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Agency Culture, Constitutional Provisions and Entrepreneurship: A Cross-Country Analysis*

by

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Abstract

Substantial and systematic cross-country variation in entrepreneurship rates has been found in various studies. We attempt to explain such differences focusing on the interaction between institutional factors and population psychological characteristics. Constitutional provisions supporting economic freedom is our measure of the institutional context, whereas we proxy psychological characteristics with a country's endowment of agency culture. We apply an IV-GMM treatment to deal with endogeneity to a dataset comprising 86 countries over the period 2004-2013 and we control for *de facto* variables and other factors that are likely to influence entrepreneurship. Our results demonstrate that agency culture is indeed an important predictor of entrepreneurship and that this effect is moderated by constitutional provisions supporting economic freedom. In particular, the impact of agency culture on entrepreneurship becomes stronger as a country expands the constitutional protection of economic rights.

Keywords: Agency Culture; Bounded Agency; Economic Effects of Constitutions; Entrepreneurship; New Firm Formation.
JEL Codes: D63; D72, K10, H10, L26, Z13.

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1. Introduction

Cross-country comparison of industry dynamics and exploration of its determinants and consequences has traditionally attracted the interest of researchers in both industrial and developing countries (see Caves, 1998; and Bartelsman *et al*., 2009 for surveys). The results of this literature show that substantial and systematic differences in industry dynamics are generated also by country-specific institutional and cultural factors (see, for example, Bottazzi *et al*., 2010; Bartelsman *et al*., 2013; Nisczota, 2014).

The aim of the present paper is to study the interplay between the economic constitution of a country (*institutional factor*) and the macro-psychological traits of its population (*cultural factor*) in shaping cross-country differences in entrepreneurship rates. Our hypothesis is that constitutional protection of economic freedom may together create an institutional setting that favors the transformation of the innate agentic attitude of a country's population into actual entrepreneurship. It follows from this assumption that differences in the constitutions and the endowment of agency culture, and also their interplay, may explain the cross-country variation in industry dynamics. We conduct our analysis using a sample comprising 86 countries over the period 2004-2013 (see list in Table 1).

Taking a law & economics perspective we focus on four principles stated in national constitutions: The right to conduct/establish a business, the right to free/competitive markets, the right to own property, and the independence of the judiciary organs. The first two principles have been proven in the law & economics literature to exert a significant impact on entrepreneurship (Carbonara *et al*., 2016). The right to own property (Besley and Ghatak, 2010) and the independence of the judiciary organs (Djankov *et al*., 2003, Chemin, 2009) are widely considered key factors in economic development. The use of constitutional provisions as proxy for institutional characteristics stems from the fact that constitutional laws represent hierarchically higher norms that cannot be opposed by ordinary laws and other rules (Kelsen, 1967). Thus, they represent the highest protection that a country can assign to rights. However, often the laws in the books remain unenforced (especially when they clash with social norms that are firmly embedded in culture: Carbonara *et al*., 2012, Acemoglu and Jackson, 2016). That is why *de jure* protection of legal rights does not necessarily imply a *de facto* protection and we need to control for the actual implementation of the principles stated in the constitution, including measures of economic freedom based on rule of law, government size, regulatory efficiency and market openness.

The psychological literature has placed great importance on personality traits, arguing that regional differences in personality constitute a local culture that in turn influences regional

entrepreneurship rates (cf., among others, Davidsson, 1995; Leutner *et al*., 2014; Obschonka *et al*., 2015; Stuetzer *et al*., 2016). Such a personality-based perspective on culture (Hofstede and McCrae, 2004) has enriched our understanding of the historical origins (e.g., Stuetzer *et al*., 2016) and economic effects of regional differences in an entrepreneurial culture (Davidsson, 1995; Steel *et al*., 2012; Rentfrow *et al*., 2013; Audretsch *et al*., 2017).

To date, the law & economics and the psychological streams of literature have not been integrated in the explanation of the overall process of industry dynamics. There is good reason to suppose that combining them could prove profitable, with some studies hinting at the promise of such integrative perspectives. For example, Obschonka *et al*. (2015) examined the so-called "knowledge paradox", which is the phenomenon whereby investments in resources for generating knowledge (e.g., education, diversity of industries) do not guarantee higher entrepreneurship rates; analyses revealed that knowledge resources are more likely to increase entrepreneurship rates in a region which also has a high number of residents with an entrepreneurship-prone personality. In other words, psychological (in this case, entrepreneurial personality) and institutional determinants (in this case, knowledge resources) may interact to yield better predictions about entrepreneurial activity than the additive effects of both determinants assessed in isolation.

The paper is organized as follows. Section 2 contains a review of the literature dealing with cross-national differences in entrepreneurship rates, and the impact of psychological traits and constitutional provisions on entrepreneurship. Section 3 presents the main research questions and theoretical explanations. Section 4 describes the data set. Section 5 presents the estimation model and econometric strategy. Section 6 discusses the findings of the empirical analysis. Finally, Section 7 offers some conclusions based on these findings.

2. Literature Review

In economics, agentic behavior is usually defined within a rational-choice perspective, assuming that agency is mainly characterized by the maximization of one's own benefits: all actors are narrowly self-interested, all actors are boundedly rational, and agents are more risk averse than principals are (Bosse and Phillips, 2016). However, this approach neglects inter-individual psychological differences (i.e., personality characteristics motivating, guiding, and directing decisions and activities), which have been shown to predict a wide array of consequential life outcomes and economic behaviors, even when controlling for the effects of socio-economic status, demographic variables, and cognitive ability (Roberts *et al*., 2007).

Psychological research points to some sort of psychological benefit for the individual (or the avoidance of negative, harmful states) if he or she can behave in accordance with his or her individual personality structure (Frey, 2008). Psychological theories suggest that peoples' behavior can best be understood by an interplay between person variables (like personality) and the context (cf., among others, Lewin, 1935, 1951; Ajzen, 1985; Funder, 2006), which means that it might be worth analyzing carefully the interaction between psychological traits and constitutional provisions. The agentic perspective is widely regarded as a leading meta-theory of human behavior in psychology (Bandura, 2006), sociology (Elder, 1994), economics (Kihlstrom and Laffont, 1979), law (Parker, 2007), and management (Begley and Boyd, 1987).

2.1 Cross-country differences in entrepreneurship rates

Some countries experience higher rates of new firm formation every year than other countries do (Carree *et al*., 2002; Santarelli and Vivarelli, 2007). From a theoretical viewpoint, two main explanations of this empirical regularity have pervaded the recent debate.

