ERASMUS UNIVERSITY ROTTERDAM
Erasmus School of Economics

Bachelor Thesis [Programme International Bachelor Economics and Business Economics]

The Effect of Institutional Uncertainty on Entrepreneurial Activity in Emerging Markets

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Date final version: 06/27/2019

I would like to thank Dr. Emiel Maasland for the constructive support throughout the development of this thesis. Furthermore, I appreciate the second reader for reading this thesis. On a final rate, I would like to thank my parents, family and friends for their support.

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Abstract

A broad-based consensus exists in academia which states that institutional uncertainty reduces entrepreneurial activity. However, recent theoretical arguments by institutionalists suggest the contrary may be true, namely, institutional uncertainty fosters entrepreneurship. They argue that their claim may hold in the context of emerging markets. These recent arguments state that entrepreneurs pursue value-adding activities when facing institutional uncertainty. Yet, besides these theoretical arguments, empirical support is lacking. In response, this thesis pursues to empirically verify whether institutional uncertainty promotes entrepreneurial behavior. The use of a lagged instrumental variable enables this research to check for endogeneity between institutional uncertainty and entrepreneurship. The results show that institutional uncertainty indeed improves entrepreneurial activity when considering Mexico. To further justify whether similar results hold across other emerging markets, we included a nation similar to Mexico; Chile. Based on the analyses for both Mexico and Chile, we can confirm the fostering nature of institutional uncertainty towards entrepreneurial activity.

Contents

1 Introduction

Academics commonly argue the extent of how institutional uncertainty hampers entrepreneurship. With uncertainty, the common thought is that entrepreneurs become hesitant with regards to the likelihood of success for their venture resulting in lower entrepreneurial activity. Yet, in contrast to this thought, recent arguments by institutionalists suggest that institutional uncertainty creates opportunities for entrepreneurs, in particular within emerging markets. These opportunities arise as uncertainty establishes a leeway for entrepreneurs to identify discrepancies and act upon these to achieve rent, given their attitude towards risk (Tracey & Philips, 2011). Limited empirical support, with the exception for the case of Oman (Yusuf, 2002), supports the claim of institutional uncertainty fostering entrepreneurship. In contrast, an abundance of empirics is available justifying institutional uncertainty undermining entrepreneurship (Aidis, 2005; Estrin, Korosteleva & Mickiewicz, 2013; Nikolaev, Boudreaux & Palich, 2018).

The inclusion of emerging markets in the recent arguments by institutionalists suggests scope for questioning the role of institutional uncertainty across market types, as for instance emerging and developed markets. As research shows, institutions across emerging and developed markets differ due to demographics and market conditions (e.g. Hitt, Dacin, Levitas, Arregle & Borza, 2017).In addition, theory argues that the development of institutions cannot be represented by a binary scale, rather, institutions face gradual change and therefore a continuous spectrum is more applicable (Philips, Lawrence & Hardy, 2000).Therefore, an underlying complexity exists (fueled by demographics and market conditions) within emerging and developed markets which drives change amongst institutions. With such complexity, institutions have the possibility to undergo transformation in the short run, which extends in the long run as an emerging market moves towards a developed market (Tracey & Philips, 2011). Meanwhile facing transformation, institutions contribute significantly towards establishing an environment allowing for entrepreneurial activity and stable economic performance to occur (Meyer, 2001). In the case of a developed market, institutional development reaches a saturated stage and therefore becomes more rigid for change. On the contrary, institutional development within emerging markets is less rigid for change (inducing uncertainty), which creates a leeway of opportunities for entrepreneurs and hence, institutional uncertainty may stimulate entrepreneurial behavior within emerging markets.

Emerging markets, such as Mexico and Chile, are known for economic development and the progressive steps taken towards becoming a leading global economy. For example, Mexico is currently the 15th largest

economy in the world and is predicted to be the fifth largest economy by 2050. In recent years, Mexico has faced various shocks caused by the election of Donald Trump and the rise of drug related violence and corruption. These frequent shocks introduce institutional uncertainty. Alongside the frequent shocks, emerging markets such as Mexico and Chile are characterized for their strong entrepreneurial attitude (GEM, 2017). Besides their similar entrepreneurial attitude, Chile is a Latin American country sharing a similar history with Mexico as both nations were colonized by Spain. Therefore, adopting Chile allows us to control for risk attitude inherited from Spanish culture. Given the institutional uncertainty and entrepreneurial activity, we will adopt Mexico and Chile to represent emerging markets in this thesis.

With the lack of empirics justifying whether institutional uncertainty enhances entrepreneurial activity, this thesis will empirically investigate whether uncertainty creates an array of opportunities to stimulate entrepreneurship. To achieve this, emerging markets will be considered as these behave within less rigid conditions compared to developed markets. Considering the context of Mexico and Chile, the following research question has been formulated:

What is the effect of institutional uncertainty on entrepreneurial activity within the context of Mexico and Chile?

To address the research question, this thesis is structured as follows; (i) the literature framework will explore the opposing views on the role of institutional uncertainty, (ii) methodology describing the econometric tests that will be performed, (iii) description of the data, (iv) the results will present the findings of this thesis, and finally (v) the conclusion provides an answer to the research question, limitations of the study and scope for further research.

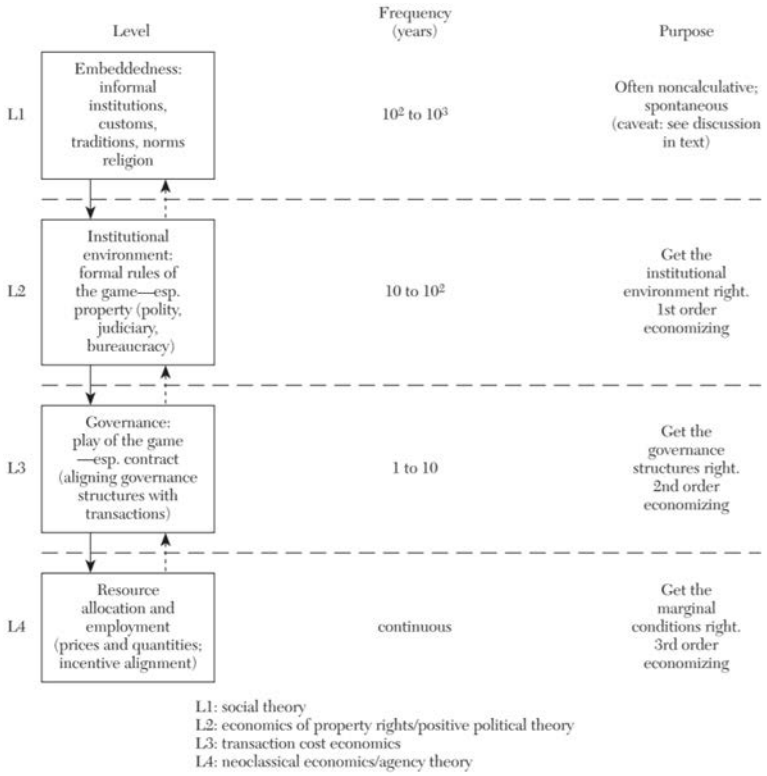
2 Literature Framework

In the field of entrepreneurship, there is a consensus amongst academia that an entrepreneur seeks opportunities and exploits these to yield returns. On an individual level, he/she can decide between being an entrepreneur (self-employed) or an employee. The individual decides to pursue being an entrepreneur if the expected return is greater than the wage received when being an employee. The expected return is a function of the likelihood of success/failure and respective estimated profit/loss. In the context of uncertainty, both the likelihood and estimated profit/loss remain unknown to the individual (Knight, 1921). In response, entrepreneurs have the tendency to underestimate uncertainty given their overconfidence in their product/business (Alvarez & Barney, 2005). In response, institutions take upon an important role in assisting the entrepreneur in his/her judgement of uncertainty and therefore contribute to the decision-making process whether to become an entrepreneur and pursue an opportunity. The views of whether uncertainty amongst institutions renders or flourishes entrepreneurial activity will be explored in the following sections of the literature framework.

