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**Economic Freedom, Secular Ideologies, and the
Prevalence of Women's Opportunity & Necessity
Entrepreneurship**

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Abstract

We explore the relationship between economic freedom and secular ideologies on women's opportunity and necessity entrepreneurship with data from 98 countries between 2006 and 2018 using fixed-effects panel regression. Specifically, we examine how economic freedom (i.e., the consistency of policies across various countries towards voluntary exchange) and secularism (i.e., the individuals'

religious ideologies lose the encompassing and important role in society) influence women's participation in opportunity and necessity entrepreneurship across countries. After controlling for multiple macro-level factors, we find a significant positive effect on secular ideologies on women's opportunity entrepreneurship cross-culturally. We also find evidence that the influence of economic freedom on women's opportunity entrepreneurship is dependent on country's level of secularism. Results do not show significant evidence that the economic freedom or secularism affects necessity entrepreneurship among women.

Introduction

How does economic freedom influence opportunity and necessity-motivated entrepreneurs cross-culturally among women? And does this relationship depend on cultural ideologies? This paper addresses these questions by theoretically building upon and linking two independent approaches toward understanding entrepreneurship: new institutional economics and contextualism in the social sciences. Initially developed by Oliver Williamson (1975), new institutional economics examines the utility of institutions in reducing uncertainty in human exchange. The second approach builds on the "contextual turn" among entrepreneurship scholars and the emerging prominence to the claim of contextualism— not that context determines actions, but that context influences what people routinely do (e.g., Baker and Welter, 2020). We argue that the principle of contextualism has major implications for understanding how varying cultural ideologies influence women's entrepreneurial motivations because entrepreneurship is situationally constrained. We argue that opportunity (and necessity) entrepreneurship manifests in response to policies that protect (or limit) economic freedom, in concert with cultural ideologies, because entrepreneurship is a situational responsive contextualized activity.

New institutional economics examines how institutions affect economic activity. Following Davis, North, and Smorodim (1971), we conceptualize the institutional environment as the background constraints, or "rules of the game," that externally enable individuals' behavior (Davidsson, Recker, & VonBriel, 2020). The institutional environment includes both formal rules (e.g., constitutions, laws, property rights) and/or informal rules (e.g., norms, social conventions) and influences peoples' choices by specifying under what conditions certain activities are permitted or prohibited (North, 1990).¹ Thus, the institutional environment provides the framework where human action takes place and affects founders' entrepreneurial motivations. We answer calls for new institutionalists to better unpack the influence of economic freedom within the institutional environment on entrepreneurial activity (Bradley & Klein, 2016) by examining how women's motivations toward entrepreneurship vary cross-culturally as a function of institutional uncertainty resulting from varying levels of economic freedom.

Contextualism, in this study, focuses on women because women are more likely than men in most countries worldwide to cite job scarcity as a reason for pursuing a business start-up (Elam et al., 2022). The integration of *contextualism* with new institutionalism allows us to explore typically hidden variation in women's motivations, including opportunity (i.e., attractive business opportunity) versus necessity (i.e., absence of other better employment options) (Reynolds et al., 1999).

Our exploratory approach utilizes abductive reasoning, panel fixed-effects regression, and a multisource country-level panel using data from Global Entrepreneurship Monitor (GEM), Fraser Institute (FI), World Values Survey (WVS), and World Bank (WB). Our external enabler framework

¹ According to Williamson (2000), institutions operate hierarchically at different levels, including higher-level constitutional features and lower-level regulatory and policy features. Higher-level constitutional features comprise rule of law, civil and political rights, protection of property, and freedom from corruption. Lower-level regulations and policies include "the scale and scope of the government covering an interrelated cluster of collective choice features that include the size of government spending, the scope of the welfare system, the level of taxation" (Estrin et al., 2013, 483).

focuses on how evolving contextual circumstances affect entrepreneurial action and outcomes in fundamental ways (Davidsson et al., 2020) (Figure 1). This framework conceptualizes entrepreneurship as a response driven by external, pre-existing, actor-independent opportunities (Alvarez & Barney, 2013; Dimov, 2011) and changes that make entrepreneurship more or less enabling. Accordingly, the external enabler framework is not a theory, but a conceptual platform to cross-culturally elaborate on the mechanisms affecting women's opportunity and necessity entrepreneurship informed by theory.

Our paper contributes threefold to the entrepreneurship literature by showcasing how economic freedom and secular ideologies shape the distribution of contextual motivation for women's entrepreneurship cross-culturally. First, we answer calls to better understand the variation within women's entrepreneurship (Jennings & Brush 2013; Marlow 2020) instead of comparing women to men in terms of entrepreneurial activity. Second, our study sheds light on how societies shape the allocation of women's entrepreneurial motivations through institutional arrangements, particularly regarding policy (Estrin & Michiewicz 2011; Dencker, Bacq, Gruber, & Haas 2021). Finally, our work does not treat context as something that is "out there" which needs to be defined and measured without regard to the varied ways entrepreneurs might "do context" (Wadhvani et al. 2020). Indeed, "although context enables a demarcation of what is distinctive about situations, it also permits integration across research areas and levels of analysis, identifying what they have in common as settings for organizational behavior" (Johns 2018, p. 21).

Literature Review

A contextualized understanding of entrepreneurial activity questions our tendency for an 'all-are-alike' approach. This insight understands that some entrepreneurs create businesses when they see a business opportunity, whereas other entrepreneurs are forced into starting a business out of necessity because of the lack of other options in the labor market. Resultingly, in early-stage entrepreneurship, a founder's contextual motivation (can be classified as either *opportunity-driven* or *necessity-driven*). Opportunity-driven entrepreneurship represents the voluntary nature of participation in the start-up process, and necessity-driven entrepreneurship reflects the individual's perception that actions aimed at new firm creation present the best option available for employment (Hechavarria, Schenkel, & Matthews, 2009). Opportunity entrepreneurship is motivated by the entrepreneur's expectation of potential rewards of being better off by starting a business. Examples include autonomy, independence, money, the need for control, and social status (Bhola, Verheul, Thurik, & Grilo, 2006; Uhlander & Thurik, 2007). Conversely, necessity entrepreneurship is motivated by the conflict between one's current and one's desired occupational status that may influence an individual into starting a business when other alternatives to achieve an individual's desired outcomes are unavailable. Common examples include unemployment and dissatisfaction with current employment. This understanding of opportunity and necessity entrepreneurship is informed by a needs-based view of entrepreneurial motivation (Coffman & Sunny, 2021; Dencker, Bacq, Gruber, & Haas, 2019). That is, the necessity of entrepreneurship is linked to basic needs (i.e., physiological and safety) and the opportunity to higher-level needs (belonging, esteem, and self-actualization) (Maslow, 1954). Although both opportunity and necessity-driven ventures are equally likely to succeed, these efforts are born from distinctly different personal motivations (Reynolds, 2011).

Opportunity and necessity-driven entrepreneurial activity are strongly shaped by founders' embeddedness in both social structural and institutional contexts (Granovetter 1985; Polanyi et al. 1957). New institutionalism delineates numerous sorts of embeddedness that might condition opportunity and necessity-driven entrepreneurial activity, and focuses on understanding cross-cultural

differences in economic exchange as driven by regulative market-enabling entities (North, 1990).² This perspective is concerned with how institutions (i.e., regularities in repetitive interactions) create the rules of the game (i.e., customs and practices) that offer incentives and disincentives for transacting among individuals. These “rules of the game” governing social interaction are also known as institutional frameworks and encourage individuals to create organizations that capture gains arising from specialization in the division of labor (North, 1990).

A stream of new institutionalism research links the institutional environment and ideologies in forming a framework for decision-making under uncertainty with complex decisions (Denzau & North, 1994). Ideologies are shared sets of mental models possessed by groups of people around a topic. That is, ideologies are the internal (to the mind) cognitive systems to interpret the environment, whereas institutions are the external (to the mind) structures to order the environment (Denzau & North, 1994). Together, ideologies and institutions form a framework for economic activity, such that ideologies motivate people into collective action, and institutional structures guide economizing behavior by reducing uncertainty. Taken together, if ideologies are shared mental models, institutions are the rules of the game, and entrepreneurs are the players (North 1993: 3-5), then organizations that come into existence reflect the institutional-ideological matrix.

Economic Freedom

Economic freedom is the freedom to engage in economic activity without undue restrictions or subsidies (Bradley & Klein, 2016). The cornerstones of economic freedom are personal choice, voluntary exchange, freedom to enter markets and compete, and security of the person and privately owned property (Gwartney, Lawson, Hall & Murphy, 2022). Economic freedom enhances economic efficiency and resource allocation, leading to greater economic prosperity by reducing the uncertainty inherent in transacting within the market. In an economically free society, government’s main role is to protect individuals and their property from aggression.