On the one side, based on the observation that developed Western countries have become more entrepreneurial following globalization, Audretsch and Thurik (2000) hypothesize that such countries switch to new industries - such as software and biotechnology, in which small businesses and entrepreneurship are more important – only once they have lost their comparative advantage in large scale manufacturing. Thus, high rates of new firm formation are typical of developed countries since the aftermath of the Information and Communication Technology revolution. This pattern might suggest that a country's endowment of agency culture evolves in response to historical and institutional changes.

On the other side, Galor and Michalopoulos (2012) suggest that entrepreneurial spirit has evolved non-monotonically in the course of history, through a Darwinian process. In the early stages of a country's development, risk-tolerant entrepreneurial traits proved successful in promoting technological progress and economic development, whereas in mature stages of development, risk-averse traits prevailed, diminishing the growth potential of advanced economies. Thus, modern developed countries should experience lower rates of new firm formation. This latter approach implies that a country's endowment of agency culture is linked to its stage of economic development rather than to time-invariant psychological features; hence, agency culture would tend to vanish as societies evolve, develop more complex institutional arrangements, and achieve higher levels of per capita income.

Both of the views outlined above are consistent with the idea that the reason why countries with similar economic fundamentals differ in entrepreneurial activity may ultimately be found in cultural and institutional differences (Guiso *et al*., 2003; Stuetzer *et al*., 2016). The

positions of Audretsch and Thurik (2000) and Galor and Michalopoulos (2012) can therefore be reconciled within a broader line of investigation, which spans from Diamond (1997) to Acemoglu and Robinson (2012) (cf. also Saxenian, 1994; Acemoglu *et al*., 2001; Autio *et al*., 2014). In fact, the empirical literature on the cross-country differences in start-up rates has provided several contributions which can be reconciled with each of the two explanations.

Guiso *et al*. (2006) show that the cultural background of individuals plays a role in their decision to become entrepreneurs and therefore also shapes attitudes toward entrepreneurship at the region and country level. By the same token, Audretsch *et al*. (2017) posit the importance of culture as a primary determinant of variations in economic, political, and social phenomena across geographic space. They aggregate individual-level personality data to the level of each of the 3,137 US counties to analyse the impact of a social and cultural imprinting on the rate of new firm formation at the county level. Wennekers *et al*. (2005) found a U-shaped relationship between a country's start-up rate and a country's level of economic development, with the impact of entrepreneurial dynamics on economic growth being smaller for developing countries. In contrast, Blanchflower (2000) showed that the overall trend of entrepreneurial activities does not follow the stages of a country's development; rather, the trend shows a negative relationship with a country's unemployment rate. Bruck *et al*. (2011) found that entrepreneurship rates follow a history-dependent path and are subject to the influence of exogenous factors, with entrepreneurship rates being positively affected by extreme events such as natural disasters and terrorist attacks. Dealing with 85 countries between 2005 and 2014, Dheer (2017) has shown that an institutional setting that guarantees economic freedom affects the rate of entrepreneurial activity more in individualistic societies than in collectivistic ones. This is a clear indication that population psychological characteristics play a role in positively moderating the effect of pro-market institutional arrangements on entrepreneurship. Our study falls within the same line of investigation, although we use different measures for entrepreneurship and for economic freedom protection and we focus on different countries. A positive relationship between presence of an institutional framework able to promote economic freedom and various measures of entrepreneurship was found also by Biørnskov and Foss (2008) and Nyström (2008).

The above empirical evidence seems to suggest there is no single unique economic factor explaining cross-country differences in start-up rates. Differences might persist over time regardless of a country's level of economic development. Cultural differences might shape a country's proneness toward entrepreneurial activity and are therefore a factor that needs

consideration and integration. A country's culture (e.g., its endowment of social capital; Guiso *et al*., 2008; or the national levels in personality traits, Hofstede and McCrae, 2004; Steel *et al*., 2012), interacts with and is shaped by the features and quality of a country's institutions. Institutions are therefore an important aspect of a country's profile and their impact extends from economic development (Guiso *et al*., 2003) to entrepreneurship (Acs *et al*., 2008; Carbonara *et al*. 2016). Culture and institutions are ultimately endogenous variables contributing to the wealth of countries. Extending the arguments proposed by Alesina and Giuliano (2015), we assume here that the psychological traits of a country's population and the provisions contained in a country's constitution are, respectively, aspects of a country's culture and a country's institutions.

2.2 Psychological agency and entrepreneurship

The focus on an individual's personal agency has long played a key role in seminal theorizing in the entrepreneurship literature (e.g., McClelland, 1961). In fact, Schumpeter himself (1911, p.131, as translated from German in Santarelli and Pesciarelli, 1990), in the first German edition of his *Theory of Economic Development* (1934) stressed that entrepreneurs are "personalities who *in se* possess the rules of their actions" (for a detailed discussion of this issue, cf. Santarelli and Pesciarelli, 1990). Empirical entrepreneurship research has usually tried to capture such personal agency by focusing on an entrepreneur's actual actions (e.g., Frese, 2009; Zhao *et al*., 2010; Hmieleski *et al*., 2015) or self-efficacy belief (e.g., Hechavarria *et al*., 2012; Wennberg *et al*., 2013). Here, we apply a novel approach to capture psychological agency, assessing it in terms of agentic personality traits (Digman, 1997). This approach is based on the leading and best researched model of personality traits, the Big Five model (John and Srivastava, 1999). This approach of assessing agency also allows us to draw from geographical approaches in the study of regional and national differences in these personality traits (Rentfrow *et al*., 2008; Steel *et al*., 2012).

In psychology, Digman's (1997) influential work on higher-order traits (or super traits) established that two Big Five traits, extraversion and openness to new experience, form a higher-order trait that can be labelled 'psychological agency'. Drawing from that approach, we measure agency culture at the nation-level. Populations living in countries characterized by a high level of agency culture are highly active and assertive (components of extraversion), highly creative and open to change (components of openness to experience). Accordingly, aggregates of individual scores on traits are used as proxies for agency culture (for similar approaches to

assess cultural dimensions see Davidsson, 1995; Rentfrow *et al*., 2008, 2013; Steel *et al*., 2012; Stuetzer *et al*., 2016; Audretsch *et al*., 2017).

In contrast to a purely rational-choice approach, the psychological approach defines agency by means of relatively stable personality traits that motivate, guide, and direct manifest individual agency. This psychological agency approach has largely been neglected in economic models of agency and entrepreneurship, despite the demonstrated importance of psychological models in economics (Borghans *et al*., 2008). In fact, psychological research has challenged the pure rational-choice view by pointing towards the relevance of "irrational" decision-making processes involving personality traits. A wide array of basic personality traits can have considerable influence on economic outcomes: for example, a recent study showed that entrepreneurial activity in the wake of the Great Recession of 2008-2009 was predicted better by regional personality differences than regional infra-structure parameters ("economic muscles", such as human and financial capital) (Obschonka *et al*., 2016).

