



# Entrepreneurship

Economics of Innovation

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# Entrepreneurship in Economics Theory

Baumol (1989, *American Economic Review*):

“The theoretical firm is entrepreneurless – the Prince of Denmark has been expunged from the discussion of Hamlet”

# The Industrial Revolution...

- A concentration of many volume-production facilities near arteries of transport and around sources of power.
- The economics of power production led to the establishment of bigger businesses.
- The emergence of the technology for the consistent production of standard items which were thus interchangeable.

# The Rise of Big Business

The essence of Fordist production was:

- Standardized products produced on assembly lines by relatively unskilled labourers
- A centralized, controlling, administrative system
- Producing relatively complicated products very cheaply provided they were in standard forms and large quantities
- Some integrated their businesses vertically giving them greater control over the whole process and further economies

Fordism therefore played a key part in the drive for economies of scale which meant that, for much manufacturing and even some service businesses, bigger was better.

# The Decline of Small Business

The Small Business Administration was created in the USA in 1953 as a government agency to help to preserve the small business sector there.

The Bolton Report: the Committee of Inquiry on Small Firms was set up in 1969 in the UK (under the chairmanship of J E Bolton) with the remit:

‘To consider the role of small firms in the national economy, the facilities available to them and the problems confronting them; and to make recommendations’

# A Better Understanding of Entrepreneurs and Small Business

In *Capitalism, Socialism and Democracy* (1942)

**Schumpeter** described how ‘creative destruction’ led to advances in economic development.

In *The Theory of the Growth of the Firm* **Penrose** reflected on the changes of management and administration needed as a firm grew. As firms grow larger, she said, it is ‘likely that their organisation will become so different that we must look on them differently; we cannot define a caterpillar and then use the same definition for a butterfly’.

# 1970s and Rising Unemployment



# Identifying the Source of New Jobs

Birch (1979):

‘Of all the net new jobs created in our sample of 5.6 million businesses between 1969 and 1976, two-thirds were created by firms with twenty or fewer employees and about 80 percent were created by firms with 100 or fewer employees’.



# 1980s: the Enterprise Decade

In the UK Thatcherism and an 'enterprise culture':  
'the full set of conditions that promote high and rising levels of achievement in a country's economic activity, politics and government, arts and sciences, and also the distinctive private lives of the inhabitants.' (Centre for Policy Studies)

In the USA Reaganism: a belief in supply-side monetarist economics, free markets, limiting state control, reducing regulation.

# The 21<sup>st</sup> Century and a Focus on Entrepreneurship

UK 2004:

‘This government recognises that enterprise is a vital contributor to the health of our economy and to diversity of opportunity in our society. Enterprise boosts productivity, increases competition and innovation, creates employment and prosperity, and revitalises our communities.’

Also:

- Global Entrepreneurship Monitor (GEM)
- OECD – Entrepreneurship at a glance (2016)

# The New Economy

## The Entrepreneurial Economy (Audretsch *et al* )

### **Fordism**

Slow innovation  
Dedicated production technology  
Mass production of homogeneous products  
Mass marketing  
Large inventories  
Vertical and horizontal integration  
Mechanistic organisation

### **Post-Fordism**

Fast innovation  
Flexible production technology  
Small batch production of differentiated products  
Niche marketing  
Low inventories  
Vertical and horizontal disintegration  
Organic organisation

# Features of the New Economy

<i>Factor</i>	<i>New economy</i>	<i>Old economy</i>
Unit of analysis	The entrepreneur	The plant/business
Policy instrument	Knowledge infrastructure	Interest rates
Entry criteria	Knowledge (available to all)	Financial capital (available to a few)
Growth drivers	Entrepreneurs	Managers
Source of competitiveness	Knowledge and value added	Economies of scale and cost reduction
Infrastructure required	Knowledge infrastructure	Transport infrastructure Labour supply
Convergence	Knowledge stays regional	Capital moves to lower wage areas

# Where Are We Now?

- Over the last 300 or so years the perception of enterprise and the role of entrepreneurship and small businesses has evolved.
- Fordism and the apparent superiority of the bigger business are succumbing to a third wave in which entrepreneurship and the smaller business are play a key part.
- The interest in entrepreneurship and small businesses continues

# What is Entrepreneurship?

- The term 'entrepreneurship' has a narrow meaning and refer almost exclusively to the process of starting and/or running some sort of business
- We now tend to distinguish between entrepreneurship and self-employment (or general firm creation) by referring to entrepreneurship in those situation in which a degree of novelty (in whatever area of the business) is present

# Who is an Entrepreneur?

- “Entrepreneurs are people who have the ability to see and evaluate business opportunities; to gather the necessary resources to take advantage of them; and to initiate appropriate action to ensure success” (Meredith et al. 1982)
- “A person who organizes, operates, and assumes the risk for a business venture” (American Heritage Dictionary)
- “The entrepreneur is a person who organizes and manages a business undertaking, assuming the risk for the sake of profit” (Webster’s New World Dictionary)

# Who is an Entrepreneur?

- Cantillon (1755)
  - Entrepreneurs have fixed costs, such as the rent or the wages they pay, but their income is uncertain because it depends on factors beyond their control.
- Jean-Baptiste Say (1800):
  - Entrepreneurs are people who can effectively manage all of the factors of production.
- John Stuart Mill (1848)
  - the distinguishing feature of an entrepreneur was that they assume both the risk and the management of a business