2.1 Institutional Context

To understand institutions, section 2.1 will focus on developing a framework for classifying institutions. Considering institutions in a two-dimensional perspective, Philips et al. (2000) argue that institutions can be classified on a continuous spectrum, whereas each institution can contain organizational fields. Accordingly, an organizational field consists of different parties or individuals actively performing a certain action within an institution, for example bureaucrats and legislators implementing trade policies (DiMaggio & Powell, 1983). Due to the embedded organizational fields, it is important to establish a division within the continuous spectrum of institutions. The following hierarchical model establishes such division by introducing four distinctive layers (Williamson, 2000).

Figure 2.1: Hierarchy of Institutions.[1]



Considering figure 2.1 above, a shift from the lowest layer (L4) to the highest layer (L1) constitutes to a greater time lag for identifying and implementing change. Furthermore, shifting from L1 to L4 changes perspective from a national point of view to a market point of view. The first layer is called the social embeddedness layer, or L1, and consists of the norms and traditions of society. Making an impact in this layer will require a long period of time. The second layer (L2) is called the institutional environment and consists of the laws, property rights, and policies implemented by the government. Henceforth, it is referred to as "the formal rules of the game". Entrepreneurs can exploit economic opportunities in L2 relative to L1. Henceforth, L2 is also referred to as the first order of economizing. Other remaining layers include governance (L3) and the flow of factor inputs (L4). L3 and L4 are referred to as the second and third order of economizing as greater economic benefits can be retrieved, relative to L2. Both L3 and L4 are representative to the market (firm level) by incorporating contracts, market failure and prices. Given the four layers, Williamson (2000) acknowledges the trickledown effect between the four layers; a change in the norms influences the policies set, which alter governance, and hence how the market prevails. Additionally, the complementary nature of the layers is recognized. For example, in the case of L2 and L3,

[1] Retrieved from Williamson (2000).

a policy (L2) is a product of the support of the bureaucrats (L3). The layers prove to be intertwined and therefore this thesis will focus on the economic policies (L2) set by the institutions, which will be used as a proxy for the complete set of institutions present within Mexico and Chile.

2.2 Institutions and Entrepreneurship

In section 2.2, we address the relationship between entrepreneurship and institutions. In the literature a distinction is made between productive, unproductive and destructive entrepreneurship. For productive entrepreneurship to occur, a well-established set of institutions is required. However, if this does not hold, then unproductive and destructive entrepreneurship arise with their respective economic consequences (Baumol, 1990). Despite the fundamental contributions by Baumol (1990), Baumol's theory allows no scope for second-best alternatives to an inefficient institution. Douhan and Henrekson (2010) realize this and argue that entrepreneurs have the ability to exert influence towards an inefficient institution after recognizing the economic incentive (referred as institutional entrepreneurship). For example, in the case of unproductive entrepreneurship, the entrepreneur influences the regulations imposed by the institution to make it unfavorable for unproductive entrepreneurship to occur and accordingly, allowing productive entrepreneurship to foster through crowding out.

A common notion in the literature is the two-sided relationship between institutions and entrepreneurs. In general, entrepreneurs behave as active agents influencing the existing inefficiencies amongst the four institutional layers of Williamson (2000) by providing feedback. The institutions adopt the feedback to further develop, causing the economy to experience growth and social welfare improvements (Baumol & Strom, 2007). Theory suggests three possible actions an entrepreneur can take to provide feedback (Henrekson & Sanandaji, 2011). First, the entrepreneur can *abide*, meaning that he/she acts within the boundaries set by the institutions. Second, the individual can decide to *evade*, implying he/she refuses to comply with the settled institutions and decides to allocate effort in acting outside the boundaries. And third, the entrepreneur can *alter* the boundaries by lobbying for a favored proposition or by introducing a new public good. When the entrepreneur abides, this gives direct feedback to the institution as it becomes reassured. Whereas evading provides indirect feedback and induces the institution to act upon accordingly, and finally, altering offers ambiguous feedback (Bylund & McCaffrey, 2017). With these actions, the entrepreneur (acting as an active agent) provides feedback (either direct or indirect) to the institution and therefore exerts influence. Besides the entrepreneur providing feedback, institutions act similarly by establishing a pay-off system to influence the behavior of the entrepreneur (Baumol, 1990), suggesting that reverse causality is present between both the institutions and entrepreneur. The presence

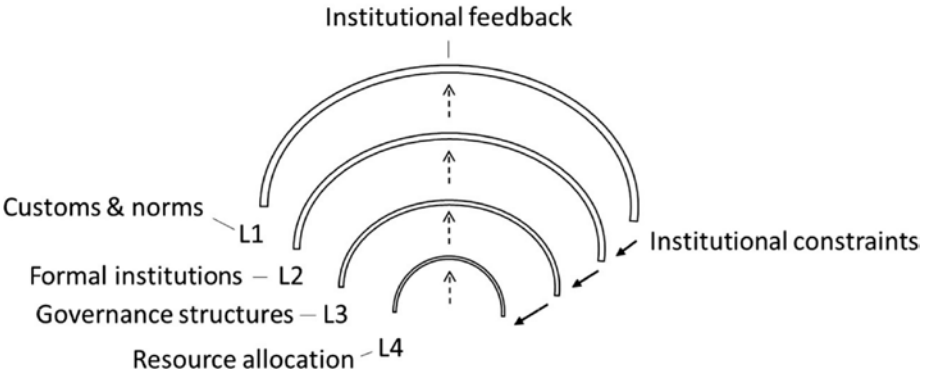
of reverse causality offers suggestive clues for an instrumental variable, as shall be discussed in the methodology section.

2.3 Institutions, Emerging Markets and Uncertainty

Having discussed how entrepreneurs and institutions interact in section 2.2, section 2.3 will consider this interaction in the context of emerging markets and introduce uncertainty. In this thesis, the following definition of emerging economies is adopted; "low-income, rapid-growth countries using economic liberalization as their primary engine of growth" (Hoskisson, Eden, Lau & Wright, 2000). Emerging markets are characterized by institutional development, which introduces the presence of uncertainty due to the lack of reinforcement and establishment when facing development (Fligstein, 1997). Accordingly, this uncertainty provides scope for opportunistic behavior by entrepreneurs to obtain rents.

Emerging markets inherently experience frequent misalignment between institutions. With respect to the four layers proposed by Williamson (2000), the hierarchical model fails to capture the dynamic state of all four layers (Bylund & McCaffrey, 2017). Bylund and McCaffrey (2017) argue that the model lacks to consider the impact of time in causing misalignment between the layers, making the entrepreneur unsure about the interrelationship of the layers and hence future conditions amongst institutions. Therefore, the misalignment induces institutional uncertainty.

Figure 2.2: Alignment amongst Williamson's layers.[2]



The arches in figure 2.2 symbolize the relative size and difficulty to alter each individual layer. In the figure, the layers are perfectly aligned (reflected by the dotted arrows) and hence entrepreneurs understand the relationship between all layers. In this case institutional uncertainty is not apparent. However, when entrepreneurs *perceive* a misalignment (they believe the dotted arrows are not perfectly aligned), then

[2] Retrieved from Bylund and McCaffrey (2017).

institutional uncertainty arises. Entrepreneurs become uncertain and begin reconsidering certain decisions. As Bylund and McCaffrey (2017) state; "perceived instabilities are the root cause of institutional uncertainty" (P. 467). In addition to the (mis)alignment, each upper level can exert pressure on the lower levels through institutional constraints. This triggers a greater likelihood for perfect alignment to hold, however, at an increasing cost for the entrepreneur to influence the upper level.