2.3 Entrepreneurship, agency culture, and the moderating effect of national constitutions

Recent meta-analytic studies suggest significant relationships between personality and both revealed preference for becoming an entrepreneur (latent entrepreneurship) (Zhao *et al*., 2010) and entrepreneurial performance after start-up (Brandstaetter, 2011). However, there has been little investigation about the importance of personality as a predictor of the probability of actually being an entrepreneur (manifest entrepreneurship) (Grilo and Thurik, 2006; Baron and Baum, 2007; Audretsch *et al*. 2017).

The level of agency culture in a country represents an important component of the overall cultural context within which entrepreneurial activity takes place. The relationship between a broader definition of culture – encompassing customary beliefs and values that are transmitted from generation to generation – and the likelihood of engaging in entrepreneurship has been explored by a line of investigation initiated by Guiso *et al*. (2006). Following the idea put forward by Glaeser *et al*. (2000), Guiso *et al*. (2006) assume that individuals who express trust have a comparative advantage in becoming entrepreneurs. Then, studying the impact of a measure of trust weighted for religious and ethnic background on the probability of a sample of individuals becoming entrepreneurs, Guiso *et al*. (2006) use an instrumental variable approach to confirm that trustworthy individuals will have a comparative advantage in becoming entrepreneurs. In the same way, defining a cultural variable along the dimension of individualism-collectivism, Gorodnichenko and Roland (2010) show that individualism has a

dynamic advantage leading to a higher economic growth rate, whereas collectivism leads only to static efficiency gains.

Then, a further element is added to the investigation initiated by Guiso *et al*. (2006): institutions (Alesina and Giuliano, 2015). Culture and institutions interact and evolve in a complementary way, both playing a role as determinants of the wealth of countries. Consequently, the same institutions may exert a different impact in different cultural contexts. Alesina and Giuliano (2015) identify a wide range of interactions between various types of political and legal institutions and various cultural traits such as trust, family ties, generalized morality and individualism. Lerner and Tåg (2013) show that institutional differences in the legal environment led to the later development of an active venture capital market in Sweden compared with the United States, where this source of external funding largely contributed to the emergence of clusters of innovative start-ups.

The antinomy, individualism versus collectivism, is an important dimension of cultural variation across countries (Greif, 1994; Gorodnichenko and Roland, 2010; Alesina and Giuliano, 2015). Individualism is a trait that can make personal accomplishments more socially acceptable, so it is likely to be associated with a greater proneness to entrepreneurship. But for this cultural trait to result into actual action, the overall institutional setting should be proactive and remove the obstacles to the full display of individualism in the economic sphere. Consistent with this principle, within the broader field of law & economics, the public choice literature has emphasized (since the seminal contribution of Buchanan and Tullock, 1962) that a strong connection exists between a country's economic performance and the main features of its constitution. Such a connection is likely not direct, but rather the result of the effectiveness of constitutions in shaping a country's prevailing institutional arrangements (Melton *et al*., 2013; Carbonara *et al*., 2016). In relation to how constitutions may make it easier to turn individualism into actual entrepreneurial action, it is worth acknowledging that at least since France's National Constituent Assembly passed the *Déclaration des droits de l'homme et du citoyen* in 1789, general recognition and protection of private property had been held to be universal and most constitutions started to protect property rights.

The first empirical work on the impact of constitutions on economic performance dates back to the early 2000s; this work showed the positive impact jointly exerted by a presidential system and the majoritarian electoral rule on, among other things, total factor productivity and reduction of public expenditure (Persson and Tabellini, 2003). Research has also shown that direct democratic institutions affect fiscal policy and government efficiency (Blume *et al*., 2009). More recently, the optimal number of national representatives in relation to a country's

population size has been calculated (Auriol and Gary-Bobo, 2012); analyses suggest that an excessive number of national representatives is correlated with indicators of red tape and barriers to entrepreneurship.

Moreover, the efficiency of the judiciary positively affects entrepreneurship. Constitutional provisions do play a role in making a judiciary system more efficient, for example, by stating that it must be independent from external influences. A well-functioning judiciary system facilitates access to finance and reduces the likelihood of contract breach (Chemin, 2009, 2012). The more a judiciary system is independent from the influence of both the other branches of government and partisan interests, the more judges are free to make impartial decisions based exclusively on fact and the rule of law. As a result, an independent and more efficient judiciary system may exert a direct impact on entrepreneurship, while it leaves the exit rate unaltered (Chemin, 2012; Garcia-Posada and Mora-Sanguinetti, 2015). Highly skilled and better educated entrepreneurs take advantage of better access to justice (Lichand and Soares, 2014 on Brazilian data). Thus, reforms aimed at improving the efficiency of the judiciary may affect entrepreneurship positively among individuals with higher levels of education but not among those with lower educational levels. Education is a proxy for wealth, so this result seems to indicate that judicial change in Brazil pushed wealthier individuals towards entrepreneurship.

Carbonara *et al*. (2016) show for 115 countries that constitutional provisions are the main institutional driver of entrepreneurship. Dealing with the endogeneity of constitutional rules, and controlling for *de facto* variables, they find that provisions about the right to conduct/establish a business, the right to strike, consumer protection, anti-corruption, and compulsory education promote higher rates of new firm formation.

3. Main hypotheses

In what follows, we extend the investigation of the relationship between culture and institutions in the context of entrepreneurship by exploring the interaction between agency culture and the aspect of legal institutions represented by the provisions supporting economic freedom that are contained in national constitutions. We put a special focus on the interplay between agency culture and these aspects of the legal institutions within a country.

To quantify psychological differences in agency we apply the personality-based approach to culture (Rentfrow *et al*., 2008), which aggregates individual-level personality traits to estimate local cultural differences (Stuetzer *et al*., 2016). This approach has delivered promising findings in research predicting regional outcomes, including social, economic,

political, and health outcomes (Rentfrow *et al*., 2013; Jokela *et al*., 2015). The basic idea underlying this research is that regional personality differences constitute the pillars of the local culture, affecting the developmental trajectories of whole regions (Hofstede and McCrae, 2004).