# Schumpeter

- “The function of entrepreneurs is to reform or revolutionise the pattern of production. [They do so] by exploiting an invention or, more generally, an untried technological possibility for producing a new commodity or producing an old one in a new way, by opening up a new source of supply of materials or a new outlet for products, by reorganising an industry and so on” (1949)
- Entrepreneurial behaviour:
  - Developing new and innovative products
  - Proposing new forms of organisation
  - Exploring new markets
  - Introducing new production methods
  - Searching for new sources of supplies and materials

# Who is an entrepreneur?

- Can you view every person who starts a business as an entrepreneur?
  - Corner shop owner, or cleaner for example?
- Is profit a mission of all entrepreneurs?
  - Very much debatable, though profit might be necessary at some point

# Entrepreneurs vs SME owners

- An **entrepreneur** capitalises on innovative combinations of resources for the principal purposes of profit and growth and employs strategic management practices.
- The **small business owner** operates a business to further personal goals and to produce an income (Dunkelberg & Cooper, 1982).
- While the 2 types differ in venture strategies, personality, cognitive orientation, they also differ mainly in their goal for the business.

# Some stylised fact

(Geroski, 1995)

- Entry is common. Large numbers of firms enter most markets in most years, but entry rates are far higher than market penetration rates
- Although there is a very large cross-section variation in entry, differences in entry between industries do not persist for very long. In fact, most of the total variation in entry across industries and over time is 'within' industry variation rather than 'between' industry variation
- Entry and exit rates are highly positively correlated, and net entry rates and penetration are modest fractions of gross entry rates and penetration

## ...continued

- The survival rate of most entrants is low, and even successful entrants may take more than a decade to achieve a size comparable to the average incumbent
- De novo entry is more common but less successful than entry by diversification
- Entry rates vary over time, coming in waves which often peak early in the life of many markets. Different waves tend to contain different types of entrant
- Costs of adjustment seem to penalize large-scale initial entry and very rapid post-entry penetration rates

# Types of entrepreneur

- Nascent entrepreneurs
- Novice entrepreneurs
- One-shot entrepreneurs
- Serial entrepreneurs
- Portfolio entrepreneurs
- Habitual entrepreneurs
- Corporate entrepreneurs
- Social entrepreneurs

# Shane & Venkataraman (2000)

“The promise of entrepreneurship as a field of research”,  
*Academy of Management Review*

- “Entrepreneurship is concerned with the discovery and exploitation of profitable opportunities”
- “Entrepreneurship involves the nexus of two phenomena:
  - The presence of lucrative opportunities and
  - The presence of enterprising individuals”

# ...continued

- “We define the field of entrepreneurship as the scholarly examination of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated and exploited”
  - Sources of opportunities (existence of opportunities)
  - Process of discovery, evaluation and exploitation
  - Set of individuals who discover, evaluate and exploit (decision)
- Entrepreneurship does not only refer to the creation of new ventures



# Types of Entrepreneurs

- Kirzner vs Shumpeter
  - Kirzner: mechanism by which inefficient situations are identified and resolved
  - Shumpeter: mechanism by which technological change and innovation enter into the economic system

# Entrepreneurship Theories

# Why do we need a theory?

- Shane & Venkataraman, 2000:
  - “For a field of social science to have usefulness, it must have a conceptual framework that explains and predicts a set of empirical phenomena not explained or predicted by conceptual frameworks already in existence in other fields”
  - “To date, the phenomenon of entrepreneurship has lacked such a conceptual framework”

# Entrepreneurship in Economics Theory

- Baumol (1968):
  - The theoretical firm is entrepreneurless – the Prince of Denmark has been expunged from the discussion of Hamlet
  - Many of the discussions of the theory of entrepreneurship have been contributed by the sociologists and the psychologists

# Defining entrepreneurship

- Shane & Venkataraman, 2000:
- Entrepreneurship involves the nexus of two phenomena: the presence of lucrative opportunities and the presence of enterprising individuals
- The field of entrepreneurship represents the scholarly examination of how, by whom, and with what effects opportunities to create future goods and services are discovered, evaluated, and exploited
  - Sources of opportunities
  - Processes of discovery
  - Set of individuals (who discover, evaluate and exploit opportunities)

## ... continued

- From an organisational theory perspective, three main research questions regards entrepreneurship:
  - Why, when and how opportunities for the creation of goods and services come into existence
  - Why, when and how some people and not others discover and exploit these opportunities
  - Why, when and how different modes of action are used to exploit entrepreneurial opportunities

# Why study entrepreneurship

- Much technical information is ultimately embodied in products and services (Arrow, 1962) and entrepreneurship is a mechanism by which society converts technical information into these products and services
- Mechanism that mitigate temporal and spatial inefficiencies
- Crucial engine to introduce new products and services into the economy

# Entrepreneurship and opportunities

- To have entrepreneurship you must first have opportunities
- Entrepreneurial opportunities are those situations in which new goods, services, raw materials, and organizing methods can be introduced and sold at greater than their cost of production (Casson, 1982)



- Opportunity concept originated in Austrian economics: Hayek (1945) states that agents differ in their knowledge of the particular circumstances of time and place
- Building on the work of von Mises (1949), Kirzner (1973, 1997) the defining characteristic of entrepreneurs is that they are able to perceive opportunities for entrepreneurial profits; that is they are able to see where a good can be sold at a price higher than that for which it can be bought.

