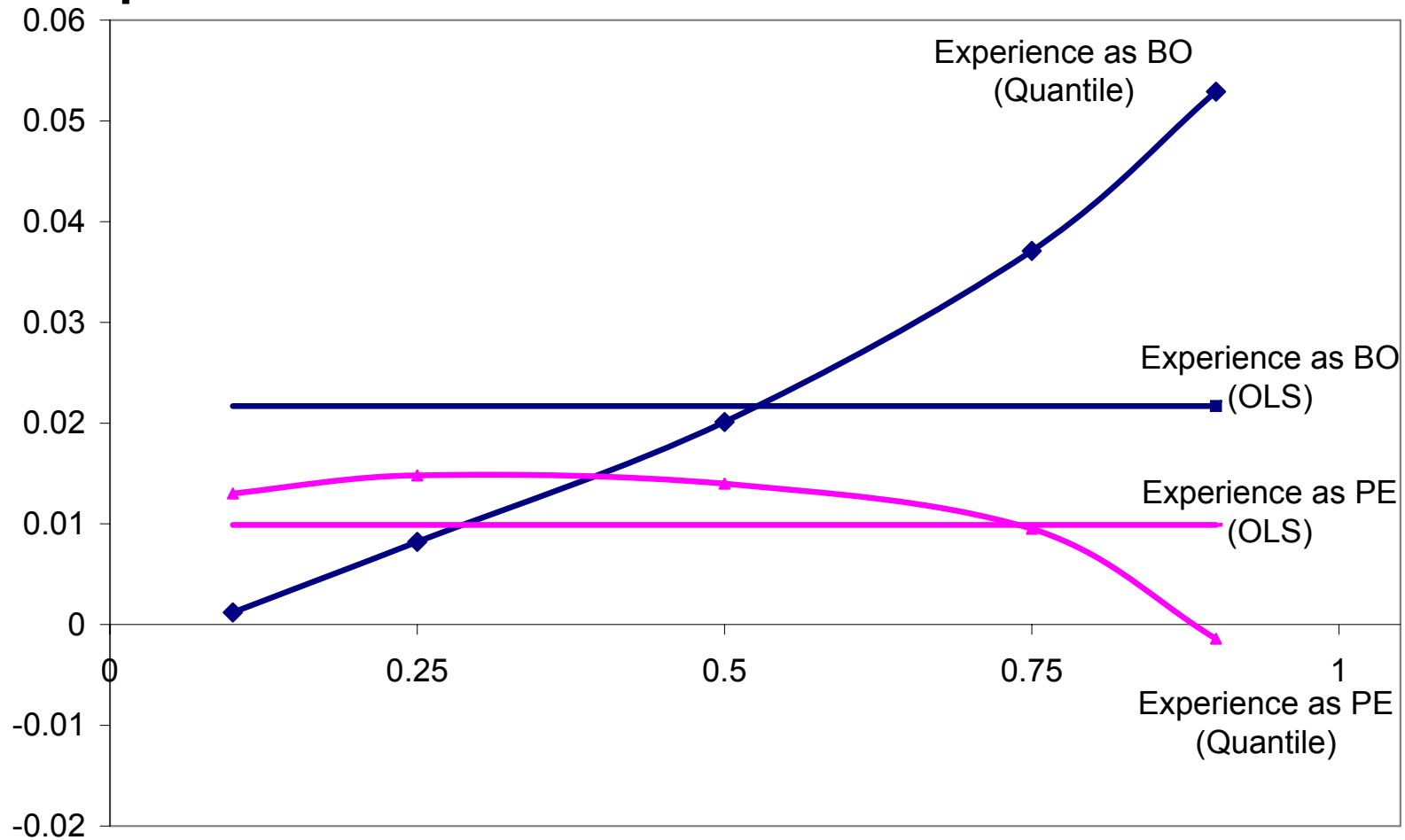
Hierarchical Levels



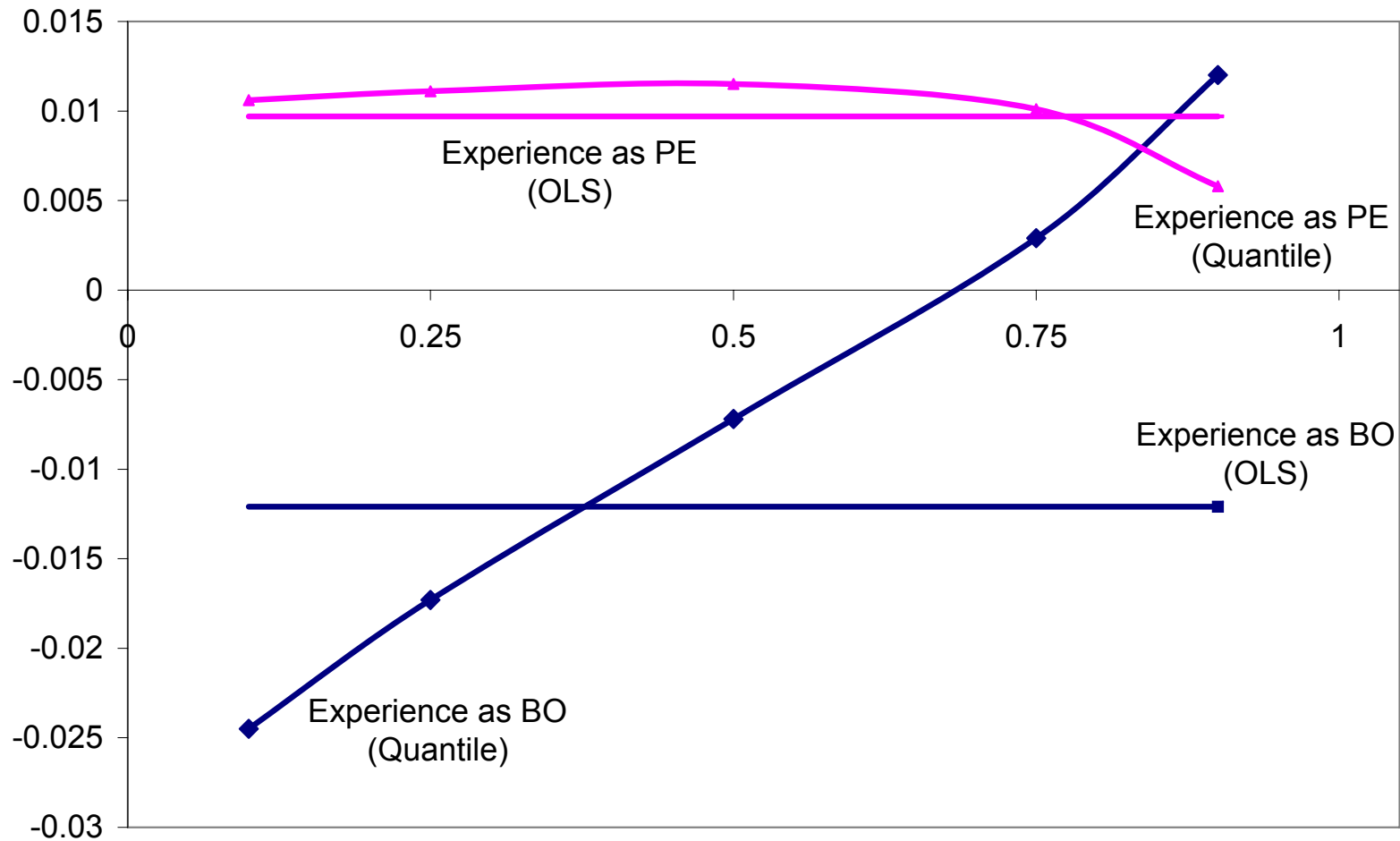
Experience as Business Owner vs. Experience as Paid Employee: Model with Personal Characteristics Only



Experience as Business Owner vs. Experience as Paid Employee: Model with Personal and Firm Characteristics



Experience as Business Owner vs. Experience as Paid Employee: Model Controlling for Hierarchical Levels





Main Results

- When only individual variables are accounted for, former business owners face a wage penalty when compared with those who remained in paid employment
- However, a wage premium emerges when employer size is considered
- When hierarchical levels are controlled for, we find that former business owners suffer a wage penalty when compared with those in the same hierarchical level who have remained in paid employment, but capture a labour market premium associated with better career prospects, as they are significantly more likely to be concentrated at the top of firms' hierarchies



Further work

- There is considerable potential to use detailed longitudinal data to study new issues in entrepreneurial careers and industry dynamics:
 - From which kinds of firms/industries do entrepreneurs come from?
 - Which kinds of firms/industries hire former entrepreneurs?
 - Which combinations of education/labor experience spawn successful entrepreneurs?
 - Which combinations of education/labor experience lead people to work in start-ups?
- There are also limitations!