

Insights on Entrepreneurial Failure: An empirical investigation of Ireland and Mexico

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Abstract: This study aims to deepen understanding of entrepreneurial failure. Data from the General Entrepreneurship Monitor is used to determine the rates of entrepreneurial failure in Ireland and Mexico over the period 2011 to 2015. Ireland and Mexico provide rich contexts for the study of entrepreneurial failure. In 2011, Ireland and Mexico had similar rates of entrepreneurial failure, at 2.8% and 3.1% respectively. By 2015, the rate of entrepreneurial failure in Mexico had increased to 4.9%, a comparatively high rate, while in Ireland entrepreneurial failure had decreased to 2.1%. To date, studies on entrepreneurial failure focus on poor financial performance as the primary driver of entrepreneurial failure. Few studies look beyond poor financial performance, to examine other the factors in the entrepreneurial environment that may determine entrepreneurial failure. In this study, descriptive and inferential statistical analyses are used to examine the impact of macro-level framework condition variables, and micro-level behaviour and attitudinal variables from the Irish and Mexican entrepreneurial environment on entrepreneurial failure. The findings from this investigation support the extrapolation of insights on entrepreneurial failure. The authors, determine that in particular, the availability of entrepreneurial finance, targeted support for entrepreneurial firms in the business services sector, with the potential to create innovative and export-oriented outputs, and policy aimed at reducing the bureaucratic burden on entrepreneurship, are important elements in an entrepreneurial system which seeks to support entrepreneurial survival, and limit failure.

Keywords: entrepreneurial exit, entrepreneurial failure, IGlobal Entrepreneurship Monitor (GEM), Ireland, Mexico,

Introduction

The idea that entrepreneurial firms are at risk of failure, is commonly accepted. In the United States of America 36 percent of new firms do not survive the first two years (Shane, 2008), while in Mexico, a focus of this study, this figure is 75 percent. In Europe 50 percent of firms did not survive the first five years (Calogirou et al., 2010). These figures suggest that many entrepreneurs experience entrepreneurial failure as part of their entrepreneurial journey. Yet, entrepreneurial failure receives comparatively less research and media attention than other stages of the entrepreneurial process.

Entrepreneurial failure can be understood as a firm simply falling short of the goals set by its' founders (McGrath, 1999; Cope, 2011). In such cases the firm might not cease trading, but could be sold or transferred, resulting in an entrepreneurial exit by the founders. Alternatively, entrepreneurial failure can be defined specifically as the closure of the firm, whereby the firm ceases trading due to poor financial performance (Ucbasaran et al., 2013). The distinction of entrepreneurial failure, from entrepreneurial exit is a focus for much of the research in this area (McGrath, 1999; Cope, 2011), as is understanding the personal and professional impact of entrepreneurial failure on the entrepreneur (Yamakawa, Peng and Deeds, 2015). In determining the reasons for entrepreneurial failure, few studies look beyond the poor financial performance of the firm as the primary driver of entrepreneurial failure (Ucbasaran et al., 2013). In some ways, the notion that entrepreneurial failure is determined by poor financial performance is a tautology. Less examined are the myriad of factors determining the poor financial performance of entrepreneurial firms, whereby poor financial performance is often a symptom, rather than a cause.

The GEM presents data on each phase of the entrepreneurial process, including data on businesses that discontinue (Figure 1). The discontinuance of business is defined as the ‘percentage of the adult population... (who are either a nascent entrepreneur or an owner-manager of a new business) that have discontinued a business in the past 12 months, either by selling, shutting down or otherwise discontinuing an owner/management relationship with the business’ (GEM 2015, p.24). As such, not all business discontinuance is equal to failure (GEM 2016). Data on the discontinuance of business is further subdivided into two categories. The first presents data on the percentage of individuals who exited in the last 12 months, and the business discontinued, and is the most appropriate representation of entrepreneurial failure. The second presents data on individuals who exited in the last 12 months, yet the business continued. For the purposes of this study, data on the percentage of individuals who exited in the last 12 months, and the business discontinued is used to determine the rate of entrepreneurial failure.

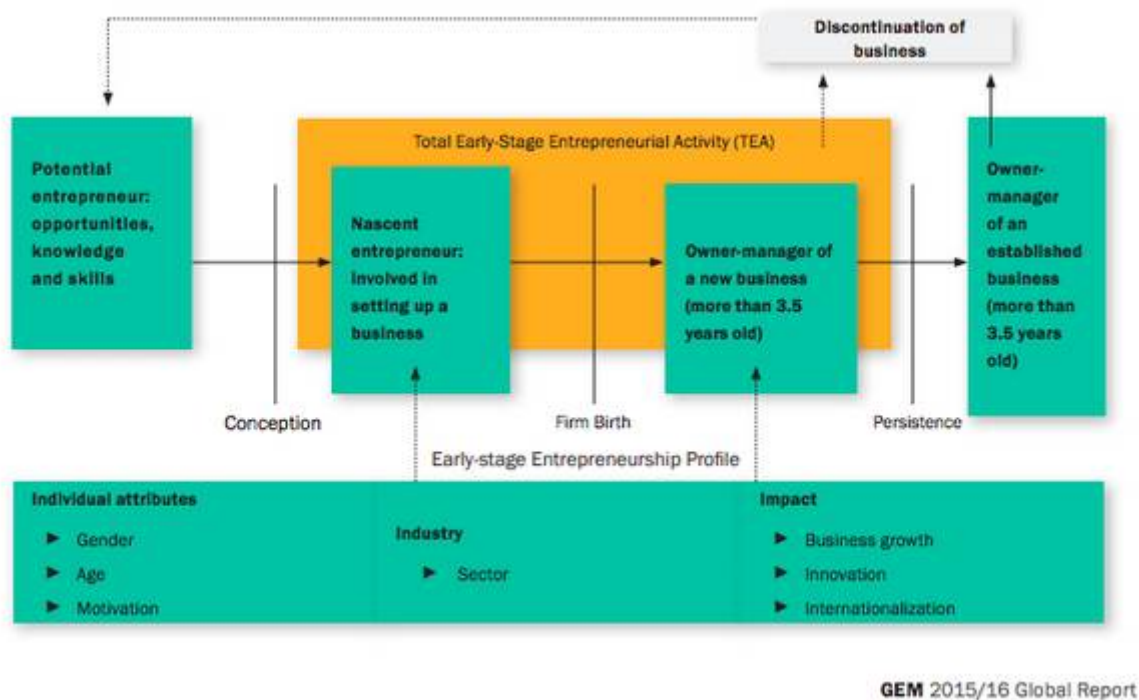


Figure 1 presents the model of business phases and entrepreneurship characteristics represented in GEM (GEM 2016, p.16).