# Opportunities

- According to Shane & Venkataraman (2000): although recognition of entrepreneurial opportunities is a subjective process, the opportunities themselves are objective phenomena that are not known to all parties at all time
  - For example, the discovery of the telephone created new opportunities for communication, whether or not people discovered those opportunities

# Opportunities (2)

Entrepreneurial opportunities differ from the larger set of all opportunities for profit, particularly opportunities to enhance the efficiency of existing goods, services, raw materials, and organizing methods, because the former require the discovery of **new means-end relationships**, whereas the latter involve optimization within existing means-end frameworks (Kirzner, 1997)

# Variety of opportunity forms

- Opportunities in product markets
- Opportunities in factor markets (discovery of new materials)
- In product markets according to Druker, 1985:
  - Creation of new information (invention of new technologies)
  - Exploitation of market inefficiencies resulting from information asymmetry (across time and geo)
  - Reaction to shifts in the relative costs and benefits of alternative uses for resources (e.g. regulation)

- Entrepreneurial opportunities exist primarily because different members of society have different beliefs about the relative value of resources, given the potential to transform them into different state (Kirzner).
- Because people possess different beliefs (also for asymmetry of information) they make different conjectures

- Entrepreneurship requires that people hold different beliefs about the value of resources:
  - The resource owner must not share completely the entrepreneur's conjectures
  - If all people (potential entrepreneurs) possessed the same entrepreneurial conjectures, they would compete to capture the same entrepreneurial profit

# Discovery of opportunities

- “although an opportunity might exist, an individual can earn this profit only if he or she recognizes that the opportunity exists and has value”.
- Two broad categories of factors influence the probability that particular people will discover particular opportunities:
  - Prior information
  - Cognitive properties

# Prior information

- People have different information, that in turn influences their beliefs and choices
  - About user needs, specific aspects of the production function, and so on
- Think about the forecasts we saw in the previous lectures:
  - “I think there is a world market for maybe five computers” (Thomas Watson, president of IBM, 1943)
  - “Television won't be able to hold on to any market it captures after the first six months. People will soon get tired of staring at a plywood box every night” (Darryl Zanuck, executive at 20th Century Fox, 1946)



# Cognitive properties

- People must be able to identify new means-end relationships
- History is rife with examples in which inventors failed to see commercial opportunities (means-end relationships) that resulted from the invention of important technologies
  - Telegraph, laser, etc.
- People differ in the ability to identify such relationships, that is to combine prior information to new ideas and conjectures
- According to Sarasvathy et al. (1998) entrepreneurship see opportunities where other see risks

# Where do opportunities come from?

- Two main views of entrepreneurship:  
Schumpeterian and Kirznerian
  - Both are Austrian economists
- Reflect two different conceptualisation of the mechanisms by which an opportunity is identified and exploited

# Schumpeterian opportunity

- Opportunity emerge out of the entrepreneur's internal disposition to initiate changes in the economy
- The entrepreneur is considered to be an innovator who 'shocks' and disturbs the economic equilibrium during times of uncertainty, change and technological upheaval (Schumpeter, 1934)

- The entrepreneur initiate change through innovation, therefore creating new opportunities
- For Schumpeter innovation means ‘new combinations’
  - The entrepreneur is an individual who creates new combinations and exploit them in the market
- Schumpeter argued that changes in technology, political forces, regulation, macro-economic factors and social trends create more valuable forms. By altering the equilibrium price for resources, these changes allow those people with access to new information to purchase resources and recombine them in more valuable form, and sell the output

# Kirznerian opportunity

- Individuals secure entrepreneurial profits on the basis of knowledge and information gaps that arise between people in the market (Kirzner, 1973)
- The entrepreneur is an alert person, discovering opportunities by acting as an arbitrageur or a price adjuster in the marketplace, capitalising on knowledge or information asymmetries

- Innovation and new combinations are not necessary conditions, nor opportunities require macro-economic changes of whatever nature
- Entrepreneur benefits of information asymmetries in incumbent markets
- Entrepreneurs “are able to perceive opportunities for entrepreneurial profits; that is, they are able to see where a good can be sold at a price higher than that for which it can be bought”
  - Imperfect knowledge of market participants
  - Can be seized by anyone discovering their existence before others have done so
- Opportunities derive mostly from differential access to existing information

# Comparative dimensions

- De Jong & Marsili (2010). “Schumpeter versus Kirzner: An empirical investigation of opportunity types”
  - Innovation – Arbitrage
  - Disequilibrating – Equilibrating
  - Creation – Discovery
  - Rare – Common
  - New information – No new information

# Some results of this comparison

- The distinction can be made empirically and both types were found
- Individuals engaging in Schumpeterian opportunities are more likely to be innovative and ambitious to grow their enterprise
- Schumpeterian-type of entrepreneurship is more new product-development oriented
  - Kirznnerian more directed toward resolution of today-needs



Alvarez & Barney (2007)

Discovery and Creation. Alternative theories of  
entrepreneurial action.