In psychological science, there is broad consensus that the five-factor model of personality is the best-established, validated, and cross-culturally valid model of personality (cf., among many others, Digman, 1997; Benet-Martinez and John, 1998; John and Srivastava, 1999; Zhao and Seibert, 2006; Lang *et al*., 2011; Gebauer *et al*., 2014a; Vedel, 2014). The Big Five personality traits constituting this five-factor model are extraversion, conscientiousness, openness, agreeableness, and neuroticism. The Big Five traits can be further summarized in the form of higher order "super" traits (Wiggins, 2003). Based on analyses of child, adolescent, and adult samples, Digman (1997) established two higher order "super" traits: α (consisting of conscientiousness, agreeableness, and neuroticism) and β (consisting of extraversion and openness). α can be described as a dimension encapsulating themes of communion and β can be described as a dimension encapsulating themes of agency (Wiggins, 1991). The β super trait also includes such traits as superiority striving, individuation, personal growth, self-actualization, achieving status, and power motivation (Digman, 1997). These traits are associated with both agency and entrepreneurial behavior (Zhao and Seibert, 2006) making β a good candidate for indexing psychological agency in a way that's relevant for entrepreneurship. The study of such super factors (e.g., agency and communion) has received considerable attention in recent years (Blackburn *et al*., 2004; De Young, 2006; Abele and Wojciszke, 2007; Vecchione and Alessandri, 2013; Gebauer *et al*., 2014b), but this trend has not been mirrored in economic research, which has remained focused on narrower personality traits or profiles (Borghans *et al*., 2008; Stuetzer *et al*., 2016).

With the aim to combine the views that institutional factors and population psychological characteristics are drivers of new firm formation, in line with the approach established by Dheer (2017), we aim to test the degree to which the combination of agency culture and pro-market constitutional framework combine to predict entrepreneurial activity. Thus, extending Carbonara *et al*. (2016), we take the constitutional protection granted to some principles relevant for economic activity and their *de facto* implementation (cf. also Carlsson *et al*., 2009; Czarnitzki *et al*., 2016) as proxies for the institutional determinants of entrepreneurship.

Consistent with the bounded agency approach, we predict that boundary conditions (in the form of national constitutional framework) will shape the overall impact of agency culture

on a country's proneness toward entrepreneurial activity. Accordingly, pro-entrepreneurship constitutions cannot stimulate new business formation across countries as expected if people in those countries are not sufficiently proactive and innovative to exploit the benefits of the created favourable constitutional environment. Broadening the perspective followed in the previous empirical literature – from Blau (1987) to Acs *et al*. (2009) – and extending previous findings by Carbonara *et al*. (2016), we take into account the possible moderating effect of a specific aspect of the institutional setting, represented by the provisions contained in a country's constitution. Particularly, we focus on two central hypotheses:

Hypothesis 1a. The level of agency culture and the presence in the constitutions of provisions supporting economic freedom predict a country's level of entrepreneurial activity.

Hypothesis 1b. Following the bounded agency perspective, the constitutional environment moderates the effect of agency culture on entrepreneurship.

4. Data

4.1 Dependent variable

New business density. Using data from the World Bank Group Entrepreneurship Database, we construct a measure of new business density, given by the number of new business registrations (private, formal sector companies with limited liability) in every year in each country per 1,000 residents aged 15-64 over the period 2004-2013. Our dependent variable is a standard measure of the total start-up activity in 86 countries (Table 1). It is a measure of entrepreneurship that follows a *labor market* approach (Audretsch and Fritsch, 1994): all firms are the result of individual actions, and new entrepreneurs are individuals who had previously or have been interested in having a dependent job, who exploit their knowledge of production processes and market features to switch to independent work (Santarelli and Sterlacchini, 1994; Gries and Naudé, 2011). Accordingly, each individual in the labor pool is considered a potential entrepreneur, with the capability to set up his or her own business. We believe that this measure of entrepreneurship is best suited to study the impact of cultural and institutional factors on entrepreneurship because we are in fact focusing on how individual private initiative is fostered or jeopardized by culture and institutions. Other available and commonly used measures include the ratio of new entrants on existing firms, adopted in the so called *ecological approach* (Tag *et al*., 2016), and the number of business owners per labor force (Acs *et al*., 2009). However, such measures are less interesting for our purposes. The *ecological* approach measures new start-up activity relative to existing entrepreneurship, thus capturing only one component of the

overall process. The percentage of the self-employed is more suited for a study on occupational choices whereas here we are more interested in a story of entrepreneurial success.

- Table 1 about here –

4.2 Independent variables

Agency culture. We utilize personality data collected by the ongoing, global Gosling-Potter Internet project (Gosling *et al*., 2004; see also Gebauer *et al*., 2015; Rentfrow *et al*., 2013, 2015). The project collects personality data via a noncommercial Internet website, which can be reached through several channels (e.g., search engines, unsolicited links on other webpages). People voluntarily participate in this study by responding to items on a standard Big Five personality questionnaire (in English, German, Spanish, or Dutch) using a 5-point Likert scale (1 = disagree strongly, 5 = agree strongly); as an incentive, participants receive a personality evaluation based on their responses. Participants also provide responses to questions on several socio-demographic variables, and report their state of residence. This database has yielded numerous publications relating personality traits to various aspects of human behavior. Its validity is supported by the number and quality of publications, mainly in the field of psychology, which have used data from this large-scale Internet project. Of most relevance to the current work, smaller versions of this dataset have been successfully employed in cross-cultural studies (e.g. Bleidorn *et al*., 2013; Gebauer *et al*., 2015). For a list of published studies using the database, see http://www.thebigfiveproject.com/published-papers/).

To estimate cross-country differences in agency culture, we use data from all respondents who completed the questionnaire from the start of the project in December 1998 until 2015. In total, N = 7,092,784 respondents are included in this dataset. The number of respondents in each country ranges between 1,008 (Ethiopia) and 4,275,860 (USA). Table 2 provides an overview over the sample sizes in each country under study.

- Table 2 about here –

Country-level agency scores were derived in two steps. In the first step, participants' extraversion and openness scores were computed and these were averaged to yield an agency score at the individual level. In the second step, individuals' scores were aggregated within country, yielding country-level scores for agency culture.

Constitutional protection. As noted in Section 2.1 above, several provisions contained in national constitutions affect the dynamics of entrepreneurship. Information about constitutional provisions is drawn from the Comparative Constitutions Project: A Cross-National Historical Dataset of Written Constitutions (henceforth CCP) (Elkins *et al*., 2009), an