Besides misalignment through perception, entrepreneurs possess the ability to actively alter alignment. When altering a given set of boundaries of the institution (such as by abiding, evading and altering), the alignment of institutions shifts (see figure 2.2) and therefore provoking uncertainty, which afterwards may introduce further entrepreneurial activity (Bylund & McCaffrey, 2017; Henrekson & Sanandaji, 2011). In addition, the degree of institutionalization determines the extent to which an entrepreneur can induce misalignment (Beckert, 1999). Specifically, a moderate degree allows entrepreneurship to occur, for example through the mobilization of resources. With a moderate level, the entrepreneur can establish change which results in the layers of Williamson (2000) becoming misaligned. In the long run, the layers merge to a perfect alignment. This result suggests endogeneity; entrepreneurial activity is naturally in an institutional setting where uncertainty is present, as entrepreneurs act upon institutional uncertainty. As such, we adopt the contribution of Bylund and McCaffrey (2017) as an extensive explanation for institutional uncertainty and endogeneity, forthcoming from the definition of institutions given by Williamson (2000).

2.4 Institutional Uncertainty hampering Entrepreneurship

Section 2.4 will present a selection of arguments from institutional theorists discussing how institutional uncertainty reduces entrepreneurial activity. In general, research has been done highlighting the tendency by individuals to avoid uncertainty. For this reason, institutions have been established to limit uncertainty (Emmett, 2011). Institutional theorists argue that within the set of institutions from Williamson (2000), the role of economic policy has emerged as an important determinant in discouraging entrepreneurial activity (Angeletos & Calvet, 2006; Fogel, Hawk, Morck & Yeung, 2005; McMillan & Woodruff, 2002). More specifically, Fogel et al. (2005) explain that as policy uncertainty rises, market risks rise which increases the risks for investors, causing fewer funds for ventures and hence discouraging entrepreneurship. In addition, Angeletos and Calvet (2006) create a neo classical growth economy model and show how an incomplete market (through asymmetric information in the market level, hence uncertainty in L4) hampers the rate at which an economy reaches the steady state. More specifically, an additional risk premium arises due to uncertainty and reduces demand for private equity. As a result, lower capital stock

is being accumulated. In the end, this cycle leads to a lower level of investments, prohibiting business formation.

Other institutional theorists argue that besides economic forces, also other factors contribute to the deterring effect on entrepreneurial behavior. Entrepreneurship is commonly known for investing limited resources in the present time and achieving unknown returns at a later stage. Given the limited resources and duration of realizing returns, entrepreneurs become more uncertain due to the possibility for opportunistic behavior by others (for example by the government), such as through information asymmetry and moral hazard (Fogel et al., 2005). As a result, this reduces transactional trust and discourages the formulation of businesses, henceforth hampering entrepreneurial activity.

Besides the theoretical explanations, empirics find similar support for institutional uncertainty reducing entrepreneurship. A study performed in Lithuania combines the misalignment between (i) formal, (ii) informal, (iii) environmental and (iv) skill barriers and finds that a change in an upper layer influences the perceptions of entrepreneurs on a lower level, which induces uncertainty, and led to a reduction in entrepreneurial activity (Aidis, 2005). This proves support for the model of institutional uncertainty by Bylund and McCaffrey (2017) expressed in figure 2.2.

Research on a cross-country level find additional support for uncertainty hampering entrepreneurship. Nikolaev et al. (2018) identify that high levels of corruption and weakly-structured monetary policy prove to strongly deteriorate entrepreneurial activity. Additional empirics show that the growing size of the government may attribute to entrepreneurs becoming reluctant to introduce a venture (Estrin et al., 2013). More specifically, as the government develops in size, it becomes more difficult and bureaucratic for an entrepreneur to register a venture and acquire additional information. Accordingly, asymmetric information arises between the entrepreneur and bureaucrats, implying greater uncertainty (Fogel et al., 2005), and resulting in fewer businesses being formed.

Elaborate theoretical and empirical support exists in the literature claiming institutional uncertainty reduces entrepreneurship. Macroeconomic models (for example, Angeletos & Calvet, 2006; McMillan & Woodruff, 2002) and transactional trust (Fogel et al., 2005) suggest that uncertainty exercises diminishing effects. Additional empirical results on a cross-country level suggest likewise (Estrin et al., 2013; Nikolaev et al, 2018). However, another group of institutionalists argue the contrary.

2.5 Institutional Uncertainty creating Entrepreneurship

As illustrated in the previous section, a large portion of the literature developed argues that entrepreneurs experience greater difficulty in starting and operating a business in times of uncertainty. Alongside these arguments, a branch of institutionalists opposes such claims as shown in section 2.5.

Economists theorize that, given the market being deviated from a state of equilibrium (introducing uncertainty), for the equilibrium to restore, entrepreneurial activity is required (Ashton, 1989). Institutionalists and especially neo institutionalists contribute to this claim by proposing that entrepreneurs engage in value-adding entrepreneurial activities given institutional uncertainty (Tracey & Philips, 2011). As Tracey and Philips (2011) suggest, for entrepreneurs to create value given the institutional discrepancies amongst emerging markets, entrepreneurs can adopt three strategies to influence the organizational fields.

The first strategy is institutional brokering. In this case, the entrepreneur establishes an enterprise which reduces institutional uncertainty for specific groups or individuals in an organizational field. As a result, value is created through the mechanism of lowering average uncertainty, resulting in creating greater stability. Such enterprises play an important role for supporting economic activity in emerging markets. As Tracey and Philips (2011) suggest; the greater the institutional uncertainty within an organizational field, the more opportunities available for institutional brokering.

Besides institutional brokering, a second strategy is spanning institutional voids. In this case, the entrepreneur pursues to establish an intermediary between two sets of institutions and/or firms, which creates a regulatory system with the purpose of creating solutions accepted by individuals to become the norm. For the entrepreneur to act successfully in an institutional void, three requirements persist (Maguire, Hardy & Lawrence, 2004). At first, he/she can establish legitimacy. Second, he/she possesses the ability to negotiate and establish agreements amongst various stakeholders. And third, he/she is able to establish ties with new and existing enterprises.

The third strategy Tracey and Philips (2011) present is bridging institutional distance. This holds when institutions contrast sufficiently on a cross-country level. In response, the entrepreneurs can translate or transpose the institutions to create an enterprise.

Tracey and Philips (2011) establish these strategies with a focus on L1 and L2. Other research, however, show that uncertainty amongst the layers of L3 and L4 (with focus on markets) also provide opportunities (Cohen & Winn, 2007). Cohen and Winn (2007) introduce a different perspective where uncertainties can

become profitable. As they mention, a large trend has risen recently which emphasizes the importance of sustainable business. In the past, market failures such as information asymmetries, flawed pricing, inefficient firms and negative externalities contributed to the decay of the environment. However, a change in government policy (inducing uncertainty) has motivated firms to use these market failures to improve the environment and realize profitable opportunities. For example, when considering negative externalities, Cohen and Winn (2007) argue that firms have emerged who use this inefficiency and transform it into a profitable venture.

Given the theories presented by (neo) institutionalists, limited empirical research remains to justify the claim of institutional uncertainty fostering entrepreneurial activity (Tracey & Philips, 2011). Of the few, research has been done in Oman which focuses on an uncertain and complex setting and finds that this uncertainty creates motivation for firms to become more efficient and prosper, hence stimulating economic growth (Yusuf, 2002). Yet, focus was solely on Oman and therefore the external validity is unlikely to hold. In response, this thesis will address the weak empirical support and contribute to advancing such evidence. The following sections ('Methodology' and 'Data') will address the practice of how this thesis pursues to identify whether institutional uncertainty stimulates entrepreneurship in the context of emerging markets.

3 Methodology

Considering the literature framework, institutionalists show how reverse causality and endogeneity may hold between entrepreneurship and institutional uncertainty. Given such, an instrumental variable seems applicable. To see whether an instrumental variable is a suitable econometric test, at first a simple Ordinary Least Squares (OLS) regression will be performed. In addition, Wu-Hausman and Durbin tests will be conducted to identify whether the OLS regression contains endogenous regressors. If the outcomes of these tests indeed indicate the presence of endogenous regressors, an instrumental variable is appropriate to adopt.