Governments serve as the key managers of efficiencies within regulative institutional structures of the institutional environment, primarily via policy.³ Policies aimed at promoting economic freedom should create environments that foster entrepreneurship, which should increase the likelihood of people to judging the conditions to pursue entrepreneurial endeavors as favorable (Foss et al., 2019). From this standpoint, the “rules of the game” linked to with economic freedom should enable venturing by reducing government interventions that distort the market (Boudreaux et al. 2018; Tsofa et al. 2017).

Furthermore, a large literature acknowledges that “the rules of the game” might be linked to the allocation to productive (e.g., opportunity) and unproductive (e.g., necessity) entrepreneurship (Baumol, 1990; McMullen et al., 2008; Minniti, 2016; Nyström, 2008; Sobel, 2008). In fact, among OECD countries, economic freedom increases positively influence levels of opportunity entrepreneurship, and economic freedom decreases positively influence levels of necessity entrepreneurship (Angulo-Guerrero et al., 2017). However, does this relationship influence the allocation of women’s entrepreneurial activity in the same way? We raise this question because women’s entrepreneurial endeavors are often compared to men’s entrepreneurship in the literature. Such research appears to suggest that women are a monolithic class and fails to take into account the inherent variability of motivations among women themselves. A stark empirical fact is that women are far more likely than men in most countries around the world to cite job scarcity as a reason for starting

² This approach differs from sociological views of institutions as regulative institutions (e.g., laws, property rights, and constitutions) and informal cognitive and normative institutions (e.g., customs, traditions, and language) (Scott, 2013).

³ Regulative institutions include any rules which directly influence the costs of setting up a business, conducting business activity and closing a venture.

a business (Elam et al., 2022).⁴ But why is this the case? We surmise that the variation in the “rules of the game” in terms of economic freedom could explain this variation among women entrepreneurs.

To examine the influence of economic freedom across countries, we use the Fraser Institute’s (2022) Economic Freedom Index, which measures how well a nation’s institutions and policies align with this protective function and individuals’ economic freedom to make their own decisions. The index comprises five major areas: 1) size of government, (2) legal system and property rights, (3) sound money, (4) freedom to trade internationally, and (5) regulation of credit, labor, and business. Taken together the EFI collectively identifies the degree to which a country’s institutions and policies reflect a limited government ideal, where government focuses on protecting property rights and providing essential public goods like national defense and sound money, with few additional functions.

Size of Government

This economic freedom aspect captures the degree of government intervention and includes measures of government consumption spending, the amount of subsidies and transfers, government enterprises and investment, and top marginal tax rates. Increases in government spending coincide with increased taxation and government-controlled institutions. Taken together, greater levels of government decision-making substitute for individual choice, which reduces economic freedom. A large public sector may decrease the scope of the market available for both female opportunity and necessity entrepreneurs. Under these circumstances, a generous social security system might also de-incentivize entrepreneurship (Henrekson 2005). Correspondingly, smaller governments without generous social security systems create uncertainty among people about future wealth accumulation, enabling entrepreneurship.

Legal system and property rights

The legal aspect of the economic freedom captures enforcement of contractual and property rights because rightfully owned property is a central component of economic freedom (and civil society), and is arguably the most critical function of government. Legal factors include impartiality of the courts, judicial independence, and the safeguarding of intellectual property. A substantial body of empirical research highlights economic freedom, particularly with regard to private property rights, as a crucial driver of wealth creation (Berggren & Karlson, 2005). It follows that institutions related to legal quality can be expected to play an important role in fostering entrepreneurship. In a study focused specifically on entrepreneurship, Davidsson and Henrekson (2002) report a positive correlation between the institutional environment, particularly ownership rights, and the establishment and expansion of Swedish businesses.

Sound money

This economic freedom index component emphasizes the importance of sound money- defined as a stable monetary environment- in protecting property rights. This index includes various measures such as the growth of the money supply, inflation variability, recent inflation rates, and the freedom to own foreign currency and bank accounts both domestically and abroad. Financial stability is particularly relevant to entrepreneurs, who are commonly perceived as risk-takers. While some entrepreneurs may be categorized as “risk-lovers,” as noted by Bjørnskov and Foss (2008), this is not true for all. Empirical evidence on the relationship between sound money and entrepreneurship is currently limited. However, Bjørnskov and Foss’s (2008) study suggests a positive correlation between access to sound money and entrepreneurship.

⁴ Across national income levels, necessity-driven rates for women are highest among low-income countries, while opportunity-riven rates for women are highest in high-income countries (Reynolds, 2020).

Freedom to trade internationally

This aspect of economic freedom considers measures such as taxation on international trade, regulatory trade barriers, the size of the trade sector, differences between official exchange rates and black market exchange rates, and international capital market controls. Freedom to exchange, in its broadest sense, buying, selling, making contracts, and so on, is essential to economic freedom, which is reduced when freedom to exchange does not include businesses and individuals in other nations. Governments use a number of tactics to limit the right to exchange internationally and may also impose onerous regulations that limit the right to exchange, gain credit, hire or work for whom you wish, or freely operate your business. Freedom to trade internationally has a significant impact on an entrepreneur's market potential and the costs associated with engaging in international trade. Sobel et al. (2007) report a negative correlation between entrepreneurship and barriers to international competition, as measured by tariff barriers. However, Bjørnskov and Foss (2008) do not observe any significant relationship between freedom to trade internationally and entrepreneurship.

Regulation of credit, labor, and business

This aspect of economic freedom captures aspects that include credit market regulations, such as measures of ownership and competition within the banking sector. The index also considers labor market regulation, including factors such as the ease of hiring and firing workers and the extent of unemployment benefits. In addition, business regulation measures are taken into account, such as the ease of starting a business and the bureaucracy associated with running one.

A large literature explores the effect of regulation, often identifying how minimum capital requirements and labor market regulations reduce entrepreneurship rates (Van Stel et al., 2007). Similarly, Kannianen and Vesala (2005) report that labor market regulations, such as unemployment benefits, employee protection, and labor union power have negative impacts on the self-employment rate in OECD countries. Whilst lower bureaucratic quality diminishes entrepreneurship (Alfaro & Charlton, 2006), regulations associated with new firm start-ups tend to decrease entrepreneurship, particularly for small firm start-ups (Klapper et al., 2006). Furthermore, entry regulations influence the new firm formation (Desai et al., 2003), and product and labor market regulations are negatively related to the number of new small and medium-sized companies, with entry regulations having particularly negative effects on entrepreneurship (Scarpetta et al., 2002). Low barriers to entrepreneurship, such as the number of procedures required to establish a new business, are particularly important for new firm formation in industries characterized by fast technological change and expanding global demand (Ciccone & Papaioannou, 2006). Bjørnskov and Foss (2008), however, do not observe any significant relationship between entrepreneurship and regulation. Taken together, we question:

Framing question 1: How do aspects of economic freedom, which are (a) size of government, (b) legal system and property rights, (c) sound money, (d) freedom to trade internationally, (e) regulation of credit, labor, and business), impacts women's opportunity entrepreneurship and necessity entrepreneurship?

Secular Ideologies

Secularization is often viewed as a component of the wider modernization process (Inglehart, 1997), which encompasses various dynamics such as the emergence of the modern state, the growth of capitalism, the expansion of scientific knowledge, and the Protestant Reformation. These different dynamics contribute to the differentiation of society, ultimately leading to the diminishing influence of religion. The meaning of secularization varies in empirical research and theoretical discussions, with some considering it an ideology or doctrine predicting the inevitable decline of institutional religion, rather than a sophisticated theoretical framework (Finke 1992: 145; Verweij 1998: 2). Some use the

term secularization to refer to a decline in church attendance, or development of a secular society or religious transformations or a reduction in individual piety (Halman & Draulans, 2006). We focus on secular ideologies, that is, the idea that ethics are founded on rationality, logic, or ethical intuition rather than on purported divine revelation or guidance from organized religion (Inglehart & Welzel 2005; Mahmood 2009), because it is strongly linked to opportunity and necessity entrepreneurship (Hechavarría and Reynolds, 2009). In essence, when individuals are not primarily focused on physical safety and material security, their values tend to center around materialistic ambitions (Hechavarría 2016). The prevalence of secular ideologies in certain regions led to significant advancements in science and technology, which are commonly linked to high levels of wealth and economic development (Hechavarría 2016). Moreover, as secular ideologies become more widespread in societies, shared beliefs among members of those societies tend to place greater emphasis on individualism and autonomy (Inglehart & Oyserman 2004), two essential factors at the heart of entrepreneurial activity (Lumpkin et al. 2009; Rauch et al. 2009). Hence, the benefits of economic freedom on entrepreneurship for women might depend on cultural ideologies of secularism:

Framing question 2: How do secular ideologies impact women's opportunity and necessity entrepreneurship?