archive of data on the features of written constitutions for most countries since 1789. We focus on four provisions that represent how a constitution can protect the market mechanism, to derive an integrated variable by summing up: *right to own property*, *right to conduct/establish a business*, *right to free/competitive markets*, and *independence of the judiciary organs*. This *Constitutional protection* variable ranges from 0 (constitution not mentioning any of the 4 provisions) to 4 (constitution mentions all four provisions). Constitutional provisions represent the pillars of a country's legal and institutional framework and they should be enforced by 'lower' laws, which are hierarchically subordinate to constitutions. Often, in fact, lawmakers enact new rules at the constitutional level as a commitment device to guarantee their application (Kelsen, 1967). For example, legal reforms increasing the protection of investors' rights – and therefore consistent with constitutional protection of the free market – might lead to lower use of control enhancing mechanisms and ultimately create conditions more favorable to the emergence of a corporate economy dominated by widely held corporations (Cuomo *et al*., 2012). However, to control for their *de facto* implementation and to measure whether and to what extent 'higher' constitutional norms are enforced by the legal and institutional framework, and effectively protect economic freedom, we need to measure the functioning of the market mechanism. For this purpose, we use the Index of Economic Freedom calculated by the Heritage Foundation, (http://www.heritage.org/index/). The index measures economic freedom based on four broad categories, each of which includes three or four types of economic freedom (in parentheses): *rule of law* (property rights, government integrity, judicial effectiveness), *government size* (government spending, tax burden, fiscal health), *regulatory efficiency* (business freedom, labor freedom, monetary freedom), and *open markets* (trade freedom, investment freedom, financial freedom). Each of the factors shaping the four broad categories is graded on a scale from 0 to 100 and a country's score is obtained by averaging the resulting twelve values with equal weight given to each.

4.3 Control variables

To control for the general economic foundations of each country, we consider the following set of control variables. To capture the wealth of countries and labor market characteristics, we use GDP per capita and the percentage of residents aged 15 or more who are part of the labor force. Other control variables are electric consumption (in Kwh) per capita, as a proxy of the business cycle, and mobile cellular subscription per 100 residents as a proxy of the quality of the infrastructures. Table 3 presents variable descriptions and summary statistics

(mean, standard deviation, minimum, and maximum) for all variables included in the analysis, and Table 4 presents the corresponding correlation matrix.

- Table 3 about here –
- Table 4 about here -

5. Model Development

For the purposes of our empirical analysis, we opted for a parsimonious specification, hypothesizing the following structural model:

$$Y_{it} = \alpha + \beta C_{it} + \gamma A_i + \delta C_{it} * A_i + \theta X_{it} + \varepsilon_{it}$$

where Y_{it} denotes new business density of country *i* in year *t*; C_{it} is an indicator of constitutional protection of economic freedom and rights in country *i* and year *t*; A_i represents a measure of agency culture for country *i*; $\delta C_{it} * A_i$ is the interaction between the constitutional and the psychological variable; X_{it} is a set of other control variables; ε_{it} is the usual error term. The interaction term is added to the model for testing the hypotheses that the impact exerted by the relationship between endowment of agency culture and the strength of constitutional protection was different for different levels of agency and constitutional protection.

The Breusch-Pagan test indicates the presence of heteroskedasticity[1]. The White's method of correcting for heteroskedastic errors should then be applied. The Wooldridge test for autocorrelation in panel data also indicates the presence of serial correlation in our dataset[2]. The Hausman test reveals the existence of an endogeneity problem for our constitutional variable[3]. Constitution is likely to be endogenous, because economies are not exogenously endowed with the institutions and incentives that make up their entrepreneurial environment, but rather institutions are determined endogenously, perhaps influenced by the history, geographical features, and level of entrepreneurship in an economy.

The presence of heteroskedasticity, serial correlation and endogeneity in our dataset deserves careful treatment in choosing an appropriate estimation model. On the one hand, robust pooled OLS estimation fails to give unbiased and efficient estimators, and instrumental variable two-staged least square (2SLS) could be a wise choice. On the other hand, our data incur the problem of heteroskedasticity, so we apply the IV generalized method of moments (GMM) technique, which gives more reliable and consistent estimation results (Baum and Schaffer, 2003). The IV-GMM treatment requires the availability and validity of exogenous instruments

[1] $\chi^2(1) = 142.17$; p-value = 0.0000
[2] F (1, 85) = 15.944; p-value = 0.0001
[3] $\chi^2(2) = 12.982$; p-value = 0.0015

that are correlated with the independent variables for which endogeneity has been detected, but that are uncorrelated with the measure of new business density. We adopt two instrumental variables: the distance from the equator used by Hall and Jones (1999) and the predicted trade share of an economy constructed by Frankel and Romer (1996). The underidentification test and the Sargan test to detect the relevance and validity of our IVs do support our approach, and thus our choice of instruments is plausible (see Table 6).

As robustness checks, we estimate three extra models. We estimate a dynamic Blundell-Bond (1998) GMM model, including the lagged dependent variable to consider the potential effect of the business cycle and the lagged value of constitutional protection to account for institutional change. This model allows for a low-order moving average correlation in the idiosyncratic errors and is well suited to deal with the low variance in the process of constitutional change, with the time-invariant nature of the agency culture variable, and with the relatively small longitudinal length of the dataset (only one decade). Moreover, to account for unobserved country effects across time, the third and the fourth models are country-Fixed Effect OLS and GLS.

6. Empirical Results and Discussion

6.1 Regression results

We start by estimating regressions with *Agency culture* as the main and only explanatory variable. The results from the dynamic Blundell-Bond (1998) GMM, the country-Fixed Effect OLS, and the country-Fixed Effect GLS models presented in Table 5, show a positive and highly statistically significant impact of stronger agency culture on our measure of entrepreneurship: the first part of **Hypothesis 1a** is therefore supported. Higher labor force participation rate and better infrastructures (i.e., more widespread adoption of mobile cellular phones) are also associated with higher levels of new business density.

- Table 5 about here -

We then turn to the discussion of the general model (Table 6). As far as the main variables of interest (Agency culture and Constitutional protection) are concerned, the results of the estimates show a consistent pattern across the IV-GMM, the dynamic Blundell-Bond (1998) GMM, the country-Fixed Effect OLS, and the country-Fixed Effect GLS models. In Table 6 we present three specifications for each of the four methodological treatments: the first specification controls for the effect of constitutional protection only (columns 1, 4, and 7); the second specification considers both constitutional protection and psychological agency culture (columns 2, 5, and 8); and the third specification takes into account their interaction effect as

well (columns 3, 6, and 9). Our data incur the problem of heteroskedasticity, serial autocorrelation, and endogeneity of constitutional protection, so the static IV-GMM model with robust SEs is the most appropriate estimation method; thus, we base our interpretation on the results of this model. Results from the other model specifications are also traced for the purpose of comparison.