Ireland and Mexico provide the context for this study. According to the GEM (2018), Ireland is an innovation-driven economy, while Mexico is classed as efficiency-driven. Entrepreneurial failure in Ireland and Mexico was examined over a five-year period, from 2011 to 2015. Data on Ireland and Mexico provides a rich context for the study of entrepreneurial failure. In 2011, both Ireland and Mexico had relatively similar rates of entrepreneurial failure, at 2.8 percent and 3.1 percent respectively. By 2015, the rate of entrepreneurial failure in Mexico's had increased rapidly to 4.9%, a comparatively high rate, while Ireland's decreased to 2.1%. After a slight reduction in 2012, to a failure rate of 2.6 percent, Mexico's rate of entrepreneurial failure has remained over 4 percent for the time period in question. From 2011 to 2015, the difference in the rates of entrepreneurial failure in Ireland and Mexico increased from 0.3 percent to 2.8 percent, an almost 10-fold increase (Figure 2).

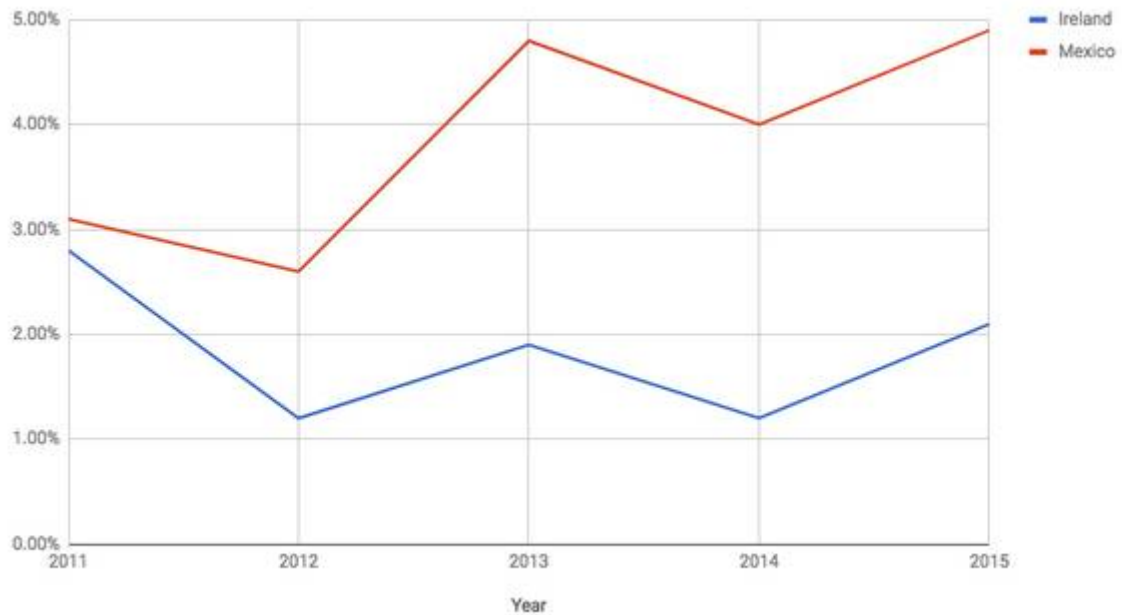


Figure 2, illustrates entrepreneurial failure in Ireland and Mexico from 2011 to 2015. Developed from GEM Report (2011, 2012, 2013, 2014, 2015)

In addition to data on entrepreneurial failure rates, this study also uses data from the GEM on the entrepreneurial environment, to examine macro-level entrepreneurial framework condition factors, and micro-level behaviour and attitudinal factors in both countries. This approach aims to identify patterns in the data that may explain the increase in entrepreneurial failure in Mexico, and decrease in Ireland. As defined by the GEM, entrepreneurial framework conditions refer to the national contextual factors, that support, or impede entrepreneurship. Individual level entrepreneurial behaviours and attitudes relate to the characteristics, motivations and ambitions of entrepreneurs, as well as societal attitudes to entrepreneurship. This research possess two questions, with a view to deepening the collective understanding of entrepreneurial failure and extrapolating lessons on entrepreneurial failure which may have wider application. First, what are the comparative patterns in entrepreneurial framework condition factors, and behaviour and attitudinal factors, in Ireland and Mexico from 2011 to 2015? Second, how can these patterns inform our understanding of entrepreneurial failure in Ireland and Mexico from 2011 to 2015?

This paper is structured as follows. First, literature on entrepreneurial failure is reviewed. Second, economy, society and entrepreneurship in Ireland and Mexico are analysed. Third, the methodology is presented. This is followed by an empirical analysis of GEM variables. Next the discussion presents the data patterns which may explain entrepreneurial failure rates in Ireland and Mexico. Lastly, the conclusion explores insights on entrepreneurial failure emerging from the discussion of results.

Literature review

Entrepreneurial Failure

Aldrich (2015, p. 11) argues that ‘every entrepreneurial entry carries the potential of becoming an entrepreneurial exit’, evidencing the dynamism inherent in the entrepreneurial process. Traditionally entrepreneurship research focused on entry and growth processes (Cardon, Stevens and Potter 2011), exhibiting an ‘anti-failure bias’ (McGrath 1999). In the last decade studies examining entrepreneurial exit have become more prevalent in the literature (Cope 2011). Although often treated synonymously (Headd 2003), entrepreneurial exit and entrepreneurial failure are distinct concepts (Cope 2011). Entrepreneurial exit does not necessarily equate to failure (Wennberg et al. 2010). Exit covers a broad range of reasons, personal and organisational, positive and negative, which explain an entrepreneurs exit from entrepreneurship (Simmons, Wiklund and Levie 2013). Entrepreneurial exit does not presume the closure of the venture itself, as in the case of the successful sale of the business (DeTienne, 2010). Neither does exit presume negative push factors, for example, where the entrepreneur leaves entrepreneurship for an

alternative employment opportunity (Stam, Thurik and van der Zwan, 2010), or to pursue other, more lucrative ventures (Stokes and Blackburn, 2002). In cases such as these, entrepreneurial exit is a personal or professional choice for the entrepreneur, and is not necessarily related to the performance of the venture.