3.1 OLS Regression

At first, an OLS regression is constructed. Our interest lies in identifying the treatment effect of institutional uncertainty (T) on entrepreneurial activity (Y). To reduce omitted variable bias, control variables such as GDP per capita, infrastructure and corruption are included. These specific controls are considered as the literature raises the importance of such on influencing entrepreneurial activity and institutional uncertainty (Cavusgil, Ghauri & Agarwal, 2002; Nikolaev et al., 2018). Considering the case for Mexico, we arrive at the following regression formula:

$$Y = \beta_0 + \beta_1 T + \beta_2 X_1 + \beta_3 X_2 + \beta_4 X_3 + \varepsilon$$

where β_0 is the constant, X_1 is the GDP per capita, X_2 is corruption, X_3 indicates infrastructure, and epsilon represents the error term which includes missing variables whom contribute to the variation of entrepreneurship.

3.2 Endogeneity Tests

After the OLS regression, the Wu-Hausman and Durbin tests will be performed to check whether endogeneity is present amongst the regressors. If these tests identify the presence of endogenous regressors, then the OLS regression fails to hold. This is due to simultaneity which induces the violation of an OLS assumption; the treatment variable is uncorrelated with the error term.

The hypotheses for the Wu-Hausman and Durbin tests are as follows:

H_0: variables are exogenous

H_1: variables are endogenous

If the null hypothesis is rejected, this concludes that the alternative hypothesis is not rejected. Henceforth, the regressors are endogenous and the application of an instrumental variable is suggested. Alternatively, if the null hypothesis is not rejected, this means that the alternative hypothesis is rejected. Therefore, the regressors are exogenous, and the adoption of an instrumental variable is not necessary.

3.3 Instrumental Variable

If endogeneity is present, adopting an instrumental variable is suitable. The instrumental variable isolates the variation in institutional uncertainty (explained by the instrument) from the remaining regressors (GDP per capita, corruption and infrastructure) and error term. In response, the isolated variation helps us to estimate the effect of institutional uncertainty on entrepreneurship through the instrument. We therefore address endogeneity as the variation within institutional uncertainty (induced by the instrument) does not include the correlation between institutional uncertainty and the error term.

The regressors included in the previous OLS regression consist of macroeconomic variables (GDP per capita, corruption and infrastructure) which possess numerous correlations with other variables in an economy. With such complexity, identifying a suitable instrument becomes difficult. In response, a common practice amongst macroeconomic-related research is to adopt a lagged instrument (Collier & Hoeffler, 2002; Miguel, Satyanath & Sergenti, 2004). We therefore propose using a lagged measure for institutional uncertainty.

To evaluate whether our instrument (Z) is valid, three conditions must hold (Khandker, Koolwal & Samad, 2010):

1. No direct effect on entrepreneurship (exclusion restriction).
2. Causal relationship between variable of interest (T) and the instrument (Z) (strong first stage): $Cov(T, Z) \neq 0$
3. Z is independent from the error term (including corruption, infrastructure and GDP per capita, i.e. X_i where i resembles a control): $Cov(\varepsilon, Z) = 0$ and $Cov(X_i, Z) = 0$

With regards to the first condition, lagged institutional uncertainty is expected to have an indirect effect on entrepreneurship as institutional uncertainty five years in the past is unlikely a direct cause for establishing a venture in the present. Rather, current institutional uncertainty (lag of zero) will occupy a direct effect as such determine the immediate opportunities available for entrepreneurs to seek rent (satisfying condition one). We therefore expect current institutional uncertainty to be a product of it's lags, and the effect of lagged institutional uncertainty is likely to be translated through our variable of

interest (T), hence satisfying condition two. Furthermore, condition two states a strong first stage is required which implies a strong correlation must exist between the instrument and variable of interest. We can empirically justify whether this holds by testing for the causal effect of lagged institutional uncertainty on non-lagged institutional uncertainty. For a strong first stage to hold, the rule of thumb holds that the F-statistic of the causal effect must be equal or larger than ten (Khandker et al., 2010). Whether a strong stage is apparent will be tested in the results section. Considering the third condition, the lag of institutional uncertainty is unlikely to be correlated with the control variables and error term. For example, the current level of corruption is unlikely to be influenced by institutional uncertainty five years in the past as corruption often exists amongst government officials, and a primary determinant for corruption to occur is to satisfy current self-interest (DeCelles, DeRue, Margolis & Ceranic, 2012). This motivation comes from the current necessity on an individual level (for example meeting nutritional needs) and hence we argue that corruption is likely to be independent of the institutional uncertainty lags. Based on the arguments thus far we perceive the conditions to have been met. The remaining task is to verify whether condition two holds based on the rule of thumb (considered in the results section).

Like in the OLS model, in the instrumental variable regression model, we incorporate exogenous control variables (assuming exclusion restriction holds). These exogenous control variables do not exert influence on our instrument (Z), however, they affect our dependent variable Y (entrepreneurship). Including the controls reduces the omitted variable bias. To estimate the coefficient for institutional uncertainty ($\hat{\beta}_1$) after including our instrument (Z) in the OLS regression, we perform the following derivations inspired by Angrist and Krueger (2001). Angrist and Krueger (2001) justify these derivations by stating that the coefficient of interest $\hat{\beta}_1$ is not influenced by omitted variables (no asymptotic bias) and is consistent.

The derivation of $\hat{\beta}_1$ is as follows. We start from our equation of interest:

$$Y = \beta_0 + \beta_1 T + \beta_2 X_1 + \beta_3 X_2 + \beta_4 X_3 + \varepsilon$$

and assume the conditions hold: $Cov(T, Z) \neq 0$, $Cov(\varepsilon, Z) = 0$ and $Cov(\beta X_i, Z) = 0$.

First, we take the covariance and include the instrument Z:

$$Cov(Y, Z) = Cov(\beta_0 + \beta_1 T + \beta_2 X_1 + \beta_3 X_2 + \beta_4 X_3 + \varepsilon, Z)$$

Second, we expand the equation in the first step:

$$Cov(Y, Z) = Cov(\beta_0, Z) + Cov(\beta_1 T, Z) + Cov(\beta_2 X_1, Z) + Cov(\beta_3 X_2, Z) + Cov(\beta_4 X_3, Z) + Cov(\varepsilon, Z).$$

Third, we apply the general rules of covariates and aforementioned conditions to the second step to arrive at:

$$Cov(Y, Z) = Cov(\beta_1 T, Z).$$

As a final step, we rearrange for β_1:

$$\hat{\beta}_1 = \frac{Cov(Y,Z)}{Cov(T,Z)}.$$

From our derivations, we arrive at $\hat{\beta}_1$ which depicts the estimated effect of non-lagged institutional uncertainty (T) on entrepreneurship (Y). This is where our interest lies and will allow us to address the research question of this thesis.

3.4 Expectations

Given the theoretical arguments by institutionalists stating how institutional uncertainty fosters entrepreneurial activity (for example by Tracey & Philips, 2011), we examine whether such claims may hold in the case of Mexico and Chile. The strategies proposed by Tracey and Philips (2011) allow for sufficient rent seeking opportunities by entrepreneurs, and therefore we believe their claim may empirically hold.

After obtaining results for Mexico, we will do the analysis for Chile. We will perform sections 3.2-3.3 for Chile and examine whether supporting results are evident. Therefore, the incorporation of Chile will allow us to explore whether supportive results hold across other emerging markets besides Mexico.

4 Data

This section will address the type and source of relevant data. In general, the data collected ranges between 1996 and 2018, and is on a monthly-level. Data is collected for Mexico and Chile. Mexico contains all variables mentioned below. Chile only has two variables which proxy our dependent and explanatory variable. Chile does not have control variables as these variables proved to be incomplete.