Methods

We construct our sample by matching data from the following country-level sources: GEM's Adult Population Survey (APS), FI's Economic Freedom Index (EFI) the WVS's secular values index, and WB. Our main data source is the GEM APS' weighted data of each country's adult-age population before aggregation to the country level (see Reynolds et al. 2005). Our sample is restricted by limitations in the periods for which the data were collected as well as missing data for some countries. We consider the inclusion of a larger sample of developing countries an important trade-off, and still achieve a sample large enough for the empirical analysis. We match country-level data with additional country level indicators from EFI, WVS, and WB. The GEM data from 2006-2018 covers 110 countries and comprises 729 observations. Our final sample consists of 628 and 91 countries. Table 1 lists all countries and the number of years in our analysis.

Measures

Dependent variables

Entrepreneurial activity motivations are measured by two dependent variables: *percent of female opportunity-driven total nascent and early-stage entrepreneurship* and *percent of female necessity-driven total nascent and early-stage entrepreneurship* at the country level. Opportunity entrepreneurship tends to involve job creation and innovative attempts to exploit new market niches, while necessity entrepreneurship is more consistent with imitative ventures, guided by rent-seeking. This operationalization is based on over one million GEM interviews from the overall GEM APS, which partitions activity for respondents (1) who claim to be driven by *opportunity* as opposed to finding no other option for work, and (2) indicate that the main driver for involvement in this opportunity is (a) independence or increasing their income, rather than simply maintaining their income (Singer et al., 2014, p. 24); or (b) who claim to be driven by necessity (having no better choice for work) as opposed to opportunity."

Independent variables

To capture regulatory institutional changes in the macroeconomic environment for economic freedom, we use the Fraser Institute's Economic Freedom Index (EFI). EFI measures the degree of economic freedom present in five major areas: (1) size of government, (2) legal system and property rights, (3) sound money, (4) freedom to trade internationally, and (5) regulation of credit, labor, and

business.⁵ Taken together, EFI captures the institutional quality, nations get lower scores if they have larger governments, disparate treatment of individuals' economic rights, inflation is prevalent, individuals are not easily able to trade internationally, and the presence of regulations in credit, labor and business. Within the five major areas, there are 24 components in the index. Many components are themselves comprised of several sub-components. In total, the index incorporates 42 distinct variables. Each component (and sub-component) is scaled from 0 (least freedom) to 10 (most freedom). When sub-components are present, these sub-components are averaged to derive the component rating. The component ratings within each area are then averaged to derive ratings for each of the five areas on a yearly basis.

To capture sociocultural ideological changes in society, we use the WVS secular values index and aggregate respondent individual scores to calculate a country average. We match the Integrated Values Longitudinal Data File (1981-2022) to match sociocultural ideological changes in secular values among countries for their corresponding coverage in GEM.⁶ The secular values index indicates overall secularism ranging from 0 (the most sacred values), to 1 (the most secular values); capturing a 12 item variable referring to devoutness to the parents, respect for authority, and national pride, the importance of religion, religious practice, and the respondents' self-perception as religious or not, the relativism towards cheating and bribe, and skepticism toward armed forces, police and the court.

Control variables

Our control variables are sourced from the WB database of countries' economic and social context. A country's market value of all finished goods and services produced affects the opportunities available and levels of entrepreneurial activity (Acs et al. 2008; van Stel et al. 2007). Therefore, we control for each country's *current GDP*. Likewise, we control for yearly *percent GDP change* as this growth measure is more strongly linked to entrepreneurship rates than GDP. As female labor market participation affects individuals' propensity to venture (Reynolds 2011), we control for *percentage of females in the labor force* between ages 18-64. Finally, as the proportion of unemployment will likely affect the supply of individuals available to engage in venturing activity (Reynolds 2011), we control for the *percentage of unemployed females* in the labor force between ages 18-64. We include *total size of female population* in our model as prior studies shows that the supply of women who can be active in the labor force impacts entrepreneurship rates.

We use six items to control for normative and cognitive institutions which have been found to influence rates of opportunity and necessity entrepreneurship cross-culturally (Hechavarria & Reynolds, 2009). First, we include three measures for intersubjective cultural values (e.g., is normative institutions) that capture the percentage of the population that agrees that *people prefer and equal standard of living*, *people consider starting a successful business as high status*, and *people consider starting a business as a good career option*. We also include three measures for cognitive institutions that capture the percentage of the population that agrees that they *see an opportunity*, *that believes they have the skills to start a business*, and *that fear of failure would stop them from starting a business*.

Analytical Approach

Given the first-order autoregressive process and heteroskedastic cross-sectional dependence in our panel, we use the *xtreg* command in Stata 17 and estimate fixed-effect panel data model with robust standard errors clustered by country.

⁵ In the legal system and property rights area, there is a downward adjustment for those countries with disparate treatment of women and their economic rights (Fike 2017).

⁶ Since there is not a one-to-one year match across the WVS and GEM years, we use linear interpolation between WVS waves to compute missing data points given the range of a discrete known data points.

Results

Table 2 provides descriptive statistics, and Table 3 contains Pearson correlations. We perform a VIF analysis on the variables included in the regressions. The highest VIF of 2.03 indicates multicollinearity is not a concern. Figure 1-6 highlights variation in economic freedom and secularism across the years in our sample, illustrating heterogeneity across years among countries.

Table 4 presents our primary fixed-effects model estimates for our variables of interest on the *Percent of Female Total Nascent and Early-stage Opportunity-driven Entrepreneurship*. Model 1 includes controls, and indicates that the *% Female Unemployment* (Model 1: $\beta = -0.0924$, $p = 0.095$) negatively affects the dependent variable, while *% Sees Opportunity* (Model 1: $\beta = 0.0487$, $p < 0.001$), and *% Start-up Skills* (Model 1: $\beta = -0.0559$, $p = 0.026$) positively affect the dependent variable. Model 2 of Table 2 includes our independent variables, and shows a significant negative relationship between economic freedom's *International Trade Freedom* (Model 2: $\beta = -0.599$, $p = 0.038$), and a significant positive relationship for Secularism (Model 2: $\beta = 10.07$, $p = 0.063$) on the dependent variable. For interaction effects, there is a significant positive relationship for *Legal System and Property Rights* and *Secularism* (Model 4: $\beta = 8.407$, $p < 0.001$) (Figure 2), *Sound Money* and *Secularism* (Model 5: $\beta = 5.688$, $p = 0.001$) (Figure 3), *International Trade Freedom* and *Secularism* (Model 6: $\beta = 4.655$, $p < 0.074$) (Figure 4), and *Regulation* and *Secularism* (Model 7: $\beta = 8.33$, $p = 0.001$) (Figure 5).

We use the *margins* command to illustrate the adjusted predictions at representative values for secularism at $1 \pm$ s.d. from the mean across levels of economic freedom for *Legal System and Property Rights* and *Secularism* (Figure 2), *Sound Money* and *Secularism* (Figure 3), *International Trade Freedom* and *Secularism* (Figure 4), and *Regulation* and *Secularism* (Figure 5). Results illustrate that the magnitude and direction of the relation between these components of economic freedom and the women's opportunity entrepreneurship depends on the level of the secularism. For instance, the pattern of the effects across the significant components of economic freedom appears to indicate a cross-over. When economic freedom in *Legal System and Property Rights* is high, high *Secularism* increases women's opportunity entrepreneurship. Conversely, when economic freedom in *Legal System and Property Rights* is low, low *Secularism* increases women's opportunity entrepreneurship. The pattern of the effect of the economic freedom in *Sound Money* appears to be somewhat similar for low *Secularism* and high *Secularism* (Figure 3). When economic freedom in *Sound Money* is high, high *Secularism* increases women's opportunity entrepreneurship. Conversely, when economic freedom in *Sound Money* is low, low *Secularism* increases women's opportunity entrepreneurship. The pattern of the effect of economic freedom in *International Trade Freedom* appears to be somewhat similar for low *Secularism* and high *Secularism* (Figure 4). When economic freedom in *International Trade Freedom* is high, high *Secularism* increases women's opportunity entrepreneurship. Conversely, when economic freedom in *International Trade Freedom* is low, low *Secularism* increases women's opportunity entrepreneurship. Finally, the pattern of the effect of economic freedom in *Regulation* appears to be similar for low *Secularism* and high *Secularism* (Figure 5). When economic freedom in *Regulation* is high, high *Secularism* increases women's opportunity entrepreneurship. Conversely, when economic freedom in *Regulation* is low, low *Secularism* increases women's opportunity entrepreneurship.