*Strategic Entrepreneurship Journal*

- Do entrepreneurial opportunities exist, independent of the perceptions of entrepreneurs, just waiting to be discovered?
- Or, are these opportunities created by the actions of entrepreneurs?
- Assuming that opportunities exist as objective phenomena just waiting to be discovered and exploited has important implications for entrepreneurial actions

- If opportunities exist objectively, then the task of ambitious entrepreneurs is to discover these opportunities and then exploit them as quickly as possible
- If on the contrary opportunities are to be created, then entrepreneurs creating opportunities might engage in an iterative learning process that ultimately could lead to the formation of an opportunity

# Comparison criteria

1. Assumptions about the nature of human objectives
2. Assumptions about the nature of individuals
3. Assumptions about the nature of the decision making context within which individuals operate

- Both discovery theory and creation theory assume that the goal of entrepreneurs is to form and exploit opportunities
- Both theories also recognize that opportunities exist when competitive imperfections exist in a market or industry
- However, these two theories differ in their analysis of the origin of these competitive imperfections

# Discovery theory: objectives

- Competitive imperfections are assumed to arise exogenously, from changes in technology, consumer preferences, or some other attributes of the context within which an industry or market exists (Kirzner, 1973: 10)
  - Shane (2003) for example cites technological changes, political and regulatory changes, and social and demographic changes as the kinds of events that can disrupt the competitive equilibrium that exists in a market or industry, thereby forming opportunities
- Based on realist assumptions in the philosophy of science – that opportunities, like mountains, exist as real and objective phenomena, independent of the actions or perceptions of entrepreneurs, just waiting to be discovered and exploited
- About search: systematically scanning the environment to discover opportunities to produce new products or services

# Discovery theory: entrepreneurs

- Everyone associated with that industry or market should be aware of the opportunities a shock has created
- Entrepreneurs who discover opportunities are significantly different from others in their ability to either see opportunities or, once they are seen, to exploit these opportunities (Kirzner, 1973; Shane, 2003)
  - Kirzner develops the concept of ‘alertness’
    - Information asymmetries, different risk preferences, and cognitive differences, among others (Shane, 2003).

# Discovery theory: decision making context

- The decision making context within which entrepreneurs choose to exploit an opportunity is assumed to be risky, rather than uncertain
  - A decision making context is risky if, at the time a decision is being made, decision makers can collect enough information about a decision to anticipate possible outcomes associated with that decision, and the probability of each of those possible outcomes
  - A decision making context is uncertain if, at the time a decision is being made, decision makers cannot collect the information needed to anticipate either the possible outcomes associated with a decision nor the probability of those outcomes
- The decision making context in discovery theory is risky because it assumes that opportunities are objective in nature.



# Creation theory: objectives

- Opportunities are created endogenously, by the actions, reactions, and enactment of entrepreneurs exploring ways to produce new products or services
- Entrepreneurs do not search – for there are no mountains to find – they act, and observe how consumers and markets respond to their actions
  - the ‘seeds’ of opportunities to produce new products or services do not necessarily lie in previously existing industries or markets
- Entrepreneur’s actions are the essential source of these opportunities

# Creation theory: entrepreneurs

- Ex ante, before entrepreneurs create opportunities, they may or may not be significantly different than those who do not create opportunities
  - Two individuals may be indistinguishable with respect to their attributes, but small variations in their local environment – e.g., differences in location – might lead one of them to form and exploit an opportunity

# Creation theory: decision making context

- The decision making context in creation theory is uncertain.
  - This is because, according to this theory, opportunities do not exist until they are created.
- No matter how hard an entrepreneur works, all the information needed to turn this decision making setting into a risky one cannot be collected.

# Summing up

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Table 1. Central assumptions of discovery and creation theories of entrepreneurial action