Fuentelaz and Gonzalez (2015) argue that entrepreneurial failure stems from one of two sources, issues in the institutional context, such as economic recession, and issues related to the managerial and productive capacity of the entrepreneur (Liñan, Fernandez and Romero, 2013). The majority of data on business discontinuance focuses at the level of the entrepreneur and their firm, and evidences a lack of profitability and problems with finance as the dominant reasons for failure globally (GEM 2017). In 2016, 51.5 percent of Latin American entrepreneurs who exited their venture, cited unprofitability and problems with finance as the primary reason. In Europe, this figure was 41.8 percent. In Ireland and Mexico, 36.9 percent and 48.6 percent of respective entrepreneurial exits, were accounted for by issues of financial viability. Other reasons cited for entrepreneurial exit include, selling the business, pursuing another opportunity, retirement, personal reasons, an incident (GEM 2017). Institutional factors such as bureaucracy are also evidenced as suppressing the survival of entrepreneurial firms (GEM 2017).

Entrepreneurial failure impacts both the individual entrepreneur, and the wider economic system. Failure affects an entrepreneurs' personal relationships, future employment prospects (Cope 2011), self-efficacy (Yamakawa, Peng and Deeds 2015), and propensity to start another venture (Politis and Gabrielsson 2009). While at the economic system level, firm failure enables the redistribution of resources to more successful ventures, eliminating the cost of wasted resources (GEM 2015). High rates of entrepreneurial failure may point to ineffective management, issues of preparedness, and ultimately a lack of profitability (GEM 2015). Low rates, on the other hand, do not necessarily point to a well functioning system, and may result from a lack of market dynamism, inhibiting the exit of underperforming firms (GEM 2015).

Economy, Society and Entrepreneurship in Ireland and Mexico

Mexico is Ireland's largest trading partner in Latin America (€1.7 billion in 2016). A trade deal signed in 2000 with the European Union (EU), of which Ireland is a member, was updated in 2018 to allow for tariff free trade on 99 percent of goods between the two regions. The Irish economy is ranked 5th globally in terms of GDP per capita (US\$66,787), while Mexico ranks 71st (US\$9,707) (World Bank, 2016). The relative size of each country is another significant source of difference. Mexico with a population of 127.3 million people (INEGI, 2017), is almost 30 times the size of Ireland (4.7 million people) (CSO, 2016). In 2017 the average weekly earnings in Ireland were US\$863, compared to US\$221 in Mexico (CSO, 2017; INEGI, 2016). In line with other industrialised nations, employment in the Irish economy is predominantly in the Services sector (53.9 percent) (CSO, 2016), compared to majority employment in the Distribution sector (48.2 percent) in Mexico (CSO, 2016).

Despite these areas of disparity Mexico and Ireland share many historical similarities. Both countries have a colonial history, Catholic religious background, and have experienced periods of high emigration. Built upon an agricultural base, the economies of Ireland and Mexico have transitioned to urbanisation in more recent decades. The Irish and Mexican economies have also benefited considerably from membership of their respective trading blocs. In 1973, Ireland joined the EU, while in 1994 Mexico became part of a trilateral trade bloc with the United States and Canada, via the North American Free Trade Agreement (NAFTA).

As open, export-oriented economies, both Ireland and Mexico have industrial development policies aimed at attracting foreign direct investment (FDI). Both countries have comparable levels of FDI inflows, in 2016 Mexico's FDI inflow was valued at \$26,738, while Ireland's was €26,563m (Ministry of Economy, 2017; CSO, 2017). As a percentage of GDP however, Ireland shows a higher overall reliance on FDI at 25.97 percent in 2016, compared to 3.24 percent in Mexico (World Bank, 2017). In 2016, according to the Global Innovation Index (GII), Ireland ranked first globally in FDI inflows as a percentage of GDP (GII, 2018). Beyond the direct contribution of FDI to the host economy, the knowledge spillover effects of FDI, in the form of technology transfers, can also support entrepreneurial activity (Acs and Varga, 2005). In the case of Ireland, O'Malley and O'Gorman (2001), evidenced the impact of foreign MNEs on the competitiveness of indigenous Irish firms. It has been noted however, that these positive effects only prevail in countries where a strong entrepreneurial culture and societal support for entrepreneurial activity exists (Acs et al., 2007).

Analysis of Irish and Mexican business environment, ranked Ireland higher in four of the five key areas related to the institutional context for entrepreneurial activity (Table 1).

Table 1 Ireland and Mexico Business Ranking 2018

	World Bank Business Rankings 2018 (of 190)	
	Ireland	Mexico
Ease of Doing Business	17th	29th
Starting a Business	8th	90th
Getting Credit	42nd	6th
Trade Across Borders	47th	63rd
Resolving Insolvency	17th	31st

Source: World Bank (2018)

Ireland's political environment is more conducive to business activity, as demonstrated by assessment of its' political stability and governmental effectiveness, relative to Mexico (GII, 2018). This is also reflected in evaluations of Ireland's regulatory environment, whereby governmental policy is viewed as supportive of private sector development. While regulation of the business environment, works to reduce the bureaucratic burdens on business owners (GII, 2018).

As evidenced in Table 1, Mexico ranks higher than Ireland in terms of access to credit. This difference is explained in part by the accessibility of microfinance loan schemes in Mexico (GII, 2018), data on similar schemes in Ireland is not available. Innovative activity is an area of considerable difference between the two economies. Ireland was ranked 6th in the 2016 GII, compared to Mexico's ranking of 61st. To this end, Ireland has a higher number of researchers per capita, as well as higher R&D spend as a percentage of GDP (GII, 2018).