Table 5 presents our primary fixed-effects model estimates for our variables of interest on the *Percent of Female Total Nascent and Early-stage Necessity-driven Entrepreneurship*. Model 1 includes the controls, and shows that the *% Female Unemployment* (Model 1: $\beta = 0.0582$, $p = 0.077$) positively affects, while *GDP* (Model 1: $\beta = -3.99e^{-08}$, $p = 0.002$) negatively affects female necessity-driven entrepreneurship. Model 2 of Table 2 includes our independent variables, revealing only a significant negative relationship between economic freedom's *International Trade Freedom* (Model 2:

$\beta = 0.791, p = 0.017$) and the dependent variable. There are no significant interaction effects between secularism and the various aspects of economic freedom.

Discussion

This paper takes an exploratory approach to examine how economic freedom and secularism affect women's entrepreneurial motivations cross-culturally. Guided by two framing questions, we organize our discussion using the external enabler framework to situate our research findings and the threefold contributions to the entrepreneurship literature. These external enablers are "distinct, external circumstance[s]" that have "the potential of playing an essential role in eliciting and/or enabling a variety of entrepreneurial endeavours by several (potential) actors" (Davidsson, 2015, p. 683). Informed by new institutionalism, we examined how the rules of the game in terms of economic freedom and secular ideologies configure conditions for women's entrepreneurial action. Broadly, our results indicate that economic freedom is macroeconomic enabler and that secular ideologies is a sociocultural for women's opportunity entrepreneurship (and not necessarily women's necessity entrepreneurship). We view changes in macroeconomic (i.e., economic freedom) and sociocultural enablers (i.e., cultural ideologies) as offering predictability in actionability through uncertainty and legitimation mechanisms, thereby increasing the potential market for women's opportunity entrepreneurship. In other words, the sociocultural element of secularism legitimates women's opportunity entrepreneurship, and the macroeconomic element of economic freedom decreases market uncertainty which reinforces women's opportunity entrepreneurship. Therefore, our findings appear to suggest a model whereby economic freedom and secularism explains women's self-actualization via opportunity entrepreneurship cross-culturally, and not women's necessity entrepreneurship.

More specifically, our findings appear to suggest that international trade freedom is the only component of economic freedom that has a direct and negative effect on both women's opportunity and necessity entrepreneurship. Freedom to trade internationally focuses on tariffs, regulatory trade barriers, black-market exchange rates, and movement of capital and people, and captures whether people can make free exchanges across borders. This understanding of international trade freedom likely favors incumbents (i.e., established) firms in a competitive market environment, which results in a negative link to both women's opportunity and necessity entrepreneurship. Such conditions likely increase market uncertainty for women's opportunity and necessity entrepreneurship, thus decreasing participation among women. Second, our findings identify a direct positive affect of secular ideologies on women's opportunity entrepreneurship. This finding supports research that finds a link between secular values and self-employment (Patel and Wolfe, 2022). In secular societies (i.e. low religiosity), market institutional logics prioritize rationality as a central component of social life, this operates to legitimate women's perceptions of their venturing efforts as opportunity-driven. Third, our findings further suggest that the positive link between economic freedom and women's opportunity entrepreneurship is dependent on secularism. That is, that the benefits of economic freedom are most evident for women's opportunity entrepreneurs in highly secular societies. This finding again supports research by Patel and Wolfe (2022) identifying a dependent relationship between secular values and economic freedom on entrepreneurial activity. Under the circumstances of high secularism, venturing efforts are perceived as opportunistic among women because they are legitimized, thus as economic freedom increases (i.e., legal systems and property rights, sound money and regulation) it likely operates to decrease market uncertainty for transacting. Thus, secularism and economic freedom go hand in hand to enable women's opportunity entrepreneurship cross-culturally, and necessity entrepreneurship is likely enabled by other macroeconomic and sociocultural elements. These findings should not be surprising given that a needs-based view of entrepreneurial motivation (Coffman &

Sunny, 2021; Dencker, Bacq, Gruber, & Haas, 2019) argues that the necessity of entrepreneurship is linked to to-basic needs (i.e., physiological and safety) and the opportunity to higher-level needs (belonging, esteem, and self-actualization) (Maslow, 1954). When secular ideologies dominate, women entrepreneurs will perceive their efforts as opportunities to self-actualize because such behavior is legitimated. Under such circumstances, economic freedom intensifies such opportunities to venture by reduces market uncertainty.

Our research contributes to women's entrepreneurship research in three critical ways. First, we answer calls to better understand the variation within women's entrepreneurship (Jennings & Brush 2013; Marlow 2020) instead of comparing women to men in terms of entrepreneurial activity. Second, our study sheds light on how societies shape the allocation of women's entrepreneurial motivations through their institutional arrangements, particularly in regard to policy (Estrin & Michiewicz 2011; Dencker, Bacq, Gruber, & Haas 2021). We find strong empirical evidence that secularism is cross-culturally linked to women's opportunity entrepreneurship, and the effects of secularism are most pronounced among efficiency and innovation economies. Furthermore, we find strong empirical evidence that the effects of economic freedom for women's opportunity entrepreneurship appear to be dependent on secularism. That is, according to the external enabler framework, the sociocultural enabler of secularism shapes the relationship between macroeconomic enablers of economic freedom (i.e., legal systems and property rights, sound money and regulation). *International Trade Freedom* is the only component of economic freedom with a significant direct (negative) main effect on women's opportunity entrepreneurship and women's necessity entrepreneurship. This suggests that *International Trade Freedom* may favor incumbent firms over new ventures. Our findings also suggest that necessity entrepreneurship is not broadly linked to economic freedom or secular ideologies. This suggests that within the institutional environment, different regulative structures and cultural ideologies affect women's participation in necessity entrepreneurship. Finally, our work does not treat context as something that is "out there" which needs to be defined and measured without regard to the varied ways entrepreneurs might "do context" (Wadhvani et al. 2020). Indeed, "although context enables a demarcation of what is distinctive about situations, it also permits integration across research areas and levels of analysis, identifying what they have in common as settings for organizational behavior" (Johns 2018, p. 21). Hence, our work demonstrates that context is important for understanding when, how, and why women's opportunity happens, since it is a situational opportunity or constraint.

This study also provides some insights for policymakers or entrepreneurial ecosystem agents about how certain components of the economic freedom index (i.e., legal system and property rights, sound money, international trade freedom, and regulations that by nature negatively impact entrepreneurship) have been positively moderated by the influence of current societal ideologies (i.e., secularism) and cross-culturally impacting the women's identification of entrepreneurial opportunities. It opens a window for reinforcing public policies related to those components of economic freedom that negatively impact (women) entrepreneurship (i.e., the formal rules of the game). Likewise, the long-term efforts toward impregnating more inclusive, equal, and sustainable values among entrepreneurial ecosystems' agents (i.e., the informal rules of the game). For *women entrepreneurs*, our study legitimizes their economic contribution and societal transformation of the perceptions towards female entrepreneurs.

Limitations and future research

One important limitation of this study is the period of analysis (from 2006 to 2018). In the 2019 edition, the Global Entrepreneurship Monitor changed the methodology for measuring entrepreneurs' motivations from a binary metric (i.e., opportunity-driven and necessity-driven) to a construct metric (i.e., to make a difference in the world, to build great wealth or very high income, to continue a family tradition, and to earn a living because jobs are scarce). Plausible explanations of this

methodological improvement respond to (a) the theoretical debate for explaining better the motivations for starting or running a new business (Dencker et al. 2021) and (b) the policymaker demands more evidence of the contribution to several of the United Nations Sustainable Development Goals (Bosma et al. 2020, pp. 16). Although this methodological change opens the window for new research opportunities, it limits the use of the most updated GEM datasets to enrich our period of analysis considering the effects of relevant macroeconomic events (e.g., the COVID-19 pandemic and the Turkey-Russia conflict) that have considerably influenced the entrepreneurial activity across the globe (Hill et al., 2023). Future research should continue the design/implementation of novel metrics and theoretical approaches for a better understanding of the interplay between economic freedom, gender ideologies, and contextual motivation for women's entrepreneurship cross-culturally.

Conclusion

Studying women's entrepreneurship allows researchers to ask questions that shed light not only on why women behave the way they do but also on the linkages between entrepreneurship and wealth creation, employment choices and cognition, human capital accumulation and labor market dynamics, and many others. We hope this work encourages scholars to further unpack the diversity of women's entrepreneurial activity from the lens of new institutionalism. As Greene et al. (2006) suggest, what we need is more research on women's entrepreneurship, not a separate theory. Our findings indicate a significant positive effect of secularism and economic freedom on the women's opportunity entrepreneurship across countries.