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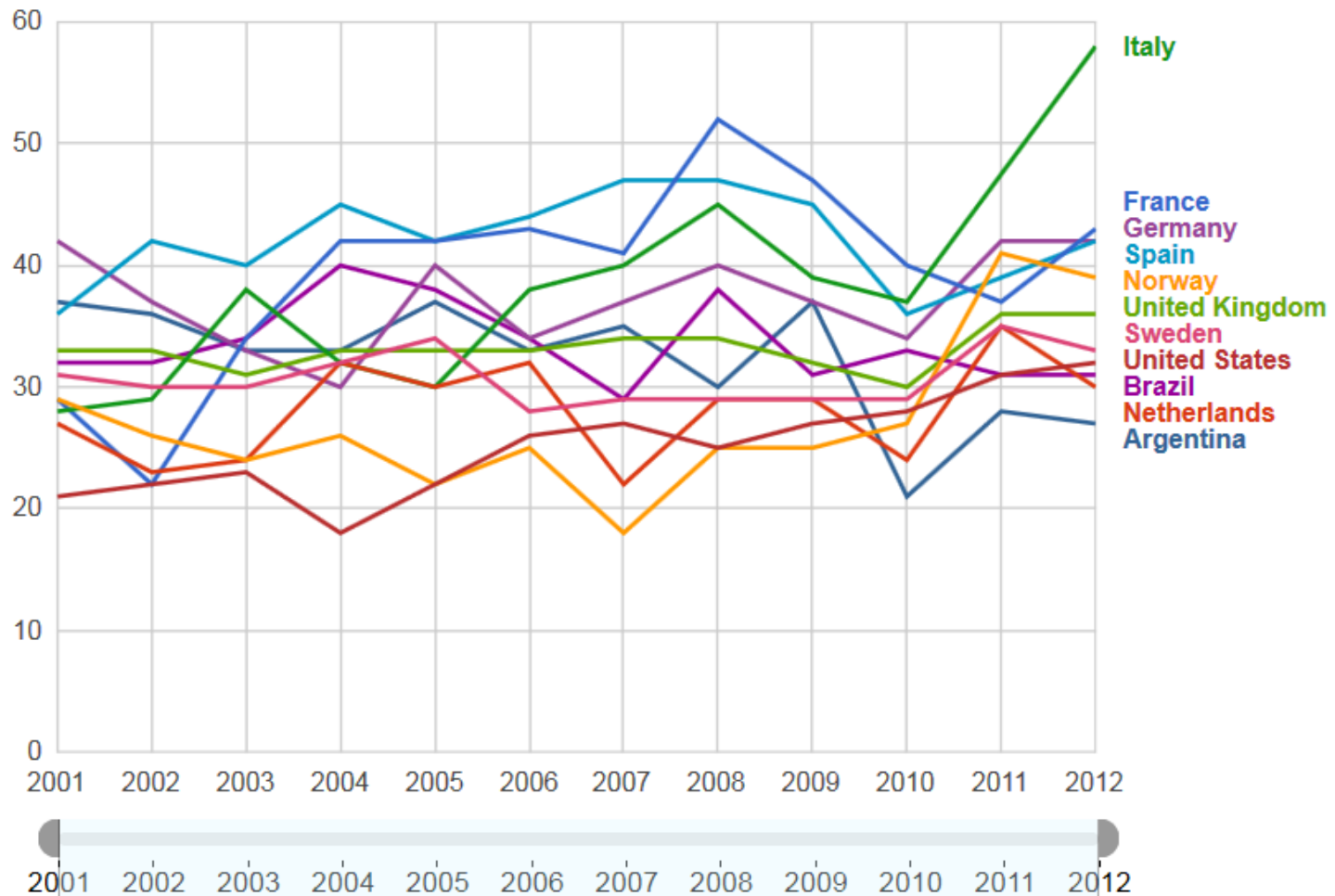
	Discovery Theory	Creation Theory
Nature of Opportunities	Opportunities exist, independent of entrepreneurs. Applies a realist philosophy.	Opportunities do not exist independent of entrepreneurs. Applies an evolutionary realist philosophy.
Nature of Entrepreneurs	Differ in some important ways from nonentrepreneurs, ex ante.	May or may not differ from nonentrepreneurs, ex ante. Differences may emerge, ex post.
Nature of Decision Making Context	Risky	Uncertain

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# ... continued

- Conceptualising entrepreneurship as a creation or a discovery process also lead to important implications on the analysis and reflection on other theories
  - Evolutionary theory of industry dynamics very well fit creation theory
  - Transaction costs theory and the theory of the firm very well suit a discovery interpretation of new firms formation
    - New development seeks to merge transaction costs theory and resource based view, therefore implicitly recognising either creation or discovery entrepreneurship mechanisms

# Fear of failure rate



Other (interesting) issues  
on entrepreneurship

# Motivations to undertake an entrepreneurial path

- Economics rational: profit maximisation
- Entrepreneurship literature identify many other reasons:
  - Let us explore some of these reasons regarding high-tech start-ups