In the literature a distinction is made between market entrepreneurs and institutional entrepreneurs. Both types of entrepreneurs co-exist as Klein et al. (2010) argue that private entrepreneurship exists within a public setting, whereas public entrepreneurship is driven by the individuals in the private sector. As a result, both variations of entrepreneurship intertwine and therefore we will assume both varieties of entrepreneurship as one whole (the sum of both private and public entrepreneurship). In the data, the total rate of self-employment is adopted as a proxy for entrepreneurial activity (the dependent variable).[3] This is retrieved from OECD Data.[4] The total rate of self-employment is the total percentage of men and women in the workforce considered as self-employed. As Parker (2004) argues, self-employment acts as a reasonable proxy for entrepreneurship.

Institutional uncertainty is proxied by Economic Policy Uncertainty (EPU) as all four layers proposed by Williamson (2000), see section 2.1, are interrelated and contribute to the output of institutions (i.e. policies) in either a direct or indirect manner. EPU, ranging between 1996 to 2018, is constructed by counting the frequency of specific terms resembling economics, uncertainty and policy across 12,000 different newspaper articles (Baker, Bloom & Davis, 2016). To arrive at a nation-wide EPU measure, they create an index to consider for the absolute number of articles per month for each newspaper. Afterwards, the newspaper individual indexes are converted to unit standard deviation across January 1996 to December 2016. For the final step, the indexes are standardized across all newspapers and months, and rescaled afterwards to a base of 100 across January 1996 to December 2016. After rescaling, Baker et al. (2016) arrive at the EPU index per country. As EPU is a scaled index, the unit is per unit of uncertainty relative to the base.

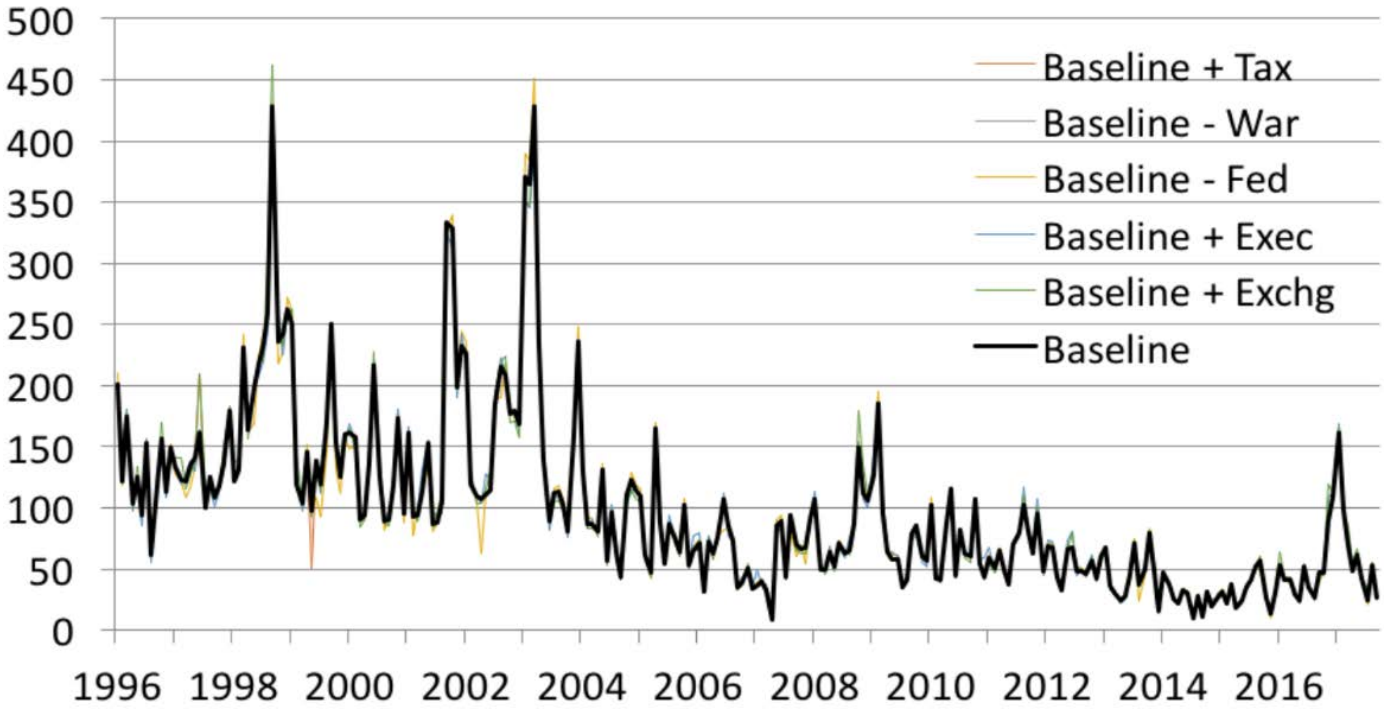
EPU has proven to resemble economic conditions accurately as Baker et al. (2016) argue that EPU has a correlation of 58% with the Volatility Index (VIX), a measure reflecting volatility for the S&P500 index. The

[3] Prior, data of Total early-stage Entrepreneurial Activity (TEA) was collected from Global Entrepreneurship Monitor (GEM) however due to lack of data that is available representing Mexico (consecutive years did not contain data points), a decision is made to consider the total rate of self-employment to proxy for entrepreneurial activity.
[4] Source: https://data.oecd.org/emp/self-employment-rate.htm.

reason for not achieving a greater correlation is because the VIX responds to real time financial events whereas EPU captures political uncertainty more accurately. Given the 58% correlation between the VIX and EPU, and mentioned differences, EPU acts as a reasonable measure for institutional uncertainty.

The data for EPU is provided and collected from Economic Policy Uncertainty.[5] A sensitivity check is performed by considering EPU (the baseline) with the variables; tax, war, Federal Reserve, executives and exchange rate. For example, if tax is added to the baseline (hence in the counting process across newspapers) this results in a modified time series. As can be seen in figure 4.1 below, the baseline for EPU appears to have a strong correlation with the modified time series after considering for the different variables. This implies EPU captures an accurate trend of economic uncertainty (spanning also into the field of tax) and therefore acts as a convincing measure for a nation's economic policy uncertainty.

Figure 4.1: Sensitivity check for Baseline EPU.[6]



Other variables considered in this thesis are as follows. First, Gross Domestic Product (GDP) per capita, which is retrieved from the World Bank national accounts data, is expressed in US dollars.[7] Second,

[5] In this thesis, EPU is referred to as the variable itself whereas Economic Policy Uncertainty is the source of the data. EPU is always used to represent the variable. Source: http://www.policyuncertainty.com/.
[6] Retrieved from http://www.policyuncertainty.com/mexico_monthly.html.
[7] Source: https://data.worldbank.org/indicator/ny.gdp.pcap.cd.

corruption is measured by the Corruption Perceptions Index (CPI) collected from Transparency International.[8] The CPI indicates relative perceived corruption across nations on a scale between zero and 100. A score nearing 100 indicates low levels of corruption whereas a score nearing zero shows high levels of corruption. Finally, infrastructure is measured in US dollars and the measure consists of expenditures in the fields; telecommunication, aviation and energy sector. The data for infrastructure is collected from the World Bank data sets.[9]

The table below presents the descriptive statistics of all variables and their respective syntax which will appear in the results section across the tables.

Table 4.1: Descriptive statistics for Mexico (Mex) and Chile (Chl)

Variable	Syntax	Mean	Standard Deviation	Minimum Value	Maximum Value
Total rate of self-employment	SE_Mex	34.459	1.591	31.607	37.223
	SE_Chl	51.931	1.885	46.542	54.977
EPU	EPU_Mex	81.252	62.956	8.509	428.725
	EPU_Chl	104.946	44.230	31.600	282.830
GDP per capita	GDPPC_Mex	8787.474	1125.731	6903.949	10582.410
Corruption (or CPI)	CPI_Mex	33.277	2.7103	28.000	37.000
Infrastructure	Infra_Mex	376986.300	101871.000	222356.000	567879.000

Table 4.1 expresses the descriptive statistics of Mexico and Chile. As can be seen from the table, Mexico and Chile experience different levels of total self-employment as expressed through the means (34.46% and 51.93% respectively). However, the standard deviation (or volatility) of total self-employment across both countries appears to be similar. Furthermore, Chile experiences greater EPU compared to Mexico, however, Mexico's EPU acts slightly more volatile.