Both the Irish and Mexican economies are highly entrepreneurial, with the majority of active enterprises (99.8 percent) in both countries classified as small to medium enterprises (SMEs). The most recent GEM reports on entrepreneurship in Ireland and Mexico evidence areas of similarity and difference in the entrepreneurial experiences of both countries (GEM, 2016b; GEM, 2016c). Rates of entrepreneurial activity are twice as high in Mexico compared to Ireland, for both nascent (7.0 percent in Ireland and 16.0 percent in Mexico), and total early stage entrepreneurial activity (TEA) (10.9 percent in Ireland and 21.0 percent in Mexico). In both Ireland and Mexico, the rates of entrepreneurial intention (16.9 percent in Ireland and 19.0 percent in Mexico) are very similar (GEM, 2016b; GEM, 2016c; Santander Bank, 2018). The reporting of variables impacting on this intention are also comparable (Table 2). Areas of difference in the entrepreneurial experience of Ireland and Mexico, include the perception of entrepreneurs in society and the media. In Ireland 83.0 percent cite entrepreneurs are having high status, compared to 52.0 percent in Mexico. Likewise, 70.0 percent of respondents in Ireland reported entrepreneurship as receiving media attention, compared to 40.0 percent in Mexico.

Materials and methods

This study analyses five years of GEM data (2011-2015) on Ireland and Mexico. The GEM datasets are divided into two data groups: entrepreneurial framework conditions and entrepreneurial behavior and attitudes. The entrepreneurial framework conditions data group is conceptualized as influencing entrepreneurial activity more directly, and is measured as a percentage (0-100 percent). The second data group measures the behavior and attitudinal perception of respondents, including self-perception, perception of societal value and perceived quality of the entrepreneurship ecosystem (GEM, 2015, p.14). As this dataset captures perception, it is reported using charts. This dataset is measured as a weighted average, as 1=highly insufficient, to, 9=highly sufficient.

Table 2 Areas of similarity between Ireland and Mexico GEM data on entrepreneurship

Variable	Ireland	Mexico
Perceive Opportunities to start a business	45%	45%
Fear of Failure	38%	33%
Perceived Entrepreneurial capability	45%	46%
Entrepreneurship is viewed as a good career choice	56%	49%

Source: GEM Report (2016a, 2017).

To measure the failure in entrepreneurship, we have supported authors who use the same GEM database for their analysis (Tsyganova & Shirokova, 2010, p.128; Wong, Ho & Autio, 2005, p. 341). Based on the literature reviewed, we have selected ten independent variables. Six variables (of 12 in the GEM) are from the entrepreneurial framework conditions dataset (Table 3), and four variables (of 15 in the GEM), are from the entrepreneurial behavior and attitudes dataset (Table 4). The dependent variable is the rate of entrepreneurial failure in Ireland and Mexico for the years 2011 to 2015, as reported earlier in this paper.

Table 3 Entrepreneurial framework conditions variables and GEM description

	Variable	Description from GEM
V1	Financing for entrepreneurs	The availability of financial resources –equity and debt – for small and medium enterprises (including grants and subsidies)
V2	Governmental support and policies	The extent to which public policies support entrepreneurship as a relevant economic issue
V3	R&D transfer	The extent to which national research and development will lead to new commercial opportunities and is available to SMEs
V4	Internal market dynamics	The level of change in markets from year to year
V5	Internal market openness	The extent to which new firms are free to enter existing markets
V6	Cultural and social norms	The extent to which social and cultural norms encourage or allow actions leading to new business methods or activities that can potentially increase personal wealth and income

Table 4 Entrepreneurial behavior and attitudes variables and GEM description

	Variable	Description from GEM
V7	High Job Creation Expectation	Percentage of those involved in TEA who expects to create 6 or more jobs in 5 years.
V8	Innovation	Percentage of those involved in TEA who indicate that their product or service is new to at least some customers and that few/no businesses offer the same product
V9	Business Services Sector	Percentage of those involved in TEA in the business services sector information and communication, financial intermediation and real estate. Professional services or administrative services as defined by the ISIC 4.0 (BTC).
V10	High Status to Successful Entrepreneurs	Percentage of 18-64 population who agree with the statement that in their country, successful entrepreneurs receive high status

For this type of transversal research, we will use the descriptive and inferential statistical analysis, using the T-Students test for two independent samples (Santesmases, 2009). To validate that the data is a normal distribution, the Kolmogorov-Smirnov inferential test was applied. In addition, to validate the equality of variance, the Levene inferential test was applied (Anderson, Sweeney and Williams, 2012). The data was analysed using SPSS V.23. The validated tests are presented in the findings section.

The analysis considers the time frame 2011-2015 due to the availability of GEM data for both Ireland and Mexico. Data analysis consisted of identifying, evaluating and analysing the six entrepreneurial framework conditions variables, and the four variables related to entrepreneurial behavior and attitudes. Taken together these variables were identified as providing evidence to support a greater understanding of entrepreneurial failure (Fuentelaz and Gonzalez, 2015; Ucbasaran et al., 2013; World Bank Rank, 2018). Each variable was averaged over the five years of the study, resulting in a specific data reference for each country. We have used, by convention, a significance level between two countries of $p < 0.05$. In the case of Governmental Support and Policies variable (V2), we have considered a p-value $p = 0.07$ due to the proximity of our criteria. Its confidence level is still high, at 93 percent. The averaged results show that, for the entrepreneurial behavior and attitudes variables, as well as the entrepreneurial framework conditions variables, higher the answers (percentage and value), will provide a value of higher significance, therefore the divergence can be explained.

Results

The results section presents an independent analysis of each entrepreneurial framework condition, behaviour and attitudinal variable, presented as comparative five year averages for Ireland and Mexico.

Entrepreneurial framework conditions variables

Table 4 presents the six entrepreneurial framework condition variables examined. There was a significant difference ($p < .05$) between the entrepreneurial framework conditions in Ireland and Mexico for four of the six variables; financing for entrepreneurs, government support and policies, R&D transfer, and internal market dynamics. In almost all cases the average was higher for Ireland than Mexico (Figure 1).