- Table 6 about here -

Our findings show that constitutional protection of economic freedom plays a key role in generating the wide variation in entrepreneurship across countries (columns 1, 4 and 7). The second part of **Hypothesis 1a** is therefore confirmed. Consistent with the findings of Bell *et al*. (2008) and Parker (2009, Ch. 15) on legal rules, we too find that when institutions support economic freedom, entrepreneurship is stronger. With respect to diffusion in each country's population of the agency culture (columns 2, 5 and 8), in all estimates the coefficient is largely positive and statistically significant at a 99% confidence level. A stronger agency culture is thus associated with a higher level of new business density, and corresponds to a greater propensity of individuals to create their own entrepreneurial ventures. Unsurprisingly, countries with high agency culture foster the development of a more dynamic entrepreneurial climate. Our findings therefore suggest a possible way of promoting the propensity to become entrepreneurs in the overall population through training activities for elating agentic characteristics, such as creativity, risk-taking propensity and entrepreneurial proactiveness. However, when the impact of the psychological 'agency' trait is taken into account, the institutional factor, despite having positive influence, loses its statistical significance on new business density in the IV-GMM, while maintaining it in all other model specifications.

Looking at the interaction between agency culture and constitutional protection (columns 3, 6 and 9), consistent with the bounded agency approach, and with our **Hypothesis 1b**, the effect of agency culture on entrepreneurship is indeed bounded by the characteristics of the national constitutions. These two factors do combine in such a way that the effect of high agency culture is strengthened in countries with a pro-entrepreneurship constitution. Similarly, the constitutional protection of economic freedom leverages the entrepreneurial intention of countries with a great endowment of agency culture. A healthy business environment facilitates nascent entrepreneurs to discover and exploit entrepreneurial opportunities.

The positive effect of constitutional protection and agency culture is also corroborated by the positive and statistically significant coefficient of our *de facto* measure, the Index of Economic Freedom, in both GMM estimates and by a positive, albeit insignificant, effect in the other model specifications. The impact of economic freedom is in line with the effect of

constitutional variables promoting economic rights. A free and competitive market creates a favorable business environment and a level playing field to both incumbent and nascent entrepreneurs.

With respect to control variables, there are several findings of note. First, in the IV-GMM, GDP per capita is positive and statistically significant, whereas its squared value is negative and statistically significant. The positive and negative signs are maintained in all other model specifications, although statistical significance disappears. This pattern is consistent with the findings from many empirical studies (e.g. Koellinger and Thurik, 2012) and confirms that, on the aggregate level, GDP cycles do predict the entrepreneurial cycle although the relationship between GDP per capita and entrepreneurship is quadratic. In general, high GDP per capita reflects stronger demands, which leads to an abundance of emerging entrepreneurial opportunities, and in turn induces new entries to capture such opportunities (Santarelli and Tran, 2013). Second, a higher labor force participation rate is conducive to more entrepreneurship. Provided that a large fraction of new entrepreneurs is usually represented by individuals previously involved in paid employment (Storey and Jones, 1987), this last finding is straightforward. Third, countries with high electric power consumption per capita and mobile cellular subscription are more likely to enjoy a higher rate of new firm formation.

6.2 Illustrating the interaction effect between agency culture and constitutional protection

Based on estimation of the baseline equation by generalized least squares (GLS) random-effects (RE) with a robust standard errors model (whose estimation results are presented in the final column of Table 6), we used the command "margins" in Stata 14 to estimate the margins of responses for specified values of covariates and present the results as a table. Finally, to draw the interaction plot we used the command "marginsplot" to graph the results of the "margins" command. Plots were also constructed at each of the five specified values of the 'constitutional protection' variable from 0 to 4.

Figure 1 presents the interaction plots of constitutional protection and agency culture, with the aim of capturing the moderating effect of constitutional provisions on psychological agency on a country's proneness toward entrepreneurship.

- Figure 1 about here -

The plot on the right combines all five interaction lines whereas the 5 smaller plots on the left separate interaction lines for each value of the constitutional protection variable. The combined interaction plot on the right has 5 lines representing the indirect effect of agency

culture on new business density at 5 different values of constitutional protection (from 0 to 4). For ease of comparison, the interaction plot on the left separates these 5 interaction lines into 5 charts. Obviously, if the interaction is not significant, the plotted lines should be parallel, which is clearly not the case here.

If a country does not have any constitutional provision supporting economic freedom (constprot=0), agency culture is negatively associated with new business density. No matter how proactive and innovative its citizens are, they are just simply unmotivated to set up new ventures in an environment where they cannot enjoy free competition or the freedom to set up business and own their property. Second, when the country increases its constitutional protection of economic freedom (constprot increases from 1 to 3), the line representing the relationship between agency culture and entrepreneurship moves up gradually, while the impact of agency turns from negative to slightly positive. Countries with higher psychological agency find themselves more entrepreneurial with a higher rate of self-employment over time when they start to apply constitutional provision protecting economic freedom. Finally, the effect of psychological agency turns out significantly positive when countries possess a high level of constitutional protection (constprot=4).

These results suggest that high agentic economies enjoying a constitutional protection of economic freedom are particularly powerful cradles, nurturing entrepreneurial activity. Creative and innovative people are more motivated to exploit their ideas in a transparent and healthy business environment in which they do not need to care about bribes or corruption. Thus, if governments find that the majority of the country's population has high levels of agency, they could help to capitalize on this entrepreneurial trait by creating a healthy institutional environment supporting free competition, business and property rights, and an independent judicial system. These steps would significantly foster a dynamic entrepreneurial sector within the economy.

7. Conclusions

Inspired by the central role that the concept of (psychological) agency plays in seminal theorizing in entrepreneurship (Schumpeter, 1911, 1934; McClelland, 1961), the present study is to our knowledge, the first systematic attempt to examine the effect of agency culture on national entrepreneurship rates, with a special focus on an important contextual moderator – formal institutions such as constitutional provisions relevant for entrepreneurship.

In general, our findings reveal that: *a)* a greater endowment of agency culture is associated with a country's higher willingness or intention to start a business; *b)* constitutional

protection of economic freedom plays a key role in generating the observed wide variation in entrepreneurship across countries, by exerting a moderating effect on how a certain endowment of agency culture influences a country's proneness toward entrepreneurship; *c)* when institutions *do* support economic freedom, as denoted by higher values of the Index of Economic Freedom, entrepreneurship is stronger. In sum, there is an interaction between constitutional and legal protection of economic freedom on the one side and the presence in the country of a large fraction of individuals characterized by an agentic personality on the other side. In particular, there seems to be a benefit from instituting stronger protections of economic freedom and such benefit is the stronger the higher the level of agency culture characterizing the country.