[8] Source: https://www.transparency.org/research/cpi.
[9] Source: https://data.worldbank.org/topic/infrastructure.

5 Results

In section 5 we will generate results based on the methodology and data, and discuss the implications of our findings. We will adopt the chronological order of the methodology section and apply the variables expressed in the data section for our results for Mexico and Chile. Both Mexico (5.1-5.3) and Chile (5.4) shall be addressed separately. Chile faces similar reasoning as Mexico, and therefore Mexico is addressed more elaborately compared to Chile.

5.1 OLS Regression

By considering the OLS regression presented in section 3.1, the following results expresses the relationship between institutional uncertainty and entrepreneurial activity in the context of Mexico.

Table 5.1: OLS estimation

Number of obs	204					
F(4,1999)	275.13					
Prob>F	0.000					
R-squared	0.8507					
SE_Mex	**Coef.**	**Robust Std. Err.**	**T**	**P>|t|**	**[95% Conf. Interval]**	
EPU_Mex	0.0021483***	0.0008714	2.47	0.015	0.0004300	0.0038666
CPI_Mex	0.130574*	0.035144	3.72	0.000	0.061272	0.199876
GDPPC_Mex	-0.0003675*	0.0000487	-7.55	0.000	-0.0004635	-0.0002716
Infra_Mex	-7.97E-06*	8.50E-07	-9.37	0.000	-9.65E-06	-6.29E-06
Cons	36.28579*	1.42931	25.39	0.000	33.46725	39.10434

Note: p-value ≤ 0.001*, p-value ≤ 0.01** and p-value ≤ 0.05***

As from table 5.1, the regressors explain a large proportion of the variation in self-employment indicated by an r-square of 85.07%. As follows from the regressors for EPU, corruption, GDP per capita and infrastructure, all are statistically significant at a 5% significance level. As indicated by the regressor of EPU, this model predicts a positive relationship between institutional uncertainty and entrepreneurship, henceforth, suggesting that the claims of institutionalists such as Tracey and Philips (2011) hold. However, as evident from the literature, there are reasons to believe that this OLS regression includes endogeneity, concluding that we cannot take this result as true without additional testing. Besides our variable of interest, a unit increase in corruption (implying a lower CPI) indicates lower entrepreneurship.

Alternatively, a unit increase in GDP per capita and infrastructure lowers entrepreneurship in Mexico. This result for infrastructure comes as a surprise given that it is commonly argued by academia that infrastructure improves entrepreneurship (Cavusgil et al., 2002; Nikolaev et al., 2018). Additionally, the estimators suggest that infrastructure in Mexico plays a marginal role in the determination of entrepreneurial activity, whereas corruption and EPU play a more important role.

Given the results of the OLS regression, we proceed with the endogeneity tests to see whether the estimators above show a true causal effect.

5.2 Endogeneity Tests

The following table presents the outcomes of the Wu-Hausman and Durbin tests performed for Mexico.

Table 5.2: Wu-Hausman and Durbin test

Wu-Hausman F(1,213)	54.0113*
P-value	0.0000
Durbin (score) chi2(1)	43.6927*
P-value	0.0000

Note: p-value ≤ 0.001*, p-value ≤ 0.01** and p-value ≤ 0.05***

As follows from table 5.2 above, both the statistic for Wu-Hausman and Durbin are significant at the 1% confidence level. Referring to the hypotheses expressed in section 3.2, we therefore reject the null hypothesis, implying that the regressors contained within the simple OLS regression are endogenous. A simple OLS regression is not sufficient to conclude whether institutional uncertainty promotes entrepreneurship. Rather, given the tests above, an instrument is needed to solve the endogeneity problem.

5.3 Instrumental Variable

In the previous section, we concluded regressors are endogenous and therefore an instrument is needed. In section 3.3 and 3.4, we proposed adopting a lagged proxy for institutional uncertainty called lagged EPU. For such an instrument to be suitable, three conditions must hold (Khandker et al., 2010). Both condition one and three hold based on theoretical arguments. However, the second condition demands additional empirical testing. The second condition requires a strong first stage. This can be determined by considering the F-statistic. The table below provides an overview for the F-statistic for each lag of EPU.

Table 5.3: First Stage testing for the EPU lags of Mexico

First Stage Lag2_Mex		**First Stage Lag3_Mex**		**First Stage Lag4_Mex**		**First Stage Lag5_Mex**	
Number of obs	216	Number of obs	216	Number of obs	216	Number of obs	216
F(1,214)	13.08	F(1,214)	15.90	F(1,214)	12.59	F(1,214)	10.94
Prob>F	0.0004	Prob>F	0.0001	Prob>F	0.0005	Prob>F	0.0011

By adopting the rule of thumb for a strong first stage (Khandker et al., 2010), we can justify which lags will be considered in further analysis. As from table 5.3, all lags (two-year, three-year, four-year and five-year lag) obtain an F-statistic greater than ten, implying that there is a strong first stage amongst all lags. Therefore, condition two holds and all conditions hold for a lagged EPU acting as an instrument.

Having justified for applying EPU lags as our instrument, the instruments are applied to the simple OLS regression and the tables below (5.4-5.7) represent the results.

Table 5.4: EPU Lag 2 for Mexico

Number of obs	204					
R-squared	.					
SE_Mex	**Coef.**	**Std. Err.**	**Z**	**P>|z|**	**[95% Conf. Interval]**	
EPU_Mex	0.0381935***	0.0168675	2.26	0.024	0.0051338	0.0712533
Corr_Mex	-0.0569155	0.1210333	-0.47	0.638	-0.2941363	0.1803053
Infra_Mex	-3.39e-06	3.61e-06	-0.94	0.347	-0.0000105	3.67e-06
Cons	34.67252*	3.42091	10.14	0.000	27.96767	41.37737

Instrument: EPULAG2_Mex
Note: p-value ≤ 0.001*, p-value ≤ 0.01** and p-value ≤ 0.05***

Table 5.5: EPU Lag 3 for Mexico

Number of obs	204					
R-squared	0.1881					
SE_Mex	**Coef.**	**Std. Err.**	**Z**	**P>|z|**	**[95% Conf. Interval]**	
EPU_Mex	0.0256855*	0.0077967	3.29	0.001	0.0104042	0.0409668
Corr_Mex	0.0081583	0.0691491	0.12	0.906	-0.1273714	0.1436880
Infra_Mex	-5.61e-06**	1.93e-06	-2.90	0.004	-9.40e-06	-1.82e-06
Cons	34.34914*	2.28845	15.01	0.000	29.86385	38.83443

Instrument: EPULAG3_Mex
Note: p-value ≤ 0.001*, p-value ≤ 0.01** and p-value ≤ 0.05***

Table 5.6: EPU Lag 4 for Mexico

Number of obs	204					
R-squared	.					
SE_Mex	**Coef.**	**Std. Err.**	**Z**	**P>|z|**	**[95% Conf. Interval]**	
EPU_Mex	0.0327617	0.0255173	1.28	0.199	-0.0172512	0.0827747
Corr_Mex	-0.0286563	0.1506557	-0.19	0.849	-0.3239361	0.2666235
Infra_Mex	-4.36e-06	4.84e-06	-0.90	0.368	-0.0000139	5.14e-06
Cons	34.53208*	2.97336*	11.61	0.000	28.70440	40.35977

Instrument: EPULAG4_Mex
Note: p-value ≤ 0.001*, p-value ≤ 0.01** and p-value ≤ 0.05***

Table 5.7: EPU Lag 5 for Mexico

Number of obs	204					
R-squared	.					
SE_Mex	**Coef.**	**Std. Err.**	**Z**	**P>|z|**	**[95% Conf. Interval]**	
EPU_Mex	-0.0183065	0.1184730	-0.15	0.877	-0.2505093	0.2138964
Corr_Mex	0.2370293	0.6195461	0.38	0.702	-0.9772588	1.4513170
Infra_Mex	-0.0000134	0.0000211	-0.64	0.524	-0.0000547	0.0000279
Cons	33.21178*	3.98737	8.33	0.000	25.39668	41.02688

Instrument: EPULAG5_Mex
Note: p-value ≤ 0.001*, p-value ≤ 0.01** and p-value ≤ 0.05***

Referring to tables 5.4-5.7, it is evident for lags two, three and four indicate that uncertainty exerts a positive effect on entrepreneurial activity. This effect ranges from 2.57% to 3.82%. Of all lags for Mexico, only lag three is statistically significant at 5%, which predicts that a one unit rise in EPU constitutes a 2.57% rise in the total rate of self-employment. In contrast, lag five predicts that institutional uncertainty reduces entrepreneurial behavior. However, the p-value is 0.877 which is greater than the 5% significance level and therefore the prediction of lag five is insignificant. In conclusion, lag three predicts that institutional uncertainty contributes to greater entrepreneurial activity, which is proven statistically significant.