Table 5 Entrepreneurial Framework condition variables

	Financing for entrepreneurs (V1)		Governmental support and policies (V2)		R&D transfer (V3)		Internal market dynamics (V4)		Internal market openness (V5)		Cultural and social norms (V6)	
	Mexico	Ireland	Mexico	Ireland	Mexico	Ireland	Mexico	Ireland	Mexico	Ireland	Mexico	Ireland
2015	2.47	3.22	2.83	3.01	2.46	2.82	3.25	2.31	2.18	3.11	3.03	3.28
2014	2.20	2.87	2.27	3.24	2.44	2.82	2.81	2.59	2.21	3.13	2.99	2.95
2013	2.38	2.59	3.03	2.92	2.60	2.89	2.51	2.66	2.39	2.88	3.08	2.97
2012	2.04	2.44	2.50	3.02	2.27	2.92	2.54	2.81	2.14	2.99	2.96	3.15
2011	2.26	2.41	2.68	2.7	2.33	2.83	2.69	3.06	2.22	2.91	3.01	3.21
AVG	2.270	2.706	2.662	2.978	2.420	2.856	2.760	2.686	2.228	3.004	3.014	3.112

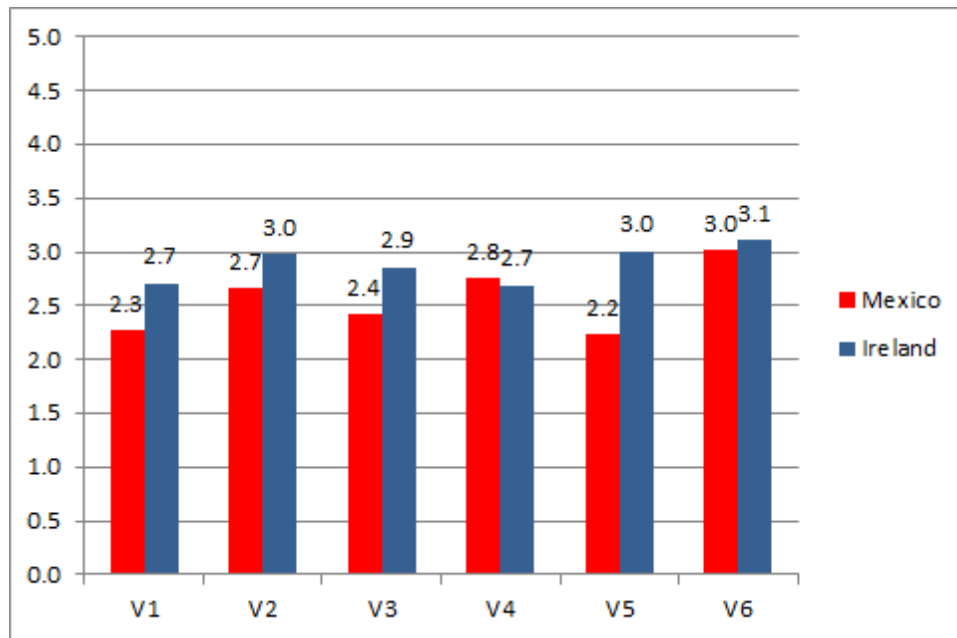


Figure 3 Comparative averages for the six entrepreneurial framework conditions variables

Variable 1 Financing for Entrepreneurs

In relation to the availability of financing for entrepreneurs there was significant difference ($p=.02$) between the five year average for Ireland and Mexico (Table 3). Trends over the five years demonstrated an increase in the financial support for entrepreneurs in Ireland, while Mexico remained stable (Figure 4).

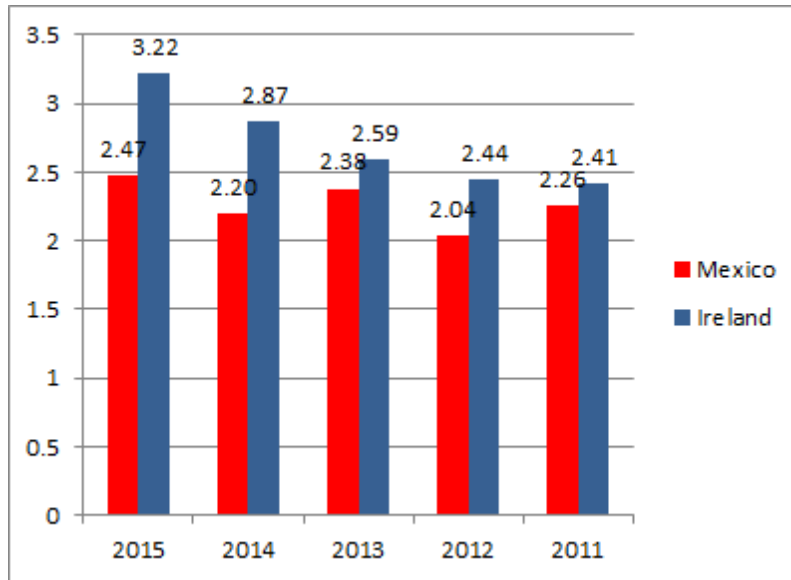


Figure 4 Availability of financing for entrepreneurs in Ireland and Mexico 2011 to 2015

Variable 2 Governmental support and policies

There was somewhat significant difference ($p=.07$) in the governmental support and policies for entrepreneurship in both countries, with Ireland once again having a higher average. Overall the rate of governmental support and policies increased in Mexico from 2011 to 2015, with a slight decrease in 2014 (Figure 4). In Ireland governmental support and policies increased from 2011 to 2014, and decreased in 2015 (Figure 5).