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Table 1. Study Variables

| Variable | Data Source | Measurement |
|-----------------------------|------------------|--|
| GDP (Current)/100K | World Bank | The sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. |
| % GDP Growth | World Bank | The percent change in real GDP, which corrects the nominal GDP figure for inflation. Real GDP is therefore also referred to as inflation-adjusted GDP or GDP in constant prices. |
| Female Population/100K | World Bank | Female population is the percentage of the population that is female. |
| % Female Unemployment | World Bank | Female unemployment is the percentage of the female population active in the labor force that is unemployed. |
| % Female Labor Force | World Bank | Female labor forces is the percentage of the female population active in the labor force. |
| % Equal Living Standard | GEM APS | Percentage of the of country's population that prefers equal standard of living. |
| % Starting Business Good | GEM APS | Percentage of the country's population that believes starting a business is good is a good career option. |
| % High Status to Success | GEM APS | Percentage of the country's population that believes starting a successful business as high status. |
| % See Opportunity | GEM APS | Percentage of a country's population that sees a business opportunity. |
| % Startup Skills | GEM APS | Percentage of a country's population that believes they have the skills to start a business. |
| % Fear Failure | GEM APS | Percentage of a country's population that fear of failure would stop them from starting a business. |
| Size of Government | Fraser Institute | The extent to which the government intervenes in the economy through consumption, redistribution through transfer schemes, public investments, and marginal taxation |
| Legal System + Prop. Rights | Fraser Institute | The extent to which the government protects and respects the rights of people to their own lives and rightfully acquired property |
| Sound Money | Fraser Institute | The extent to which the government manages the rate and variability of inflation with monetary controls, which is a measure of the consistency of monetary policy. |
| Intl. Trade Freedom | Fraser Institute | The extent of trade and barriers to trade and capital flows, both through actual trade and investment flows and through indicators of tariff and non-tariff barriers to trade and capital. |
| Regulation | Fraser Institute | The extent of freedom from government regulations and controls in the labor market, financial markets, and the price controls in the markets for goods and services |
| Secularism | WVS | Captures secular ideologies by measuring the distance from sacred authority in the domains of religion, the nation, the state, and group pressures. |
| Female Opportunity | GEM APS | Percentage of women's opportunity entrepreneurship in a country. |
| Female Necessity | GEM APS | Percentage of women's necessity entrepreneurship in a country. |

Table 2. Descriptive Statistics

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|-----------------------------|-----|----------|-----------|--------|-----------|
| GDP (Current)/100K | 628 | 10223898 | 24320042 | 16670 | 2.061e+08 |
| % GDP Growth | 628 | 2.83 | 3.507 | -14.3 | 25.176 |
| Female Population/100K | 628 | 418.167 | 1151.167 | 1.471 | 6828.548 |
| % Female Unemployment | 628 | 9.158 | 6.593 | .239 | 35.844 |
| % Female Labor Force | 628 | 50.463 | 12.258 | 12.929 | 83.783 |
| % Equal Living Standard | 628 | 63.28 | 12.054 | 23.207 | 92.038 |
| % Starting Business Good | 628 | 64.982 | 13.389 | 22.808 | 96.156 |
| % High Status to Success | 628 | 69.403 | 11.144 | 23.033 | 100 |
| % See Opportunity | 628 | 41.786 | 16.576 | 2.851 | 85.541 |
| % Startup Skills | 628 | 49.357 | 15.273 | 8.652 | 87.933 |
| % Fear Failure | 628 | 38.813 | 10.054 | 11.823 | 72.347 |
| Size of Government | 628 | 6.542 | 1.106 | 3.286 | 9.443 |
| Legal System + Prop. Rights | 628 | 6.111 | 1.475 | 2.52 | 8.998 |
| Sound Money | 628 | 8.667 | 1.15 | 2.47 | 9.922 |
| Intl. Trade Freedom | 628 | 7.525 | 1.145 | 2.583 | 9.655 |
| Regulation | 628 | 7.204 | .935 | 4.353 | 9.401 |
| Secularism | 628 | .381 | .079 | .095 | .564 |
| Female Opportunity | 628 | 6.457 | 5.041 | .133 | 30.022 |
| Female Necessity | 628 | 2.766 | 3.01 | 0 | 20.138 |

Table 3. Pairwise correlations

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|----------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| (1) GDP (Current)/100K | 1 | | | | | | | | |
| (2) % GDP Growth | 0.012 | 1 | | | | | | | |
| (3) Female Population/100K | 0.513* | 0.277* | 1 | | | | | | |
| (4) % Female Unemployment | -0.165* | -0.216* | -0.159* | 1 | | | | | |
| (5) % Female Labor Force | 0.102* | 0.113* | -0.06 | -0.465* | 1 | | | | |
| (6) % Equal Living Standard | -0.245* | -0.067 | -0.202* | 0.105* | 0.014 | 1 | | | |
| (7) % Starting Business Good | -0.147* | 0.187* | -0.01 | 0.144* | -0.089* | 0.300* | 1 | | |
| (8) %Starting Business Good | -0.016 | 0.104* | 0.025 | 0.02 | 0.021 | 0.146* | 0.402* | 1 | |
| (9) % See Opportunity | -0.109* | 0.338* | -0.019 | -0.162* | 0.166* | -0.014 | 0.423* | 0.357* | 1 |
| (10) % Startup Skills | -0.222* | 0.077 | -0.143* | 0.127* | -0.025 | 0.200* | 0.538* | 0.281* | 0.526* |
| (11) % Fear Failure | 0.002 | -0.126* | 0.005 | 0.043 | -0.003 | 0.099* | -0.171* | -0.090* | -0.338* |
| (12) Size of Government | -0.047 | 0.223* | -0.026 | -0.217* | 0.033 | 0.055 | 0.277* | 0.129* | 0.218* |
| (13) Legal System + Prop. Rights | 0.186* | -0.205* | -0.132* | -0.160* | 0.353* | -0.055 | -0.476* | -0.188* | -0.203* |
| (14) Sound Money | 0.153* | -0.175* | -0.143* | -0.121* | 0.199* | -0.019 | -0.346* | -0.206* | -0.292* |
| (15) Intl. Trade Freedom | 0.001 | -0.128* | -0.297* | -0.158* | 0.267* | 0.108* | -0.202* | -0.202* | -0.178* |
| (16) Regulation | 0.115* | -0.076 | -0.231* | -0.197* | 0.331* | -0.098* | -0.325* | -0.161* | -0.048 |
| (17) Secularism | 0.083* | -0.125* | -0.045 | -0.168* | 0.370* | 0.037 | -0.358* | -0.327* | -0.285* |
| (18) Female Opportunity | -0.071 | 0.245* | 0.004 | -0.242* | 0.370* | 0.032 | 0.357* | 0.228* | 0.568* |
| (19) Female Necessity | -0.107* | 0.267* | 0.074 | -0.032 | 0.210* | 0.069 | 0.431* | 0.223* | 0.460* |

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

| Variables | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | -19 |
|----------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|--------|-----|
| (1) GDP (Current)/100K | | | | | | | | | | |
| (2) % GDP Growth | | | | | | | | | | |
| (3) Female Population/100K | | | | | | | | | | |
| (4) % Female Unemployment | | | | | | | | | | |
| (5) % Female Labor Force | | | | | | | | | | |
| (6) % Equal Living Standard | | | | | | | | | | |
| (7) % Starting Business Good | | | | | | | | | | |
| (8) %Starting Business Good | | | | | | | | | | |
| (9) % See Opportunity | | | | | | | | | | |
| (10) % Startup Skills | 1 | | | | | | | | | |
| (11) % Fear Failure | -0.418* | 1 | | | | | | | | |
| (12) Size of Government | 0.331* | -0.202* | 1 | | | | | | | |
| (13) Legal System + Prop. Rights | -0.487* | 0.184* | -0.250* | 1 | | | | | | |
| (14) Sound Money | -0.342* | 0.251* | -0.069 | 0.636* | 1 | | | | | |
| (15) Intl. Trade Freedom | -0.244* | 0.190* | -0.013 | 0.637* | 0.751* | 1 | | | | |
| (16) Regulation | -0.283* | 0.079* | 0.018 | 0.677* | 0.544* | 0.629* | 1 | | | |
| (17) Secularism | -0.393* | 0.149* | -0.214* | 0.506* | 0.374* | 0.344* | 0.302* | 1 | | |
| (18) Female Opportunity | 0.592* | -0.278* | 0.385* | -0.383* | -0.278* | -0.218* | -0.143* | -0.235* | 1 | |
| (19) Female Necessity | 0.590* | -0.302* | 0.358* | -0.498* | -0.361* | -0.334* | -0.322* | -0.260* | 0.744* | 1 |