In addition to the variable of interest, the variables representing corruption and infrastructure have been included. GDP per capita is not apparent in the tables above as all models including GDP per capita proved to be insignificant. Corruption proved to be highly insignificant across all tables above. Besides the results for corruption, the results for infrastructure are also surprising as higher levels of spending on infrastructure induced lower entrepreneurial behavior. This was apparent across all lags in the context of Mexico. However, only for lag three this result proved to be significant.

After implementing a three-year lag of EPU as the instrument, evidence has been found in favor for the institutionalists arguing that institutional uncertainty increases entrepreneurial activity. In section 5.4 we

consider Chile to observe whether comparable results also hold in other remaining emerging markets. Recall we chose Chile because it allows us to control for similarities across Spanish colonized nations.

5.4 Chile

To check whether our results for Mexico also appear in other emerging markets, Chile is considered, and the three steps are repeated. First, we test whether the relation between Chile's EPU and total rate of self-employment is endogenous. Second, the appropriate lags for further analysis are identified. Third, the results including an instrumental variable are discussed.

To test for endogeneity, the Wu-Hausman and Durbin tests are performed below for Chile.

Table 5.8: Wu-Hausman and Durbin test

Wu-Hausman F(1,213)	52.5182*
P-value	0.0000
Durbin (score) chi2(1)	42.7238*
P-value	0.0000

Note: p-value ≤ 0.001*, p-value ≤ 0.01** and p-value ≤ 0.05***

As can be seen from table 5.8, the statistics from Wu-Hausman and Durbin tests are all statistically significant at the 1% confidence level. This implies that endogenous regressors are present (as with Mexico) and therefore adopting an instrument is suitable. To identify which lags of EPU prove to possess a strong first stage, the table below indicates which lags satisfy the rule of thumb. Note: the theoretical arguments for conditions one and three presented in section 3.3 also hold for Chile.

Table 5.9: First Stage testing for the EPU lags of Chile

First Stage Lag2_Chl		**First Stage Lag3_Chl**		**First Stage Lag4_Chl**		**First Stage Lag5_Chl**	
Number of obs	216	Number of obs	216	Number of obs	216	Number of obs	216
F(1,214)	7.24	F(1,214)	6.81	F(1,214)	0.19	F(1,214)	18.94
Prob>F	0.0086	Prob>F	0.0097	Prob>F	0.6622	Prob>F	0.0000

When considering the two-year, three-year, four-year and five-year lag of Chile, only the five-year lag fulfills the requirement for a strong first stage. Therefore, only the fifth lag is incorporated in further analysis. The fifth lag is considered in a simple regression between EPU and the total rate of self-employment (excluding exogenous control variables). Accordingly, the results below are obtained.

Table 5.10: EPU Lag 5 for Chile

Number of obs	216					
R-squared	.					
SE_Chl	**Coef.**	**Std. Err.**	**Z**	**P>|z|**	**[95% Conf. Interval]**	
EPU_Chl	0.0743228	0.0230568	3.22	0.001	0.0291323	0.1195134
Cons	44.13134	2.43309	18.14	0.000	39.36257	48.90011

Instrument: EPULAG5_Chl

Note: p-value ≤ 0.001*, p-value ≤ 0.01** and p-value ≤ 0.05***

Table 5.10 presents the results when including a five-year lag of EPU. The estimator of EPU depicts a positive relation between institutional uncertainty and entrepreneurship; a one unit increase in EPU constitutes a 7.43% rise in the total rate of self-employment. This result is significant at a 1% confidence level.

Thus, after achieving a positive relation between institutional uncertainty and entrepreneurship for Mexico, similar results are found for Chile. Our results indeed suggest uncertainty amongst institutions may drive entrepreneurial activity in emerging countries.

6 Conclusion, Limitations and Further Research

In section 6.1, we provide a brief conclusion. In section 6.2, we summarize the limitations of the current study. In section 6.3 we show along which lines the current study can be expanded.

6.1 Conclusion

Across the academic landscape, a dominant argument amongst institutional theorists suggests institutional uncertainty diminishes entrepreneurship. However, a claim arising amongst a few institutionalists suggests that the dominant argument may not hold across all markets. In fact, suggestions are made that we may expect a fostering relationship in the context of emerging markets. Yet, empirical support is lacking. In response, we pursue to contribute by focusing on emerging markets through the inclusion of Mexico and Chile in the analysis. After adopting a lag of institutional uncertainty as the instrument for both nations, our results indicate that when institutional uncertainty arises, entrepreneurial activity is expected to increase accordingly. This evidence therefore contributes to the claims made by institutionalists such as Tracey and Philips (2011), who argue for the abundance of strategies entrepreneurs can take to seek economic rents by exploiting institutional uncertainty.

The claim that institutional uncertainty reduces entrepreneurship may not necessarily be rejected. The results above suggest the importance of considering context because opposing market types inherit structurally different institutions. Henceforth, advocates for the deterring nature of institutional uncertainty may recognize scope for their claims when considering developed markets. We therefore conclude this thesis by recognizing that the varying effects of institutional uncertainty on entrepreneurial activity may both hold.

6.2 Limitations

The results contribute towards empirical support for Tracey and Philips (2011) and other institutionalists. Nonetheless, several limitations in the methodology and data of this paper must be recognized.

First, a decision was made to adopt the total rate of self-employment as a proxy for entrepreneurial activity rather than Total early-stage Entrepreneurial Activity (TEA) from Global Entrepreneurship Monitor (GEM). GEM (2019) defines entrepreneurship as “any attempt at new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business, by an individual, a team of individuals, or an established business.” In addition, Wright (2019) defines TEA as “the percentage of an economy’s 18-64 population who are either a nascent entrepreneur (actively planning a new business) or owner-manager of a new business (within the first 42 months of starting).”

As is apparent from the definitions, self-employment is partially discussed in the definition of entrepreneurship and is considered on an individual level. This means that self-employment is not a complete definition of entrepreneurship. As TEA captures a larger range of entrepreneurial activity besides self-employment, TEA acts as a more suitable proxy for entrepreneurial activity. However, even after recognizing the differences, TEA was unfortunately not adopted as our proxy since Mexico did not participate in the GEM Survey in the years 2003, 2004, 2007 and 2009.

An additional limitation is the external validity of the results achieved. This paper focuses towards two case studies; Mexico and Chile. As our conclusion holds for two case studies, contradicting findings may be apparent across other emerging markets. This causes the external validity to become questionable. Nevertheless, our results carry suggestive power.