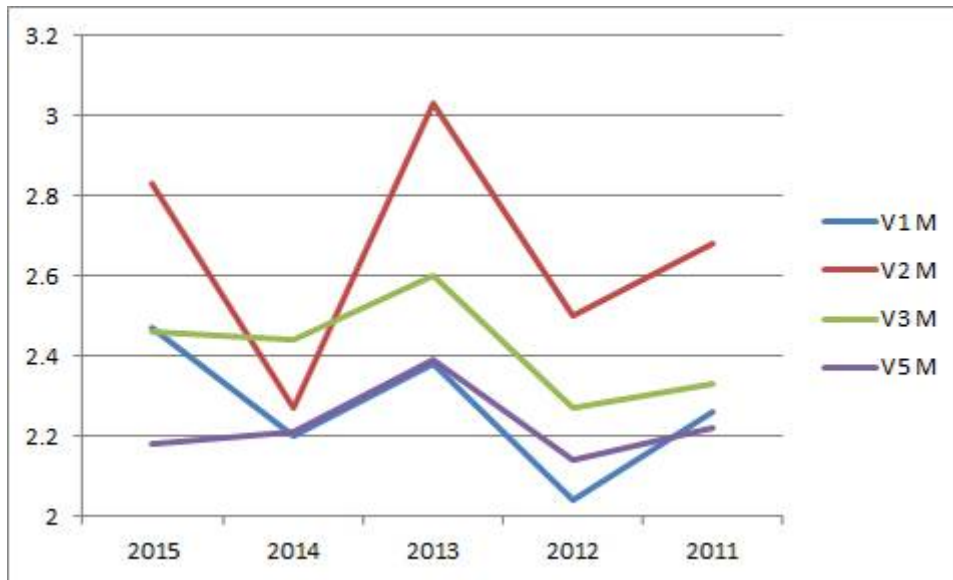


Figure 5 Trends in entrepreneurial framework conditions variable in Mexico 2011 to 2015

Variable 3 R&D transfer

There was a significant difference ($p=.00009$) between the rates of R&D transfer in Ireland and Mexico over the period 2011 to 2015. The average rates of R&D transfer were higher in Ireland than Mexico over the time period. Trends indicate an increase in R&D transfer in Mexico from 2011 to 2013, and a decrease to 2014, followed by an increase in 2015 (Figure 4). Overall the rate of R&D transfer in Mexico has remained relatively stable. This is also the case in Ireland, although an increase from 2011 to 2012, was followed by a decrease to 2015 (Figure 5).

Variable 5 Internal market openness

There was a significant difference ($p=0.000$) in the internal market openness of Ireland and Mexico, over the period of the study. Mexican experts reported decreased market openness from 2011 to 2012, this increased in 2013, and decreased again from 2014 to 2015 (Figure 5). Ireland followed a similar fluctuating trend reporting increased openness from 2011 to 2012, followed by a decrease in 2013, an increase in 2014 and a decrease again in 2015 (Figure 6).

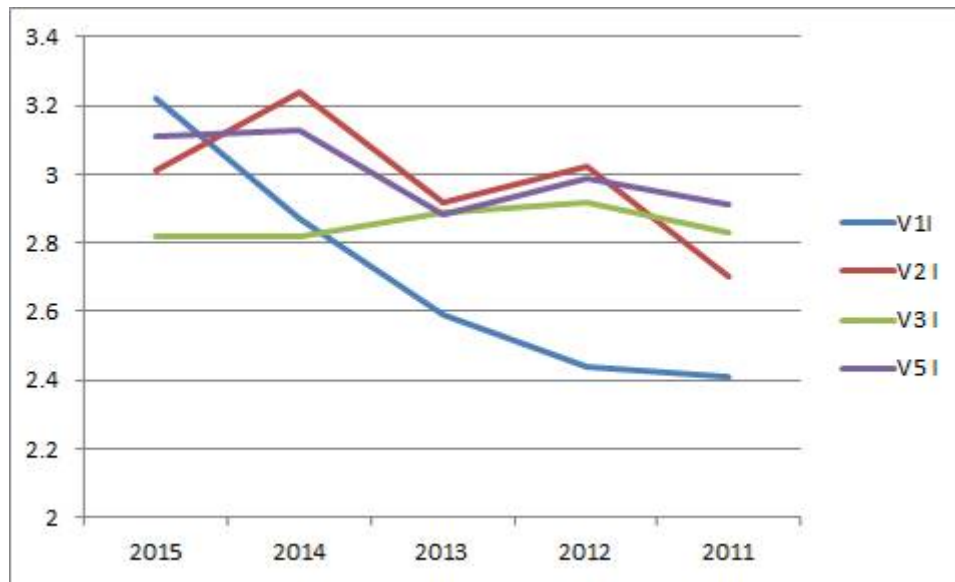


Figure 6 Trends in entrepreneurial framework conditions variable in Ireland 2011 to 2015

Variable 4 Internal Market Dynamics and Variable 6 Cultural and Social Norms

There was no significant difference in the rates of internal market change in Ireland and Mexico over the time period 2011 to 2015 ($p=.69$). From 2011 to 2015, Mexican experts reported a considerable increase in the internal dynamics of the market. Conversely in Ireland the internal dynamism of the market decreased. There was also no significant difference in the reporting of social and cultural norms which support entrepreneurship ($p=0.19$). Both Mexico and Ireland recorded relatively stable reporting of cultural and social norms over the period.

Behavioural and attitude variables

Table 5 presents the four behavior and attitude to entrepreneurship variables examined. There was a significant difference ($p<.05$) between the behaviour and attitudes of entrepreneurs in Ireland and Mexico for all four variables. In all cases the average was higher for Ireland than Mexico (Figure 7).

Table 6 Individual level behavior and attitude to entrepreneurship variables

Year	High Job Creation Expectation (V7)		Innovation (V8)		Business Services Sector (V9)		High Status to Successful Entrepreneurs (V10)	
	Mexico	Ireland	Mexico	Ireland	Mexico	Ireland	Mexico	Ireland
2015	10.1	33	18.31	44.79	4.10	29.60	52.02	80.27
2014	9.4	32	18.15	36.86	3.95	34.39	50.76	76.88
2013	20.48	27.71	20.48	32.65	5.44	20.50	62.34	81.22
2012	18.66	31.45	21.62	37.33	9.21	34.79	54.14	81.41
2011	16.35	34.19	22.40	35.57	7.45	34.30	57.92	82.71
AVG	14.998	31.670	20.192	37.440	6.030	30.716	55.436	80.498