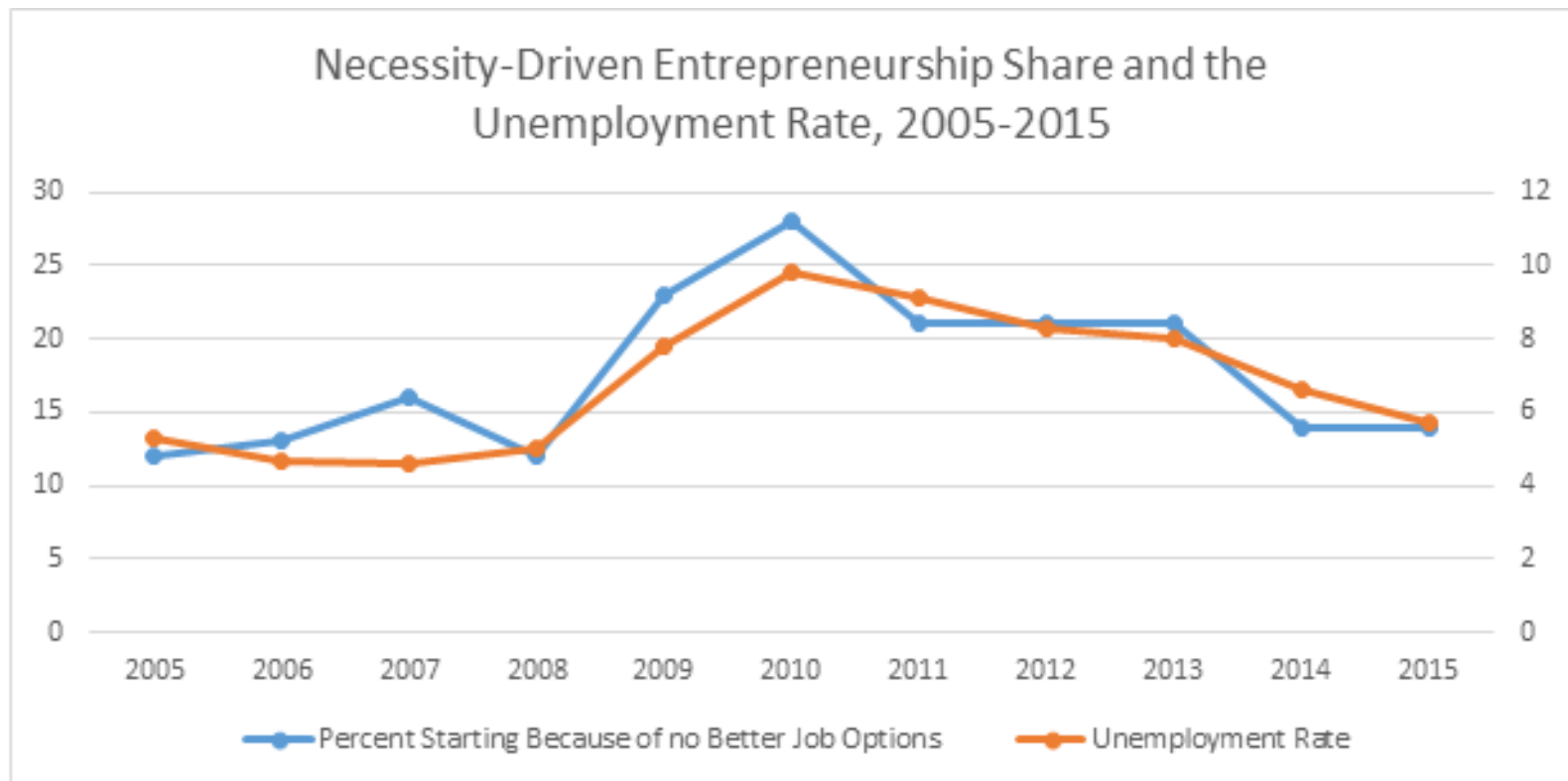
# Motivations (2)

- Technological motivations:
  - Tacit knowledge not patentable
  - Need for technology development (also if patented)
  - ‘General purpose’ technologies (many applications)
- Non-technological motivations:
  - Independency and autonomy
  - Prestige
  - Self-fulfillment
  - Profit

# Opportunity vs Necessity

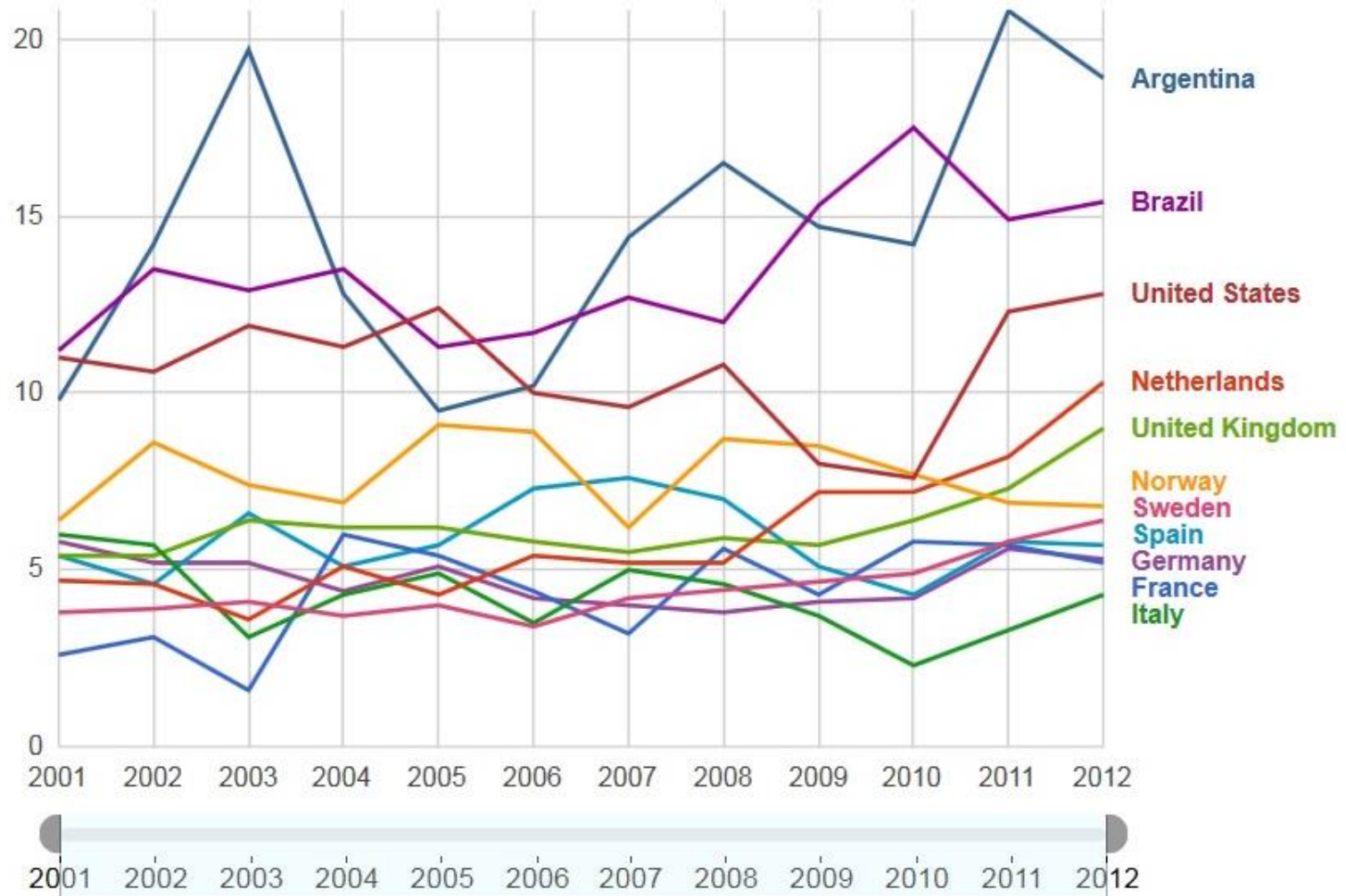
- Opportunity: exploitation of an identified opportunity (profit play a fundamental motivation determinant)
- Necessity: entrepreneurship represent a way to find an employment (or to change a dissatisfied employed situation)
- Consequences on post-entry performance?
- Relationship with economic trends?

