

Reassessing the linkages among entrepreneurship, institutions and growth

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This article examines the role of institutions and entrepreneurship to foster economic development under increasing complex economic structures caused by structural changes. The empirical work utilizes data from several sources including the Penn World Table 9.1, The Global Entrepreneurship and Development Institute, the Observatory of Economic Complexity (OEC) at the MIT, and The International Country Risk Guide (ICRG). The empirical work circumvents the endogeneity and heterogeneity problem that plague cross-country regressions by using the [Arellano and Bover \(1995\)](#) and [Blundell and Bond \(1998\)](#) system GMM estimator. The results show that while entrepreneurship is positively correlated to economic development, this correlation disappears when controlling for heterogeneity and/or for differences in quality of institutions. There is also evidence that the importance of institutional quality for economic development increases when an economy become more complex. Overall, findings of this research suggest that quality of institutions is not only important to foster entrepreneurship, but also very important to mediate complex economic structures that emerge as part of the development process and structural changes. The main policy implication of this work is that economies in transition must take steps to improve the quality of their institutions, particularly of institutions that enable productive entrepreneurship and mediate the increased complexity resulting from the inherent structural transformation associated with economic development.

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1. Introduction

There is somewhat of a consensus in the literature that quality of institutions and entrepreneurship are key drivers of economic growth and development. Research from renowned economists including [North \(1990\)](#), [Engerman and Sokoloff \(1997; 2008\)](#), [Hall and Jones \(1999\)](#), [Rodrik \(2000; 2003\)](#), [Sala-i Martin \(2002\)](#), [Easterly and Levine \(2003\)](#), [Gradstein \(2002\)](#), [Glaeser et al. \(2004\)](#) and [Acemoglu et al. \(2001; 2005\)](#) all make a strong case that quality of institutional arrangements play a key role in explaining long-run economic performance. The relevance of entrepreneurship for economic

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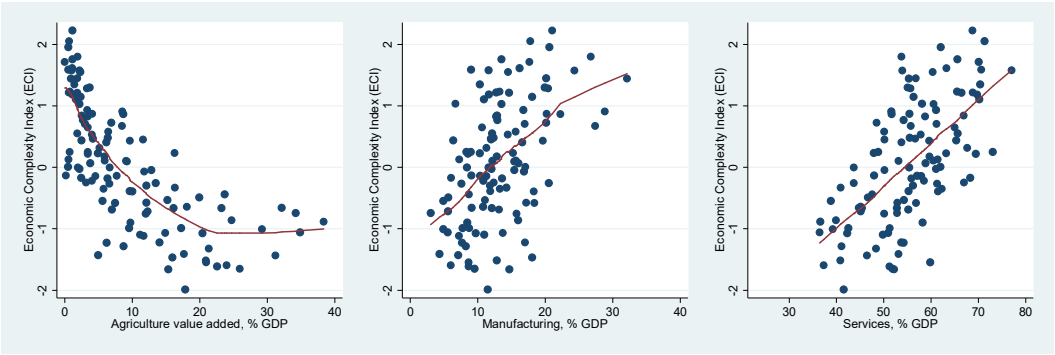


Figure 1. Economic Complexity and sector size, 2017.

growth has been emphasized by [Adam Smith \(1776\)](#), [Schumpeter \(1934\)](#) and [Hayek \(1988\)](#). In addition, during the last decades economists have taken significant steps to introduce entrepreneurship in their theoretical and empirical models, leading to a rich literature dedicated to examining the role of entrepreneurship as a driver of economic growth ([Baumol, 1996](#); [Kirzner, 1997](#); [Acs and Audretsch, 2010](#); [Lazear, 2005](#); [Dias and McDermott, 2006](#)). These efforts have also led some researchers to make strong statements such as that “the entrepreneur is the single most important player in a modern economy” ([Lazear, 2005](#), p. 649). The literature also makes it clear that there is an inherent link between entrepreneurship activity and the institutional environment. Institutions can either encourage or discourage productive entrepreneurship and, thus, affect an economy’s growth path. According to [Henrekson \(2007\)](#), “entrepreneurs and entrepreneurial behavior can only be evaluated given the institutional context” (p. 5).