With regards to the decision of adopting a lagged instrumental variable, academia argue that lagged instrumental variables do not necessarily address endogeneity (Bellemare, Masaki, Pepinsky, 2017). Endogeneity amongst regressors may remain if dynamics across unobserved regressors is being circumvented through an unobserved temporal channel. After recognizing the potential complications, Bellemare et al. (2017) admit to the tradeoff between implementing a lagged instrument and disregarding endogeneity. Alongside the tradeoff, the complexity of Mexico and Chile's macro environment make it challenging to identify a theoretically 'ideal' instrumental variable and hence, a lagged instrumental variable may prove to be a temporary solution (given the corresponding drawbacks).

6.3 Scope for Further Research

With such limitations, scope for further research arises. We recommend future research to adopt a data set which includes a larger range of emerging and developing markets. This allows for the inclusion of TEA (as more data points are considered which may account for missing data) as a proxy and enhances external validity. Besides an improved data set, potential omitted variables can be addressed in future research. For example, this thesis did not explicitly consider business cycles however both institutional uncertainty and entrepreneurial behavior may both be affected by these cycles through induced varying uncertainty. Hence, further research should consider the cyclical nature of economies and attempt to control for this.

7 References

Aidis, R. (2005). Institutional barriers to small- and medium-sized enterprise operations in transition countries. *Small Business Economics*, *25*(4), pp. 305-317.

Aizenman, J., & Marion, N. P. (1993). Policy uncertainty, persistence and growth. *Review of International Economics*, *1*(2), pp. 145-163.

Alvarez, S. A., & Barney, J. B. (2005). How do firms organize firms under conditions of uncertainty? *Journal of Management*, *31*(5), pp. 776-793.

Angeletos, G., & Calvet, L. (2006). Idiosyncratic production risk, growth and the business cycle. *Journal of Monetary Economics*, *53*(6), pp. 1095-1115.

Angrist, J. D., & Krueger, A. B. (2001). Instrumental variables and the search for identification: from supply and demand to natural experiments. *Journal of Economic Perspectives*, *15*(4), pp. 69-85.

Ashton, R. K. (1989). A note on the role of the average cost curve in the neoclassical theory of the firm. *Managerial and Decision Economics*, *10*(1), pp. 77-79.

Baker, S. R., Bloom, N., & Davis, S. J. (2016). Measuring economic policy uncertainty. *The Quarterly Journal of Economics*, *131*(4), pp. 1593-1636.

Baumol, W. J., & Strom, R. J. (2007). Entrepreneurship and economic growth. *Strategic Entrepreneurship Journal*, *1*(3-4), pp. 233-237.

Baumol, W. J. (1990). Entrepreneurship: productive, unproductive, and destructive. *Journal of Political Economy*, *98*(5), pp. 893-921.

Beckert, J. (1999). Agency, entrepreneurs, and institutional change. The role of strategic choice and institutionalized practices in organizations. *Organization studies*, *20*(5), pp. 777-799.

Bellemare, M. F., Masaki, T., & Pepinsky, T. B. (2017). Lagged explanatory variables and the estimation of causal effect. *The Journal of Politics*, *79*(3), pp. 949-963.

Bylund, P. L., & McCaffrey, M. (2017). A theory of entrepreneurship and institutional uncertainty. *Journal of Business Venturing*, *32*(5), pp. 461-475.

Cavusgil, T., Ghauri, P., & Agarwal, M. (2002). Doing business in emerging markets: entry and negotiation strategies. Thousand Oaks: Sage.

Cohen, B., & Winn, M. I. (2007). Market imperfections, opportunity and sustainable entrepreneurship. *Journal of Business Venturing*, *22*(1), pp. 29-49.

Collier, P., & Hoeffler, A. (2002). On the incidence of civil war in Africa. *Journal of Conflict Resolution*, *46*(1), pp. 13-28.

DeCelles, K. A., DeRue, D. S., Margolis, J. D., & Ceranic, T. L. (2012). Does power corrupt or enable? When and why power facilitates self-interested behavior. *Journal of Applied Psychology*, *97*(3), pp. 681-689.

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, *48*(2), pp. 147-160.

Douhan, R., & Henrekson, M. (2010). Entrepreneurship and second-best institutions: going beyond Baumol's typology. *Journal of Evolutionary Economics*, *20*(4), pp. 629-643.

Emmett, R. B. (2011). Frank H. Knight on the "entrepreneur function." *Seattle University Law Review*, *34*(4), pp. 1139-1154.

Estrin, S., Korosteleva, J., & Mickiewicz, T. (2013). Which institutions encourage entrepreneurial growth aspirations? *Journal of Business Venturing*, *28*(4), pp. 564-580.

Fligstein, N. (1997). Social skills and institutional theory. *Social Behavioral Scientist*, *40*(4), pp. 397-405.

Fogel, K., Hawk, A., Morck R., & Yeung, B. (2005). Institutional obstacles to entrepreneurship. *The Oxford Handbook of Entrepreneurship*, pp. 540-579.

Global Entrepreneurship Monitor (2019). How GEM defines entrepreneurship. Retrieved from: https://www.gemconsortium.org/wiki/1149.

Global Entrepreneurship Monitor (2017). Better government support. Retrieved from: https://www.gemconsortium.org/economy-profiles/mexico

Henrekson, M., & Sanandaji, T. (2011). The interaction of entrepreneurship and institutions. *Journal of Institutional Economics*, *7*(1), pp. 47-75.

Hoskisson, R. E., Eden, L., Lau, C. M., & Wright, M. (2000). Strategy in emerging markets. *Academy of Management Journal*, *43*(3), pp. 249-267.

Hitt, M. A., Dacin, M. T., Levitas, E., Arregle, J., & Borza, A. (2017). Partner selection in emerging and developed market contexts: resource-based organizational learning perspectives. *Academy of Management Journal*, *43*(3), pp. 449-467.

Khandker, S. R., Koolwal, G. B., & Samad, H. A. (2010). *Handbook on impact evaluation – quantitative methods and practices*. Washington, DC: The World Bank.

Klein, P. G., Mahoney, J. T., McGahan, A. M., & Pitelis, C. N. (2010). Toward a theory of public entrepreneurship. *European Management Review*, *7*(1), pp. 1-15.

Knight, R. (1921). Cost of production and price over long and short periods. *Journal of Political Economy*, *29*(4), pp. 304-335

Maguire, S., Hardy, C., & Lawrence, T. B. (2004). Institutional entrepreneurship in emerging fields: HIV / AIDS treatment advocacy in Canada. *The Academy of Management Journal*, *47*(5), pp. 657-679.

McMillan, J., & Woodruff, C. (2002). The central role of entrepreneurs in transition economies. *Journal of Economic Perspectives*, *16*(3), pp. 153-170.

Meyer, K. E. (2001). Institutions, transaction costs, and entry mode choice in Eastern Europe. *Journal of International Business Studies*, *32*(2), pp. 357-367.

Miguel, E., Satyanath, S., & Sergenti, E. (2004). Economic shocks and civil conflict: an instrumental variables approach. *Journal of Political Economy*, *112*(4), pp. 725-753.

Nikolaev, B. N., Boudreaux, C. J., & Palich, L. (2018). Cross-country determinants of early-stage necessity and opportunity-motivated entrepreneurship: accounting for model uncertainty. *Journal of Small Business Management*, *56*(S1), pp. 243-280.

Parker, S. C. (2004). The economics of self-employment and entrepreneurship. Retrieved from: http://books.google.nl

Philips, N., Lawrence, T. B., & Hardy, C. (2000). Interorganizational collaboration and the dynamics of institutional fields. *Journal of Management Studies*, *37*(2), pp. 23-43.

Tracey, P., & Philips, N. (2011). Entrepreneurship in emerging markets. *Management International Review*, *51*(1), pp. 23-39.

Williamson, O. E. (2000). The new institutional economics: taking stock, looking ahead. *Journal of Economic Literature*, *38*(3), pp. 595-613.

Wright, F. (2019). Spotlighting trends in early-stage entrepreneurial activity. *Global Entrepreneurship Monitor*.

Yusuf, A. (2002). Environmental uncertainty, the entrepreneurial orientation of business ventures and performance. *International Journal of Commerce and Management*, *12*(3-4), pp. 83-103.