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 4. Fixed-effects linear regression model for female opportunity entrepreneurship

| Variables | (1) Model 1 | (2) Model 2 | (3) Model 3 | (4) Model 4 | (5) Model 5 | (6) Model 6 | (7) Model 7 |
|--|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| GDP (Current)/100K | -2.08e-09 (1.18e-08) | -1.08e-08 (1.17e-08) | -1.35e-08 (1.12e-08) | -1.28e-08 (9.27e-09) | -1.40e-08 (1.07e-08) | -8.03e-09 (1.08e-08) | -1.20e-08 (1.01e-08) |
| % GDP Growth | -0.0673* (0.0373) | -0.0543 (0.0364) | -0.0623* (0.0368) | -0.0596 (0.0362) | -0.0549 (0.0362) | -0.0558 (0.0375) | -0.0532 (0.0359) |
| Female Population/100K | -0.00270 (0.00236) | -0.00262 (0.00237) | -0.00245 (0.00229) | -0.00308 (0.00232) | -0.00202 (0.00225) | -0.00333 (0.00249) | -0.00274 (0.00228) |
| % Female Unemployment | -0.0924** (0.0454) | -0.0846* (0.0501) | -0.0891* (0.0512) | -0.0915* (0.0498) | -0.0954* (0.0495) | -0.0930* (0.0505) | -0.0751 (0.0534) |
| % Female Labor Force | 0.0293 (0.0786) | 0.0210 (0.0859) | 0.00633 (0.0871) | 0.0206 (0.0802) | 0.0426 (0.0860) | 0.0168 (0.0851) | 0.0332 (0.0841) |
| % Equal Living Standard | -0.0130 (0.0179) | -0.0138 (0.0175) | -0.0151 (0.0180) | -0.0134 (0.0174) | -0.0153 (0.0176) | -0.0169 (0.0179) | -0.0169 (0.0171) |
| % Starting Business Good | -0.0135 (0.0209) | -0.0169 (0.0191) | -0.0179 (0.0198) | -0.0150 (0.0190) | -0.0184 (0.0189) | -0.0161 (0.0190) | -0.0161 (0.0190) |
| % High Status to Success | 0.0248 (0.0211) | 0.0244 (0.0217) | 0.0235 (0.0220) | 0.0252 (0.0212) | 0.0246 (0.0209) | 0.0251 (0.0214) | 0.0230 (0.0213) |
| % See Opportunity | 0.0487*** (0.0134) | 0.0486*** (0.0133) | 0.0492*** (0.0134) | 0.0471*** (0.0131) | 0.0449*** (0.0131) | 0.0459*** (0.0134) | 0.0442*** (0.0138) |
| % Startup Skills | 0.0559** (0.0217) | 0.0510** (0.0225) | 0.0526** (0.0228) | 0.0464** (0.0224) | 0.0521** (0.0222) | 0.0508** (0.0224) | 0.0476** (0.0221) |
| % Fear Failure | -0.00593 (0.0203) | -0.00494 (0.0200) | -0.00852 (0.0215) | -0.0126 (0.0201) | -0.00830 (0.0195) | -0.00712 (0.0199) | -0.0126 (0.0196) |
| 2007 | -0.798 (0.709) | -0.816 (0.710) | -0.897 (0.749) | -0.953 (0.696) | -0.929 (0.679) | -0.883 (0.703) | -0.921 (0.726) |
| 2008 | -0.851 (0.730) | -0.718 (0.716) | -0.759 (0.736) | -0.802 (0.699) | -0.801 (0.686) | -0.753 (0.707) | -0.736 (0.734) |
| 2009 | -0.710 (0.877) | -0.555 (0.860) | -0.583 (0.872) | -0.705 (0.844) | -0.751 (0.839) | -0.657 (0.857) | -0.660 (0.871) |
| 2010 | -0.821 (0.679) | -0.764 (0.720) | -0.742 (0.732) | -0.866 (0.688) | -0.874 (0.687) | -0.823 (0.705) | -0.867 (0.736) |
| 2011 | -0.284 (0.802) | -0.319 (0.810) | -0.289 (0.826) | -0.287 (0.791) | -0.417 (0.791) | -0.301 (0.799) | -0.394 (0.819) |
| 2012 | 0.0955 (0.772) | -0.0661 (0.806) | -0.0367 (0.820) | -0.0498 (0.778) | -0.209 (0.783) | -0.0909 (0.794) | -0.166 (0.810) |
| 2013 | 0.383 (0.711) | 0.307 (0.739) | 0.324 (0.751) | 0.279 (0.717) | 0.132 (0.721) | 0.265 (0.727) | 0.186 (0.743) |
| 2014 | 0.544 (0.750) | 0.516 (0.790) | 0.544 (0.803) | 0.537 (0.768) | 0.348 (0.771) | 0.437 (0.786) | 0.404 (0.803) |
| 2015 | 0.620 (0.722) | 0.500 (0.778) | 0.541 (0.789) | 0.558 (0.758) | 0.314 (0.766) | 0.461 (0.773) | 0.371 (0.785) |
| 2016 | 1.006 (0.616) | 0.966 (0.642) | 0.957 (0.657) | 0.889 (0.619) | 0.743 (0.624) | 0.820 (0.637) | 0.772 (0.656) |
| 2017 | 1.270* (0.762) | 1.238 (0.761) | 1.148 (0.800) | 1.143 (0.756) | 1.016 (0.743) | 1.118 (0.762) | 0.920 (0.784) |
| 2018 | 0.898 (0.723) | 0.892 (0.721) | 0.799 (0.752) | 0.765 (0.699) | 0.666 (0.691) | 0.724 (0.713) | 0.619 (0.748) |
| Size of Government | | 0.147 (0.386) | -1.584 (1.567) | 0.200 (0.385) | 0.0757 (0.388) | 0.0685 (0.391) | 0.125 (0.409) |
| Legal System + Prop. Rights | | -0.0874 (0.796) | -0.140 (0.776) | -3.522*** (1.320) | -0.125 (0.755) | -0.171 (0.784) | -0.322 (0.760) |
| Sound Money | | 0.313 (0.265) | 0.312 (0.254) | 0.316 (0.249) | -1.598** (0.685) | 0.315 (0.257) | 0.346 (0.249) |
| Intl. Trade Freedom | | -0.599** (0.285) | -0.593** (0.282) | -0.615** (0.290) | -0.652** (0.286) | -2.321** (1.087) | -0.599** (0.287) |
| Regulation | | 0.136 (0.321) | 0.139 (0.320) | 0.189 (0.305) | 0.145 (0.310) | 0.175 (0.309) | -2.919*** (0.959) |
| Secularism | | 10.07* (5.347) | -21.24 (23.74) | -37.47*** (13.33) | -35.43*** (12.56) | -21.62 (17.72) | -46.24*** (16.57) |
| Size of Government x Secularism | | | 4.908 (3.862) | | | | |
| Legal System + Prop. Rights x Secularism | | | | 8.407*** (2.161) | | | |
| Sound Money x Secularism | | | | | 5.688*** (1.692) | | |
| Intl. Trade Freedom x Secularism | | | | | | 4.655* (2.579) | |
| Regulation x Secularism | | | | | | | 8.333*** (2.483) |
| Constant | 2.442 (5.942) | -0.123 (7.893) | 12.27 (15.63) | 19.04* (10.65) | 15.19 (10.19) | 13.09 (12.78) | 21.95** (10.46) |
| Observations | 628 | 628 | 628 | 628 | 628 | 628 | 628 |
| R-squared | 0.188 | 0.209 | 0.213 | 0.226 | 0.222 | 0.214 | 0.223 |
| Number of Countries | 98 | 98 | 98 | 98 | 98 | 98 | 98 |