- Studies found a significant correlations between level of unemployment and the rate of necessity entrepreneurship



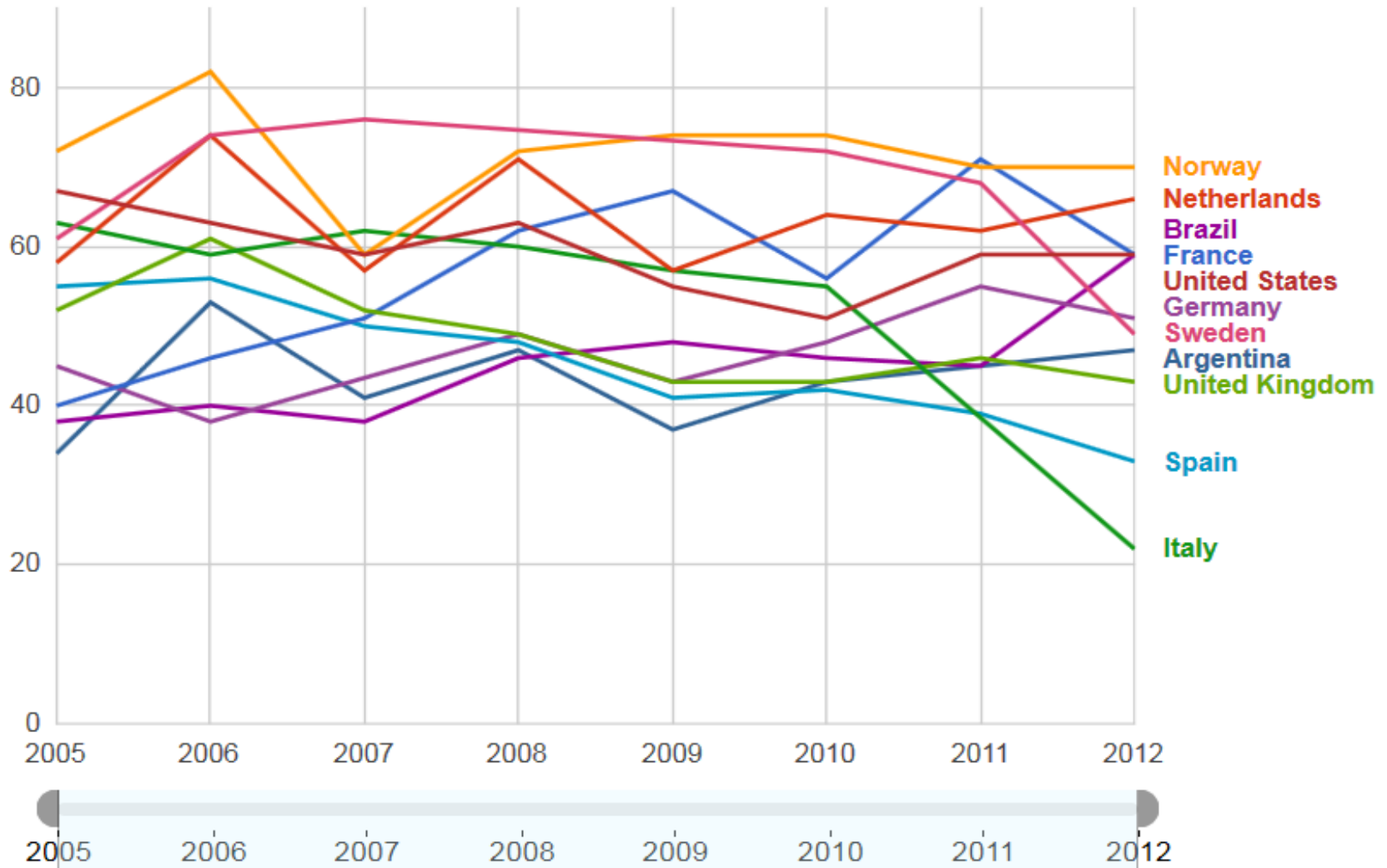
# Total early stage entrepreneurial activity (TEA)