The literature examining quality of institutions and entrepreneurship, however, is built under a rather static view of institutional arrangements and of the structural environment in which entrepreneurs operate. Quality of institutions, the economic structure, and entrepreneurship are all simultaneously determined within a circular endogenous model. It is common knowledge that the degree of economic complexity¹ in which economic agents make decisions is determined by the stage of industrial development, thus economic agents including entrepreneurs face constraints that are determined by the stage of industrial development of an economy. The process of structural transformation, however, might impact the role that institutions play in the economy, fundamentally alter the economic system, and lead to a reorganization of the production structure. In particular, economies that manage to take advantage of new technologies have historically moved away from low-complexity agri-based production toward relatively more complex production structures and economic activities that can only take place within modern manufacturing and services sectors (see [Figure 1](#)).

Entrepreneurship is also correlated with the stages and process of structural transformation. Agri-based economies are not only engaged in the production of less complex products, but they also tend to have lower entrepreneurial activity. Developed

¹Economic Complexity refers to the relative knowledge intensity of an economy ([Simoes and Hidalgo, 2011](#)).

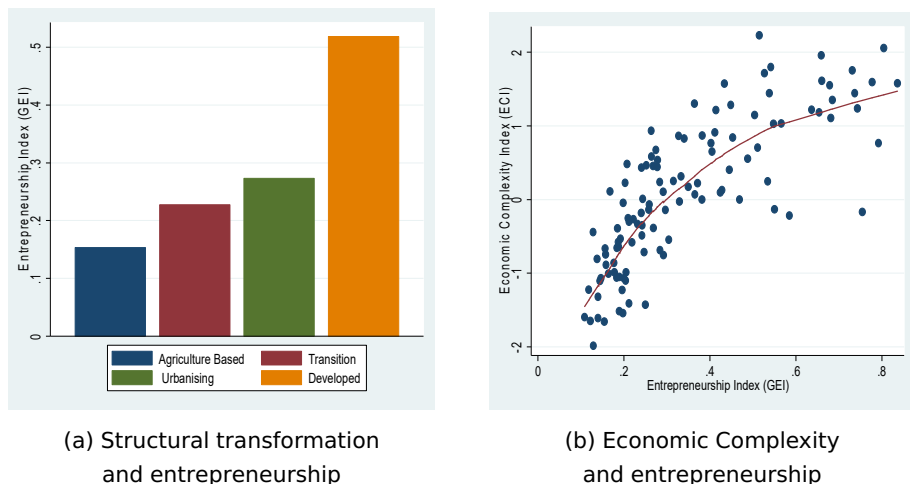


Figure 2. Structural transformation, entrepreneurship, and economic complexity, 2016.

economies, on the other hand, are engaged in the production of far more complex products and tend to report much higher rates of entrepreneurial activity (see Figure 2).

The simultaneity among quality of institutions, entrepreneurship, and the process of structural transformation presented above not only creates difficult empirical and theoretical problems to solve, but it also offers research opportunities that can shed further light on the mechanisms of economic growth. This research tackles this issue and contributes to the literature by providing an empirical analysis of how structural changes impact economic development and the role of institutions and entrepreneurs to support and foster economic development under increasingly complex economic structures. The analysis circumvents the endogeneity and heterogeneity problem that plague cross-country regressions by using the [Arellano and Bover \(1995\)](#) and [Blundell and Bond \(1998\)](#) system GMM estimator. The regression analysis is performed using a panel data set from 1984 to 2016 compiled using data from the Penn World Table 9.1, the World Bank World Development Indicators (WDI), The Global Entrepreneurship and Development Institute, the Observatory of Economic Complexity (OEC) at the MIT, and The International Country Risk Guide (ICRG).

2. Theoretical framework

There is a growing interest and focus in entrepreneurship as tool to promote economic development from both researchers and development organizations. A search on Econlit² for “(entrepreneurship OR entrepreneur) AND development” in the title of the academic work generated 7,426 records between 1990 and 2022, including 4,324 academic journal articles, 2,047 collective volume articles, 523 working papers, 427 books, and 96 dissertations. A report by the Independent Evaluation Group ([IEG, 2014](#)) of the World Bank “identified an investment portfolio of \$18.7 billion in innovation and entrepreneurship interventions over the past decade across the World Bank Group.” (p. ix).

²The search was conducted on 01/16/2023 through the EBSCOHost Portal.