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Table 1: List of countries by geographical area

America: Argentina; Belize; Bolivia; Brazil; Canada; Chile; Colombia; Costa Rica; Dominican Republic; El Salvador; Guatemala; Jamaica; Mexico; Panama; Peru; United States (USA); Uruguay.
Europe: Albania; Armenia; Austria; Belgium; Bosnia and Herzegovina; Bulgaria; Croatia; Cyprus; Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Hungary; Iceland; Ireland; Italy; Latvia; Lithuania; Luxembourg; Macedonia; Malta; Montenegro; Netherlands; Norway; Poland; Portugal; Romania; Russia; Slovak Republic; Slovenia; Spain; Sweden; Switzerland; Ukraine; United Kingdom (UK).
Africa: Algeria; Ethiopia; Ghana; Kenya; Mauritius; Morocco; Nigeria; South Africa; Uganda.
Asia: Afghanistan; Bangladesh; Brunei; Egypt; India; Indonesia; Israel; Japan; Jordan; Malaysia; Nepal; Oman; Pakistan; Philippines; Qatar; Singapore; South Korea; Sri Lanka; Thailand; Turkey; United Arab Emirates (UAE).
Oceania: Australia; New Zealand.

Table 2: Sample size of the individual-level personality dataset for each country

Country	N	Country	N	Country	N	Country	N
Afghanistan	1,172	Denmark	19,074	Kenya	6,985	Portugal	8,334
Albania	2,288	Dominican R.	6,222	Korea (South)	9,960	Qatar	2,064
Algeria	1,074	Egypt	9,075	Latvia	1,440	Romania	13,055
Argentina	88,211	El Salvador	3,682	Lithuania	2,277	Russia	3,624
Armenia	1,084	Estonia	2,459	Luxembourg	1,116	Serbia-Mon.	5,665
Australia	195,857	Ethiopia	1,008	Macedonia	1,121	Singapore	59,119
Austria	27,143	Finland	23,526	Malaysia	39,606	Slovak Rep.	1,691
Bangladesh	3,482	France	18,502	Malta	1,590	Slovenia	3,095
Belgium	43,692	Germany	186,848	Mauritius	1,706	South Africa	26,039
Belize	1,025	Ghana	1,949	Mexico	136,305	Spain	135,048
Bolivia	6,115	Greece	10,982	Morocco	1,346	Sri Lanka	3,958
Bosnia-Her.	1,371	Guatemala	5,635	Nepal	2,142	Sweden	46,828
Brazil	26,538	Hungary	3,746	Netherlands	163,472	Switzerland	36,741
Brunei	1,211	India	114,500	New Zealand	43,167	Thailand	8,501
Bulgaria	3,610	Indonesia	15,199	Nigeria	7,033	Turkey	5,298
Canada	371,882	Iceland	2,520	Norway	42,859	UAE	14,907
Chile	44,552	Ireland	41,257	Oman	1,068	Uganda	1,377
Colombia	34,905	Israel	7,426	Pakistan	27,498	Ukraine	1,081
Costa Rica	6,712	Italy	13,831	Panama	2,938	UK	438,854
Croatia	6,920	Jamaica	4,199	Perù	23,056	USA	4,275,860
Cyprus	2,307	Japan	10,232	Philippines	91,638	Uruguay	6,351
Czech Rep.	3,566	Jordan	2,431	Poland	7,951		

Table 3: List of variables and their descriptive statistics: standard deviation is decomposed into between and within components

Variable description		Code	Mean	Std	Min	Max
New Business density	overall	Busdensity	5.606	4.899	0.0201	39.699
	between			4.683	0.027	25.826
	within			1.516	-2.981	19.479
Constitutional protection	overall	Constprot	2.296	1.135	0	4
	between			1.122	0	4
	within			0.202	-0.108	5.091
Agency culture	overall	Agency	3.477	0.0738	3.283	3.681
	between			0.0736	3.283	3.669
	within			0.0083	3.387	3.557
Economic freedom	overall	Ecofreedom	63.851	10.652	21.7	89.7
	between			10.533	28.29	87.99
	within			1.864	56.89	73.091
GDP per capita (log)	overall	Lngdpcapita	9.307	1.077	5.855	11.212
	between			0.981	6.631	11.133
	within			0.454	6.664	11.604
Labor force participation rate (% of total population +15 years old)		Laborforce	61.921	9.685	37.1	87.7
	between			9.232	39.86	87.2
	within			3.051	41.62	72.08
Electric consumption per capita (Kwh)		Electriccon	5100	6210	30.4	54799
	between			6135	32.57	43751
	within			1120	-10663	16147
Mobile cellular subscription per 100 people	overall	Mobilesup	93.814	39.913	0.2	217
	between			30.305	8.345	156.8
	within			26.127	-1.986	181.31

Table 4: Pairwise correlation matrix (86 countries: average values)

	Business density	Consprot	Agency culture	Economic freedom	GDP per capita	Labor force	Electric consump	Mobile subscript
Busdensity	1.0000							
Constprot	0.2537*	1.0000						
Agency cult	0.2286*	0.2929*	1.0000					
Ecofreedom	0.4087*	-0.0938*	-0.0120	1.0000				
Gdp capita	0.3218*	-0.0026	0.1395*	0.5881*	1.0000			
Labor force	0.0892*	-0.0794	-0.1204*	0.0482	-0.0252	1.0000		
Electconsum	0.2736*	-0.1627*	-0.0712	0.4574*	0.5637*	0.2294*	1.0000	
Mobile sub	0.2990*	0.0959*	0.0327	0.3813*	0.5021*	-0.0160	0.3423*	1.0000

*: significant at 1% level.

Table 5: Agency Culture and Entrepreneurship

Variables	Dynamic Blundell-Bond (1998) GMM	Country-FE with Robust SEs	GLS-RE with Robust SEs
New Business Density, t-1	0.592***		
	(0.033)		
Agency Culture	60.630***	85.985***	61.376***
	(5.433)	(15.421)	(13.351)
Economic Freedom	0.127***	-0.016	0.027
	(0.043)	(0.031)	(0.032)
GDP per capita	-0.625	-1.125	-0.915
	(1.841)	(1.701)	(1.763)
GDP per capita squared	0.042	0.059	0.050
	(0.101)	(0.101)	(0.097)
Labor force participation	0.005	0.0687***	0.077***
	(0.022)	(0.032)	(0.032)
Electric power consumption	-0.001	-0.001***	-0.001***
	(0.001)	(0.001)	(0.003)
Mobile cellular subscription	0.002	0.11***	0.011***
	(0.003)	(0.004)	(0.004)
Intercept	-215.11***	-291.13***	-210.47***
	(20.103)	(53.87)	(47.03)
F-test		33.33***	
Wald statistics χ^2	2212.50***		40.40***
Observations	774	860	860

Standard errors in brackets. ***: significant at 10% level.