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table 5. Fixed-effects linear regression model for female necessity entrepreneurship

| VARIABLES | (1) Model 1 | (2) Model 2 | (3) Model 3 | (4) Model 4 | (5) Model 5 | (6) Model 6 | (7) Model 7 |
|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| GDP (Current)/100K | -3.99e-08*** (1.28e-08) | -4.47e-08*** (1.33e-08) | -4.65e-08*** (1.29e-08) | -4.50e-08*** (1.30e-08) | -4.57e-08*** (1.31e-08) | -4.32e-08*** (1.26e-08) | -4.49e-08*** (1.30e-08) |
| % GDP Growth | -0.0150 (0.0325) | -0.00660 (0.0318) | -0.0117 (0.0333) | -0.00723 (0.0319) | -0.00676 (0.0318) | -0.00742 (0.0318) | -0.00640 (0.0317) |
| Female Population/100K | 0.00108 (0.00159) | 0.000863 (0.00183) | 0.000970 (0.00184) | 0.000808 (0.00183) | 0.00104 (0.00181) | 0.000468 (0.00195) | 0.000842 (0.00182) |
| % Female Unemployment | 0.0582* (0.0325) | 0.0824** (0.0386) | 0.0796* (0.0415) | 0.0816** (0.0389) | 0.0793** (0.0384) | 0.0777** (0.0382) | 0.0841** (0.0381) |
| % Female Labor Force | -0.0712 (0.0693) | -0.0576 (0.0706) | -0.0669 (0.0700) | -0.0577 (0.0707) | -0.0513 (0.0716) | -0.0600 (0.0706) | -0.0555 (0.0695) |
| % Equal Living Standard | 0.0164 (0.0121) | 0.0175 (0.0116) | 0.0167 (0.0117) | 0.0176 (0.0116) | 0.0171 (0.0117) | 0.0158 (0.0119) | 0.0170 (0.0115) |
| % Starting Business Good | 0.0123 (0.0126) | 0.00786 (0.0124) | 0.00726 (0.0122) | 0.00809 (0.0125) | 0.00743 (0.0125) | 0.00829 (0.0123) | 0.00800 (0.0125) |
| % High Status to Success | -0.00322 (0.0121) | -0.00582 (0.0128) | -0.00638 (0.0125) | -0.00573 (0.0127) | -0.00577 (0.0127) | -0.00542 (0.0128) | -0.00607 (0.0127) |
| % See Opportunity | 0.00981 (0.00848) | 0.0134 (0.00829) | 0.0137* (0.00809) | 0.0132 (0.00831) | 0.0123 (0.00832) | 0.0118 (0.00823) | 0.0126 (0.00860) |
| % Startup Skills | 0.0163 (0.0125) | 0.0143 (0.0120) | 0.0153 (0.0120) | 0.0137 (0.0120) | 0.0146 (0.0120) | 0.0142 (0.0120) | 0.0137 (0.0122) |
| % Fear Failure | -0.00413 (0.0153) | 0.00175 (0.0118) | -0.000517 (0.0119) | 0.000835 (0.0120) | 0.000765 (0.0119) | 0.000529 (0.0119) | 0.000420 (0.0116) |
| 2007 | 0.102 (0.348) | 0.149 (0.331) | 0.0977 (0.328) | 0.133 (0.330) | 0.116 (0.335) | 0.112 (0.336) | 0.131 (0.320) |
| 2008 | 0.00921 (0.414) | 0.212 (0.432) | 0.187 (0.431) | 0.202 (0.433) | 0.188 (0.436) | 0.193 (0.432) | 0.209 (0.431) |
| 2009 | 0.0838 (0.454) | 0.372 (0.519) | 0.355 (0.519) | 0.355 (0.520) | 0.315 (0.523) | 0.315 (0.524) | 0.354 (0.519) |
| 2010 | -0.131 (0.427) | 0.122 (0.469) | 0.136 (0.464) | 0.110 (0.469) | 0.0895 (0.473) | 0.0891 (0.475) | 0.104 (0.468) |
| 2011 | 0.0975 (0.345) | 0.224 (0.353) | 0.242 (0.345) | 0.227 (0.352) | 0.195 (0.356) | 0.233 (0.353) | 0.211 (0.353) |
| 2012 | -0.00637 (0.320) | 0.00725 (0.325) | 0.0258 (0.318) | 0.00917 (0.325) | -0.0344 (0.330) | -0.00657 (0.328) | -0.0101 (0.323) |
| 2013 | 0.0671 (0.385) | 0.189 (0.370) | 0.199 (0.365) | 0.185 (0.370) | 0.137 (0.374) | 0.165 (0.374) | 0.168 (0.365) |
| 2014 | 0.353 (0.397) | 0.532 (0.390) | 0.550 (0.381) | 0.535 (0.391) | 0.484 (0.396) | 0.489 (0.399) | 0.513 (0.385) |
| 2015 | 0.537 (0.384) | 0.663 (0.430) | 0.689 (0.421) | 0.670 (0.431) | 0.609 (0.434) | 0.641 (0.435) | 0.640 (0.427) |
| 2016 | 0.285 (0.402) | 0.468 (0.415) | 0.463 (0.403) | 0.459 (0.416) | 0.403 (0.413) | 0.387 (0.418) | 0.435 (0.414) |
| 2017 | 0.475 (0.426) | 0.730* (0.417) | 0.673 (0.405) | 0.718* (0.416) | 0.665 (0.412) | 0.662 (0.409) | 0.674 (0.420) |
| 2018 | 0.694 (0.476) | 0.939* (0.488) | 0.880* (0.494) | 0.924* (0.489) | 0.873* (0.474) | 0.845* (0.469) | 0.891* (0.502) |
| Size of Government | | 0.451 (0.465) | -0.644 (1.322) | 0.457 (0.465) | 0.430 (0.461) | 0.407 (0.455) | 0.447 (0.471) |
| Legal System + Prop. Rights | | 0.280 (0.424) | 0.247 (0.408) | -0.127 (0.775) | 0.270 (0.427) | 0.234 (0.420) | 0.240 (0.434) |
| Sound Money | | 0.0429 (0.308) | 0.0425 (0.304) | 0.0432 (0.306) | -0.516 (0.576) | 0.0437 (0.303) | 0.0486 (0.307) |
| Intl. Trade Freedom | | -0.791** (0.325) | -0.788** (0.334) | -0.793** (0.325) | -0.807** (0.324) | -1.751* (0.955) | -0.791** (0.327) |
| Regulation | | -0.0148 (0.283) | -0.0130 (0.285) | -0.00851 (0.282) | -0.0121 (0.281) | 0.00704 (0.284) | -0.545 (0.965) |
| Secularism | | 1.278 (2.732) | -18.51 (18.07) | -4.356 (9.467) | -12.02 (11.40) | -16.39 (13.77) | -8.488 (15.67) |
| Size of Government x Secularism | | | 3.103 (2.801) | | | | |
| Legal System + Prop. Rights x Secularism | | | | 0.996 (1.510) | | | |
| Sound Money x Secularism | | | | | 1.663 (1.293) | | |
| Intl. Trade Freedom x Secularism | | | | | | 2.595 (1.960) | |
| Regulation x Secularism | | | | | | | 1.445 (2.254) |
| Constant | 2.968 (3.518) | 2.674 (5.275) | 10.51 (9.356) | 4.945 (6.562) | 7.149 (6.355) | 10.04 (8.283) | 6.503 (8.851) |
| Observations | 628 | 628 | 628 | 628 | 628 | 628 | 628 |
| R-squared | 0.078 | 0.129 | 0.135 | 0.130 | 0.133 | 0.134 | 0.131 |
| Number of countries | 98 | 98 | 98 | 98 | 98 | 98 | 98 |