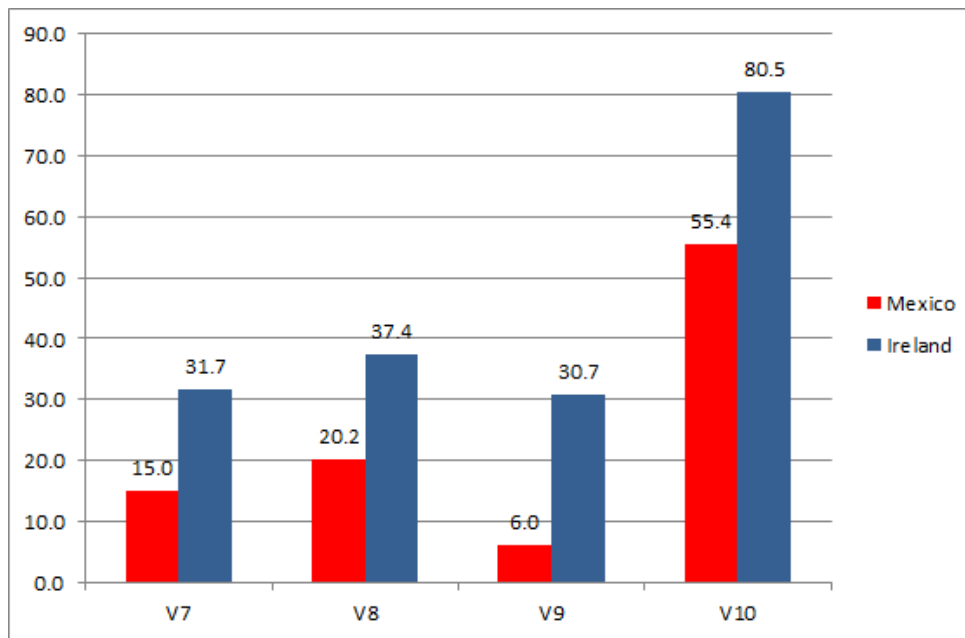


Figure 7 Comparative averages for the four behavioural and attitude variables

Variable 7 High job creation expectation

There was significant difference ($p=0.00012$) between the five year average for Ireland and Mexico, in the expectation among entrepreneurs that they will create six or more jobs in the following five years (Table 4). Trends over the five years demonstrated an increase in the expectation of creation among Mexican entrepreneurs from 2011 to 2013, a decrease to 2014, and a marginal increase to 2015. Irish entrepreneurs’ expectations of job creation decreased to 2013, and then increased to 2015.

Variable 8 Innovation

There was significant difference ($p=0.00004$) in the percentage of innovative entrepreneurial firms in Ireland and Mexico over the five year period (Table 4). Trends over the five years demonstrated an increase in the number of innovative firms in Ireland, while Mexico shows an increase to 2013 and a decrease thereafter.

Variable 9 Business Services Sector

There was significant difference ($p=0.0004$) in the percentage of entrepreneurial firms in the services sector in Ireland and Mexico over the five year period (Table 4). Trends over the five years demonstrated an overall decrease in numbers engaged in the business services sector. Ireland evidenced a decrease from 2011 to 2013, an increase to 2014 and a decrease to 2015.

Variable 10 High status to successful entrepreneurs

There was somewhat significant difference ($p=0.0000$) in the percentage of Irish and Mexican population that view entrepreneurs as having a high status. In Ireland the status of entrepreneurs has decreased slightly, while in Mexico after a period of increase (2011 to 2013), the status of entrepreneurs has decreased once again.

Discussion of Results

The data presented in this study inform the research questions upon which this study are based. Comparative patterns in entrepreneurial framework condition, behaviour and attitudinal variables in Ireland and Mexico, inform our understanding of the rates of entrepreneurial failure in both countries.

The results evidence that the pattern of data for four of the six entrepreneurial framework condition variables reflects the pattern of entrepreneurial failure rates in Ireland and Mexico. From 2011-2015, there was a significant difference in the availability of finance for entrepreneurs, government support and policies, R&D transfer, and internal market openness. With data on Mexico evidencing a lower average across these four areas compared to Ireland, while also experiencing an increase in entrepreneurial failure rates. For two of the variables, internal market openness and social and cultural norms, there was no significant difference across the data for Ireland and Mexico, thus not reflecting the pattern of entrepreneurial failure over the period.

From 2011-15, there was an increase in availability of financing for entrepreneurs in Ireland. This contrasted with Mexico where the level of finance available remained stable. According to the World Bank (2018) and BANXICO (2018), access to finance for entrepreneurial ventures in Mexico is very complex, impacting the continuance of entrepreneurial ventures. In addition, Mexico is cited as having a very high cost of credit (WIPO, 2018). Interest rates for credit, were on average 5.23 percent between 2009-2015, adding around 10 percent to private bank loans in Mexico (BANXICO, 2018).

Ireland also demonstrated a higher level of Governmental support for entrepreneurs, via policies aimed at stimulating and supporting entrepreneurial activity. To this end, in 2014 the National Institute of the Entrepreneur (INADEM) was established in Mexico. Its objective is to implement, drive and coordinate national policy aimed at supporting entrepreneurs and SMEs, promoting innovation and competitiveness (INADEM, 2018). Since its inception this program has granted hundreds of support to SMEs, but in these 4 years it is difficult to observe concrete results. A study done by the Institute mentions that it has not shown, through an evaluation of rigorous impact, that there have been positive effects of the Program in the companies supported above the unsupported companies (CONEVAL, 2015).

Rates of R&D transfer are higher in Ireland when compared to Mexico. In 2018, Mexico was ranked 58th in the Global Innovation Index (GII), compared to Ireland's ranking of 10th. Firms not engaging in R&D and other innovation related activities, evidence a lack of capacity for growth and survival (Acs and Varga, 2005; O'Malley and O'Gorman, 2001). Overall the Irish economy experienced higher levels of internal market openness than Mexico. Consistent with this finding, over the period of the study private consumption in Mexico fell from 6.2 percent to 2.8 percent (Vergara and Valenzuela, 2017). Mexican GDP also decreased during this time by 1.8 percent (Sánchez and Moreno, 2016).

The results evidence that the pattern of data for all four of the behaviours and attitudes variables reflect the pattern of entrepreneurial failure rates in Ireland and Mexico. From 2011-2015, there was a significant difference in entrepreneurs' high job creation expectation, innovative entrepreneurial firms, entrepreneurial firms in the business services sector, and the high status of successful entrepreneurs. Data on Mexico evidenced a lower average across four areas when compared to Ireland, while also experiencing an increase in entrepreneurial failure rates.