percentage new entrepreneurs



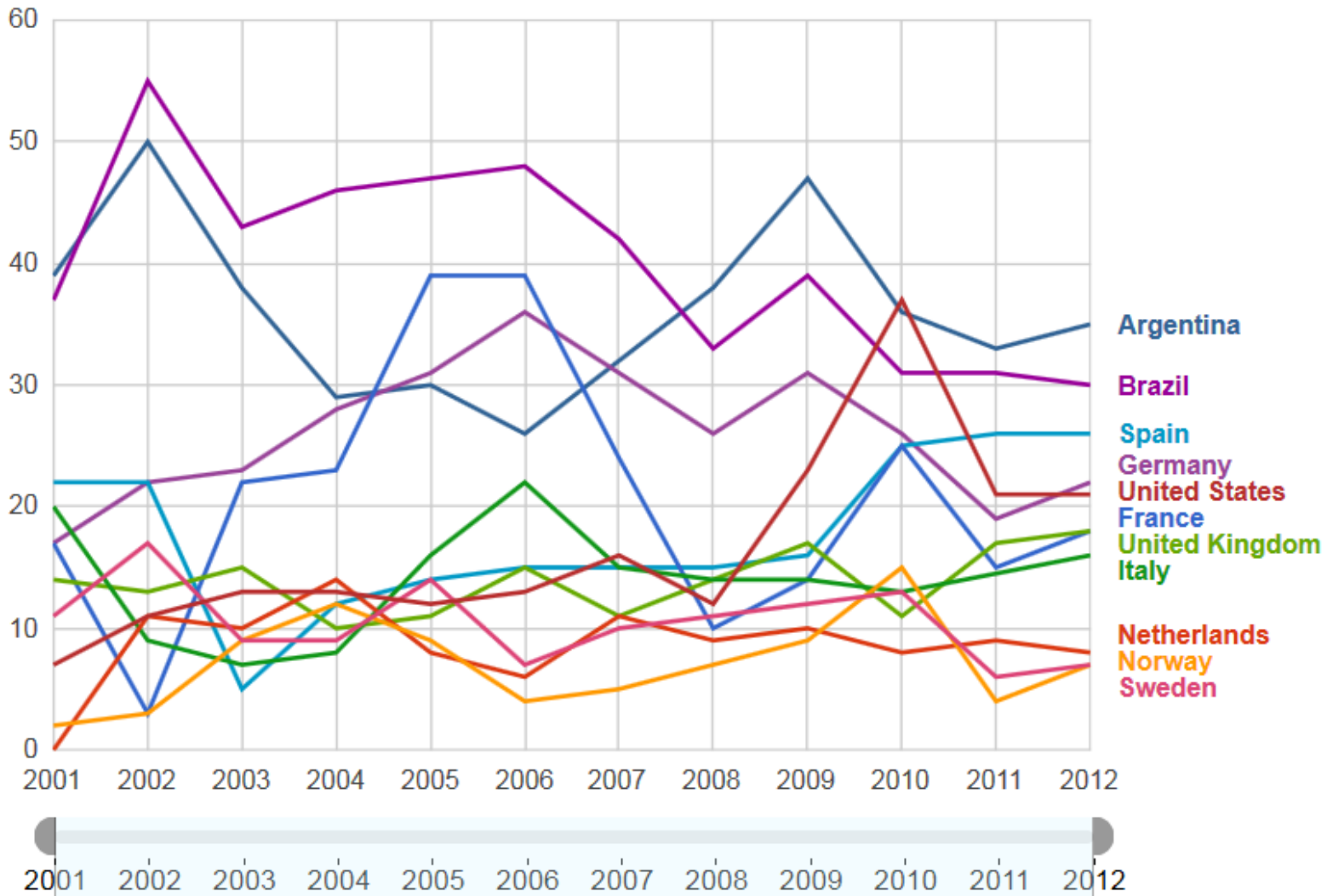
# Improved driven opportunity entrepreneurship

TEA percentage of opportunity entrepreneurs



# Necessity driven entrepreneurial activity

TEA percentage of necessity entrepreneurs



# Performance

- Are the characteristics of new start-up (or of the entrepreneur) related to the (post-entry) performance of the start-up?
  - Survival, growth (sales, employees, size), size
- Studies found there is a significant correlation
  - For example start-up generated with larger size have less probability of exit (Geroski et al., 2010)

# Policy

- New ventures suffer from liability of smallness and newness (market failure)
- SME policies vs entrepreneurship policies
- Are policy useful to overcome this market failure or are the policy only altering the market process?
  - Santarelli and Vivarelli (2007) argue for a distortion of the market of entrepreneurship and SME policies
  - Various studies (not all of them) found positive impact of support in terms of entrepreneurship policies (e.g. Ramaciotti et al., 2016)
  - Policies effectiveness depend on the ‘quality’ of the context (Rodriguez-Pose, 2015)



# Other topics related to entrepreneurship

(suitable for your essay)

- Relationship between context characteristics and entrepreneurship (or types of entrepreneurship)
- Novice vs Serial entrepreneurs
- Finance of entrepreneurship: FFF, VC and BA, loans, etc.
- Science based entrepreneurship (I will give a lecture on this)
- Entrepreneurship and business cycle (Koellinger and Thurik, 2012)
- Entrepreneurship and economic development (Fritsch and Wyrwich, 2016)
- Entrepreneurship and migration