This unwavering belief that entrepreneurship is relevant to foster economic development and large research portfolio are rooted in a body of literature based on [Schumpeter \(1934\)](#) and [Kirzner \(1973\)](#). These authors provide competing, yet complementary, theoretical views linking entrepreneurship to economic development and build their models based on the assumption that entrepreneurship is driven by self-interest (returns). [Schumpeter's \(1934\)](#) creative destruction process is developed on the idea that entrepreneurs create new opportunities that move the technological frontier and disturb an existing equilibrium. Schumpeterian entrepreneurship, thus, is more likely to take place in economies that are operating at or close to the technological frontier. [Kirzner \(1973\)](#), on the other hand, develops a framework where entrepreneurs seek opportunities where others have failed by adaptation and adoption of available ideas. Kirznerian entrepreneurship, thus, would be relevant for economies in transition, particularly incomplete transformers, and would contribute to move the economy towards equilibrium.

Quality of institutions, however, plays a critical role in determining the payoff of entrepreneurial activity, thus it is hard to conceive an assessment of the role and impact of entrepreneurship on economic development without considering the quality of institutions ([Henrekson, 2007](#)). More precisely, in pursuit of rents, individuals who engage in entrepreneurial behavior are confronted with a practical dilemma where they may have to choose to spend resources to engage in productive activities or to circumvent poor institutional arrangements that limit their capacity to use resources to productive activities. One could argue that it takes a lot of entrepreneurial efforts to successfully operate in economies where quality of institutions is poor, thus corruption, black markets, restrictive regulations, poor protection of property rights, etc. can all negatively impact productive activities and lead to an increase of predatory, destructive, and unproductive entrepreneurial behaviors ([Henrekson, 2007](#)). [Tebaldi and Elmslie \(2008; 2013\)](#) develop a model in which entrepreneurs face institutional-related constraints that prevent them from efficiently using some/all of the new technologies. These institutional-related constraints lower the return to productive entrepreneurial activity and may cause an economy to operate inside its production possibilities frontier. In line with this view, empirical work by [Shami \(2019\)](#) finds that the quality of institutions plays a central role in increasing productive entrepreneurship. [Parente and Prescott \(2002\)](#) argue that economic growth is hindered by government regulations and protection of monopoly rights that serve as “strong barriers to the adoption of better technologies,” (p. 104) which are critical to promote growth and improve standards of living.

Another branch of related literature is concerned with changes in the economic structure and its relationships with entrepreneurship and quality of institutions. This literature was pioneered by [Kuznets \(1971\)](#) and [Baumol \(1996\)](#) and views structural changes as a factor that influences growth. The idea that the economic structure is related to growth is also present in endogenous growth models ([Romer, 1990](#); [Noseleit, 2013](#)). Entrepreneurs play a key role in this literature because they are ultimately the economic agents that respond to structural changes and make decisions about investment and resource allocation across sectors, which may contribute to accelerate

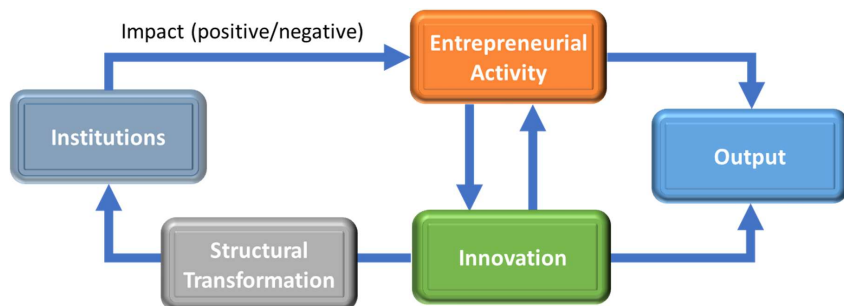


Figure 3. A schematic model economy

the economic transformations that spurred their initial investment decisions. The structural transformation itself, however, may generate social and economic costs because it increases the complexity of the economy (causing institutional obsolescence) and may create a situation in which entrepreneurs incorrectly perceive the impacts of the structural transformation and consequently make investment in unproductive activities [Zagler \(2023\)](#); [Noseleit \(2013\)](#). The quality of institutions, thus, is particularly important to determine how entrepreneurs will respond to changes in the economic structure and how they adjust to changes in economic complexity triggered by the by the structural transformation.