Irish entrepreneurs reported a higher expectation of job creation than Mexican entrepreneurs. In Mexico, while 72 percent of employment is in the SME sector, over 50 percent of these are self-employed, with only 10 percent seeing the potential to generate 6 or more new jobs (GEM, 2016). Latin America in general experienced a significant slowdown, post the 2008 international economic recession. According to data from the Organization for Economic Cooperation and Development (OECD, 2017), between 2015 and 2016, the growth rate in the region was between -0.5 to -1.0.

Compared to Mexico, there were more innovative firms established in Ireland over the period of this study. The Intersectoral Commission for Industrial Policy of Mexico (CIPI) maintains that 90 percent of Mexican SME businesses focus on the provision of basic goods and services, with the most common being restaurants and small-scale convenience stores (CIPI, 2018). This was also the case in the services sector, whereby compared to Mexico, there were more entrepreneurial firms established in Ireland in the services sector.

In general the Irish population are more likely to view entrepreneurship as a high status career, compared to Mexico. A entrepreneurial stage rate study developed in Mexico showed that Mexicans' confidence in their ability to start a business has diminished. It said that the percentage of adults who believe they have the skills necessary to start a business is only 45.8 percent, after reaching a maximum of 65 percent in 2010 (NOTIMEX, 2017).

Insights on Entrepreneurial Failure

As evidenced in much of the literature on entrepreneurial failure, poor financial performance is often the primary reason for business closure (Ucbasaran et al., 2013). This study seeks to understand the wider entrepreneurial environmental factors that could impact firm performance and ultimately the rates of entrepreneurial failure. Ireland and Mexico were chosen as the context for this study, as although starting from a similar base in 2011, the rates of entrepreneurial failure had diverged considerably by 2015. By 2015 Mexico exhibited considerably higher rates of entrepreneurial failure. An examination of entrepreneurial environmental factors, expressed as ten data variables, offers some insight as to why this might be the case. Six of the ten variables showed a pattern of significance that reflected the trend of increasing rates of entrepreneurial failure in Mexico. Based on this, four insights regarding entrepreneurial failure in Mexico can be extrapolated.

1. **Entrepreneurial finance:** Jurisdictions wishing to limit, or decrease entrepreneurial failure rates must ensure the availability of finance for entrepreneurs. This can take many forms including debt and equity financing, as well as grants for entrepreneurial activity. Although entrepreneurs in Ireland cite issues with regards to the availability of finance, they have considerably more opportunities to access various sources when compared to Mexican entrepreneurs (GEM 2018). As poor financial performance is identified as the main firm-level determinant of entrepreneurial failure, it stands to reason that access to financial resources would mitigate against this.
2. **Innovative Outputs:** Irish entrepreneurial firms produce more innovative products and services, and have greater opportunities to benefit from R&D transfer than their Mexican counterparts. The export orientation of many Irish enterprises enhances this innovative approach. State supported bodies such as Enterprise Ireland, provide targeted support to entrepreneurial ideas and firms with export potential. Thus the enhanced competitiveness and consumer expectations firms experience in export markets can drive innovative outputs, while at the same time positively impact on firm survival.
3. **Internal Market Openness:** Entrepreneurial failure is part of a dynamic entrepreneurial system. Whereby if policymakers can reduce the burdens of entry and exit on entrepreneurs, the stigma of failure is reduced, and entrepreneurs are more likely to establish subsequent businesses after failure. Irish entrepreneurs experience less of these burdens than their Mexican counterparts. Policy related to reducing the bureaucratic burden on entrepreneurship, and limiting the personal losses associated with firm failure should support an entrepreneurial system which generates a higher level of entrepreneurial success.
4. **Targeted support:** Entrepreneurial firms in Ireland differ from those in Mexico in two fundamental ways. they are more likely to operate in the business services sector, and exhibit high growth potential, in the form of job creation prospects. This pattern of results would suggest that jurisdictions wishing to limit entrepreneurial failure rates should offer targeted supports to entrepreneurial firms matching these characteristics.

The insights on entrepreneurial failure presented, while identified by this research as playing an important role in entrepreneurial survival, interact with many other elements of the entrepreneurial environment, most notably policy developers in the area of entrepreneurship. All four insights do represent controllable factors around which policy decision makers could implement policy, rules and regulations that would allow for rapid evolution in each of these areas. While entrepreneurial failures are inevitable in any functioning entrepreneurial system, entrepreneurial failure rates that are excessive or rapidly increasing should be examined, and mechanisms put in place to support those at risk of failure.

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Appendix

(Appendix 1) ENTREPRENEURIAL FRAMEWORK CONDITIONS Statistics Test

TEST	Financing for entrepreneurs (V1)		Governmental support and policies (V2)		R&D transfer (V3)		Internal market dynamics (V4)		Internal market openness (V5)		Cultural and social norms (V6)	
	Mexico	Ireland	Mexico	Ireland	Mexico	Ireland	Mexico	Ireland	Mexico	Ireland	Mexico	Ireland
T-Student	0.0328		0.0797		9E-05		0.6955		3E-06		0.1903	
Kolmogorov-Smirnov	0.2		0.2		0.122		0.2		0.07		0.20	
Levene	0.103		0.358		0.108		0.88		0.444		0.011*	
AVG	2.27	2.706	2.662	2.978	2.42	2.856	2.76	2.686	2.228	3.004	3.014	3.112

Appendix 2) ENTREPRENEURIAL BEHAVIOUR AND ATTITUDES Statistics test

Test	High Job Creation Expectation (V7)		Innovation (V8)		Business Services Sector (V9)		High Status to Successful Entrepreneurs (V10)	
	Mexico	Ireland	Mexico	Ireland	Mexico	Ireland	Mexico	Ireland
T-Student	0.0001559		4.81E-05		2.84E-05		4.889E-06	
Kolmogorov-Smirnov	0.2		0.132		0.09		0.2	
Levene	0.046		0.361		0.125		0.08	
AVG	14.998	31.67	20.192	37.44	6.03	30.716	55.436	80.498