Table 6: Agency Culture, Constitutional Protection, and Entrepreneurship

Dependent variable: New Business Density										
	IV-GMM with robust SEs[4]			**Dynamic Blundell-Bond (1998) GMM[5]**			**Country-FE with robust SEs**			**GLS-RE with rob SEs**
Variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	
New Business Density, *t-1*				0.707***	0.611***	0.633***				
				(0.031)	(0.031)	(0.031)				
Constitutional Protection	0.773**	0.635	-2.955***	2.627***	2.146***	0.217	2.185***	2.264***	9.174	-6.084***
	(0.346)	(0.401)	(1.059)	(0.327)	(0.302)	(0.385)	(0.605)	(0.606)	(27.515)	(1.937)
Constitutional Protection, *t-1*				0.106	-0.295	0.51				
				(0.411)	(0.376)	(0.395)				
Agency culture		6.583**	-1.59**		39.354***	18.098***		86.766***	94.795***	-5.329
		(3.577)	(0.645)		(4.705)	(5.774)		(15.753)	(35.701)	(16.535)
Constitutional Protection * Psychological agency			8.884***			0.581***			-2.008	18.089***
			(3.049)			(0.089)			(7.998)	(5.566)
Economic freedom	0.225***	0.214***	0.222***	0.149***	0.094***	0.131***	0.030	0.012	0.011	0.043
	(0.02)	(0.022)	(0.019)	(0.041)	(0.038)	(0.038)	(0.034)	(0.028)	(0.028)	(0.031)
GDP per capita	5.26***	4.876***	2.598	1.603	0.644	1.235	0.848	1.458	1.484	0.984
	(2.21)	(2.06)	(1.838)	(1.893)	(1.721)	(1.736)	(1.814)	(1.654)	(1.65)	(1.825)
GDP per capita squared	-0.301***	-0.282***	-0.156	0.106	0.044	0.073	0.039	0.071	0.073	0.051
	(0.122)	(0.114)	(0.102)	(0.104)	(0.095)	(0.095)	(0.099)	(0.091)	(0.091)	(0.1003)
Labor force participation rate	0.005	0.012	0.008	0.022	0.002	0.008	0.061**	0.055**	0.055**	0.062**
	(0.015)	(0.017)	(0.012)	(0.022)	(0.021)	(0.021)	(0.027)	(0.026)	(0.026)	(0.027)
Electric power consumption per capita (Kwh)	0.0001***	0.0001***	0.0001***	0.0001***	0.0001***	0.000	0.0002***	0.0002***	0.0002***	0.0001**
	(0.000)	(0.000)	(0.000)	(0.0001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Mobile cellular subscription per 100 people	0.0105***	0.011***	0.008**	0.001	0.001	0.001	0.008**	0.007**	0.007**	0.007**
	(0.004)	(0.004)	(0.0039)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)
Intercept	-35.49***	-55.95***	31.358	-6.980	-142.94***	-70.531***	3.524	-29.65***	-32.414***	16.500
	(9.783)	(17.21)	(24.284)	(8.681)	(18.164)	(21.477)	(8.996)	(5.499)	(12.345)	(58.165)
F test	51.03***	44.02***	44.46***				15.61***	40.93***	40.46***	
Wald statistic $\chi^2(2)$				2095.9***	2627.6***	2631.8***				46.61***
Under-identification test $\chi^2(2)$	72.44***	105.3***	64.64***							
Over-identification test $\chi^2(1)$	4.926	4.618	0.815							
Endogeneity test $\chi^2(1)$	2.78*	3.006*	6.759***							
Observations	860	860	860	774	774	774	860	860	860	860

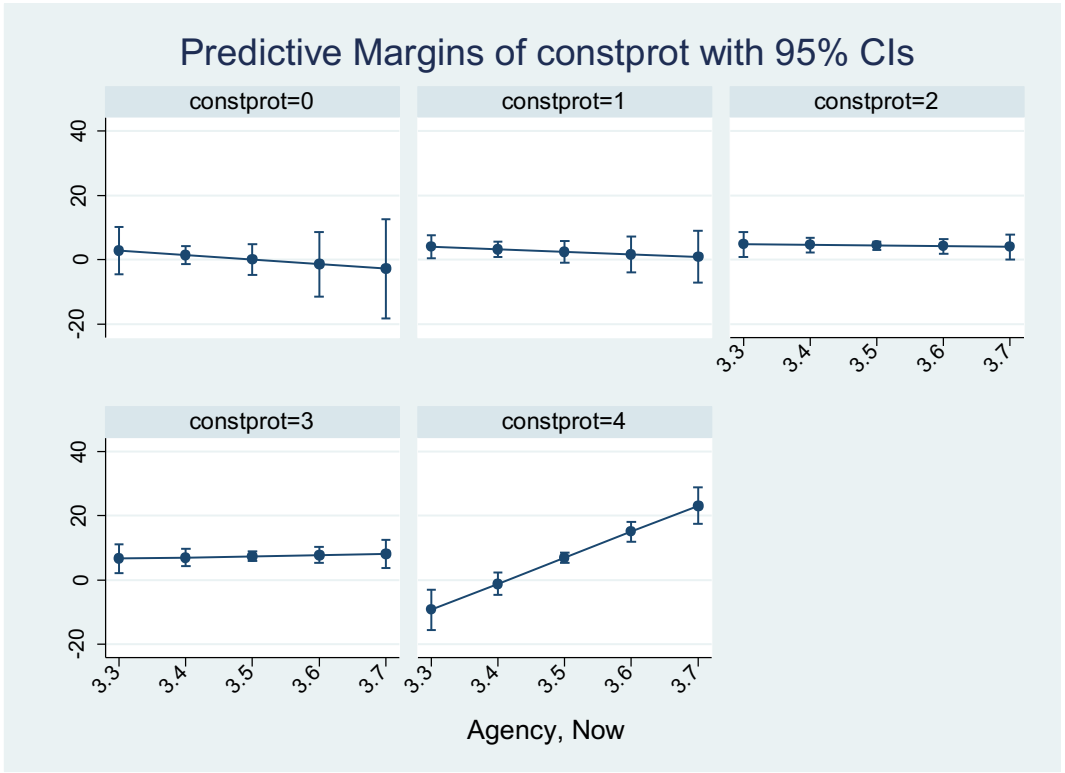
Note: *, **, ***: significant at 10%, 5%, 1% significant level respectively

(1), (4), (7): Constitutional protection is controlled; (2), (5), (8): Constitutional protection and psychological 'agency' trait are controlled; (3), (6), (9): Constitutional protection, psychological 'agency' trait and their interaction are controlled.

[4] Since at least one of the two instruments should vary over time (i.e., the trade share of the economy), the IV GMM model could overcome the time invariance in the regressors of interest.

[5] Constitutional protection is treated as an endogenous variable. The first lagged value of constitutional protection is used as IV.

Figure 1: Interaction plot of Constitutional Protection and Agency Culture


Predictive Margins of constprot with 95% CIs
constprot=0
constprot=1
constprot=2
constprot=3
constprot=4
40
20
0
-20
3.3
3.4
3.5
3.6
3.7
Agency, Now