Figure 1. External Enabler Framework and Study Findings

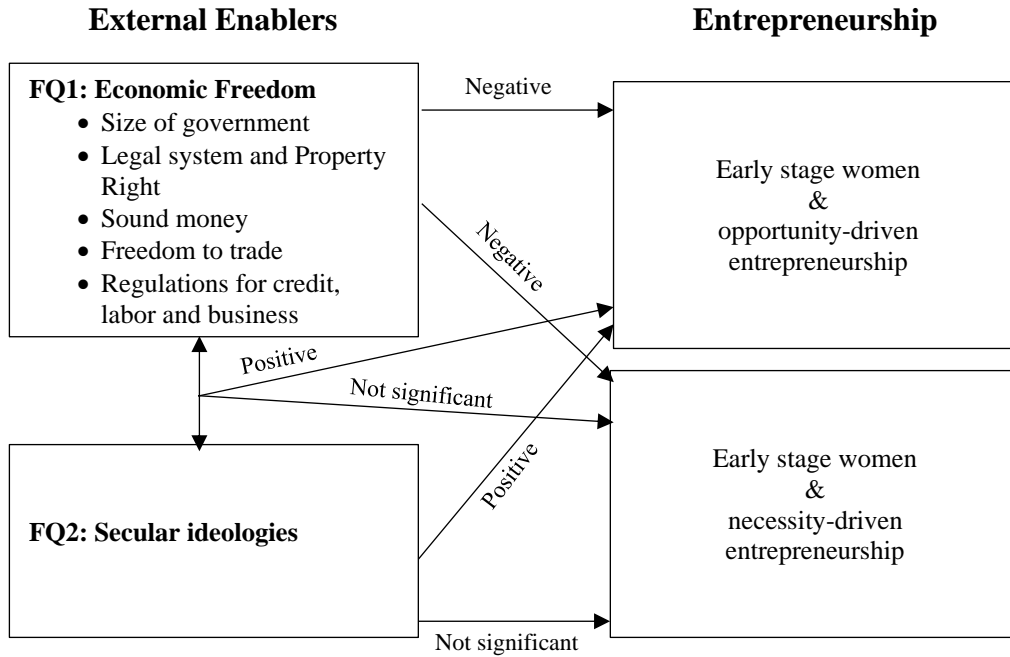


Figure 2. Legal System + Property Rights and Secularism Interaction

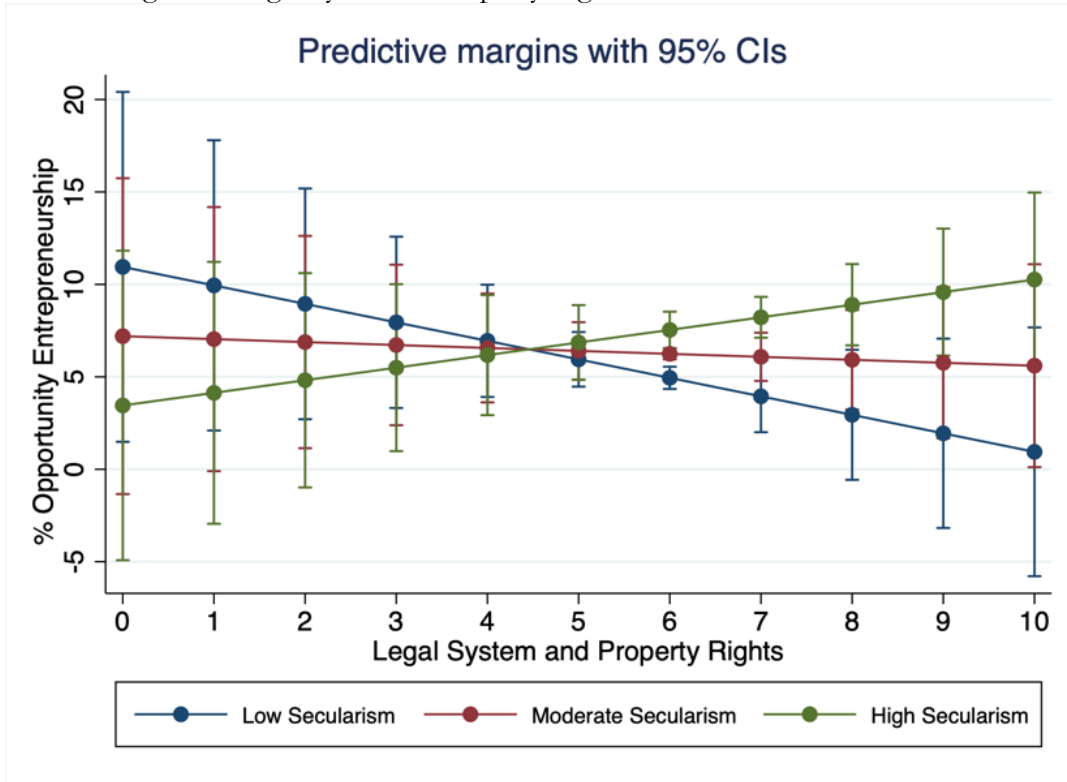


Figure 3. Sound Money and Secularism Interaction

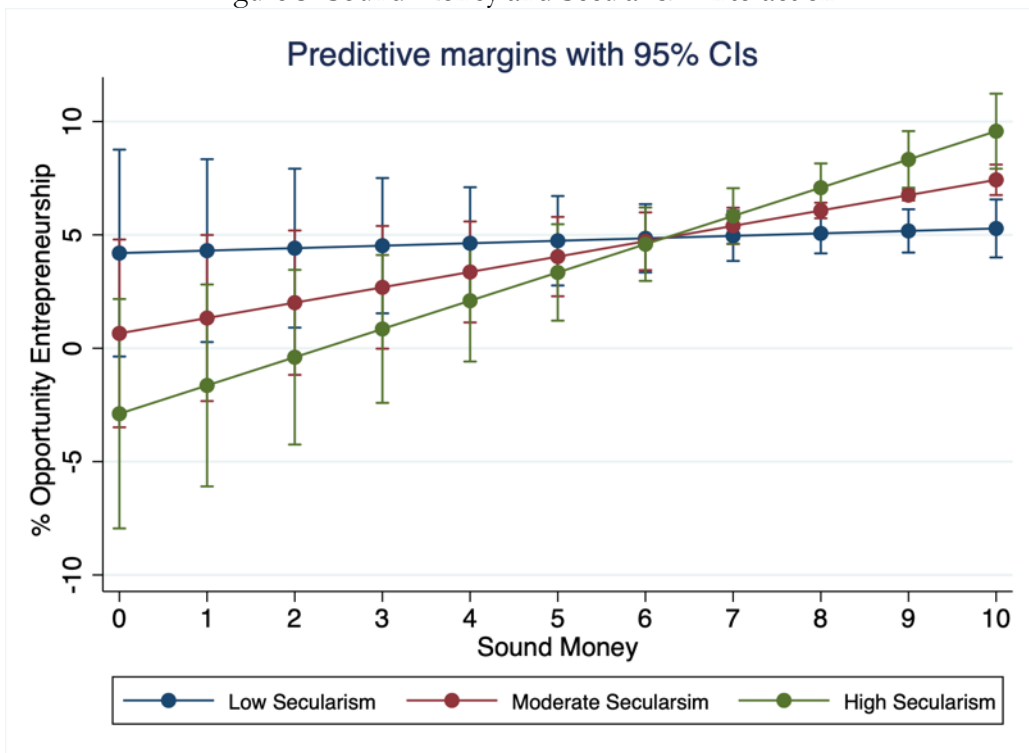


Figure 4. International Trade Freedom and Secularism Interaction

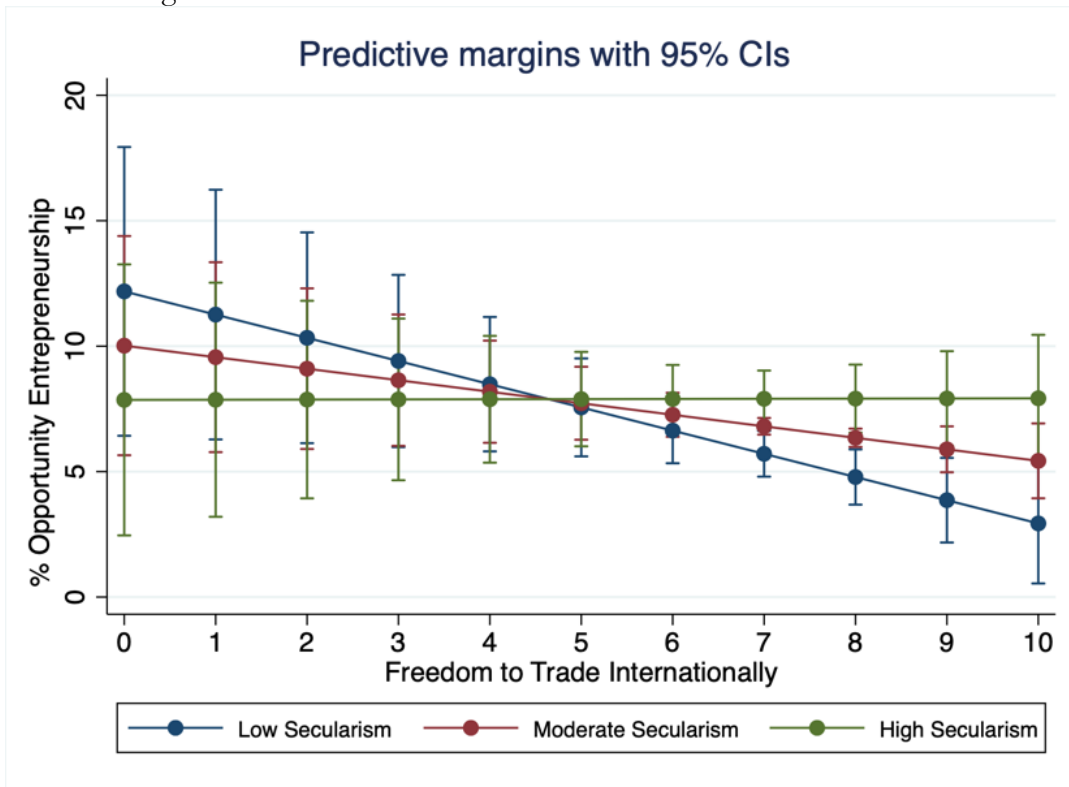


Figure 5. Regulation and Secularism Interaction