Figure 3 provides a schematic representation of the linkages discussed above and shows a hypothetical economy where innovation, structural changes, institutions, and entrepreneurship are simultaneously determined. While innovation and entrepreneurship are closely linked and are directly responsible for output production, they are inherently impacted by the quality of institutions. The underlying interpretation of this diagram is that innovation changes the production structure, triggering a structural transformation that leads to increased complexity of socio-economic relationships and production. This suggests that innovation may cause current institutions to become relatively obsolete and may no longer be well-suited to mediate the increased economic complexity and support productive entrepreneurship, thus demanding a new institutional structure to support entrepreneurship and future innovation activity. This framework ignores the role of initial conditions, which is particularly important to shape institutions ([Engerman and Sokoloff, 2008](#); [Acemoglu et al., 2001](#); [2005](#)). Given that initial conditions are pre-determined, this circular model allows considering dynamic changes that take place endogenously.

3. Methods and Data

Empirical work examining the relationships between economic complexity, entrepreneurship and quality of institutions and their impacts on economic development are subject to severe limitations including data gaps and methodological statistical challenges. This paper follows the work of [Tebaldi and Alda \(2017\)](#), [Davis \(2016\)](#), [Tebaldi and Mohan \(2010\)](#), [Hall and Jones \(1999\)](#) and [Acemoglu et al. \(2001\)](#) and rather than including several covariates in the regressions, it provides a set of parsimonious regressions that

examines the impact of deep factors including quality of institutions, entrepreneurship, and economic complexity (a proxy for structural change) on economic development (GDP per capita). In addition, there is strong consensus in the literature that institutions change slowly and smoothly over time, thus changes in annual measures of institutional quality are plagued by noise and measurement errors. To avoid these issues, the model is estimated using three three-year intervals.

The simultaneity and dynamic nature of the variables under consideration requires methods that circumvent the inherent endogeneity and heterogeneity that plagues cross-country studies. This research utilizes the following dynamic specification:

$$y_{i,t} = \gamma y_{i,t-1} + w_{i,t} \alpha + \eta_i + u_{i,t}, \quad (1)$$

where i denotes country, t denotes time, y is real output per worker (PPP), a proxy for the economic development, w is a vector of endogenous and exogenous variables (e.g. time dummies), γ and α (vector) are coefficients, η represents the unobserved heterogeneity, and u is the error term. [Arellano and Bond \(1991\)](#) developed a method to estimate the model above using the generalized method of moments (GMM). The method consists of differentiating equation (1) in order to eliminate the heterogeneity, that is:

$$\Delta y_{i,t} = \gamma \Delta y_{i,t-1} + \Delta w_{i,t} \alpha + \Delta u_{i,t} \quad (2)$$

Equations (1) and (2) form a system that can be estimated using moment conditions with lagged levels of all variables used as instruments for equation (1). [Arellano and Bover \(1995\)](#) and [Blundell and Bond \(1998\)](#) show that this GMM estimator performs quite poorly when the autoregressive process is too persistent. They propose an estimator that uses moment conditions with both lagged differences used as instruments for the level equation and moment conditions of lagged levels used as instruments for the differenced equation. This estimator, however, requires that the second-order autoregressive (AR2) process on the panel residuals should be zero (otherwise, the errors are serially correlated, which invalidates the model).³ The model is estimated using the system GMM estimator proposed by [Blundell and Bond \(1998\)](#).

This research utilizes data from several sources including PWT 9.1, the Global Entrepreneurship and Development Institute and from the Observatory of Economic Complexity (OEC) at the MIT, and The International Country Risk Guide (ICRG). Real GDP per capita (PPP 2011 \$), the measure of economic development, is taken from the PWT 9.1 produced by [Feenstra et al. \(2015\)](#). The Economic Complexity Index (ECI), which measures the relative complexity and knowledge intensity of an economy, is taken from an MIT dataset and follows the method proposed by [Simoës and Hidalgo \(2011\)](#). The ECI is utilized as a catchall proxy for structural transformation. Institutional quality is measured using data from the ICRG. Four metrics are considered: i) Law & Order; ii) Corruption, iii) Democratic Accountability, iv) Government Stability. The first three variables are scaled from 0 to 6 and Government Stability ranges from 0 to 12. Higher values indicate better institutions. Table 1 provides descriptive statistics for all variables considered in

³See [Roodman \(2009\)](#) for details about testing for the autocorrelation.

Table 1. Descriptive statistics, 1986-2016 (3-year interval)

Variable		Mean	Std. Dev.	Min	Max
Panel a: 1986 -2016					
LN Real GDP per person	overall	9.08	1.16	6.05	11.88
	between		1.09	6.62	11.29
	within		0.36	7.71	10.27
Government Stability (GS)	overall	7.78	1.94	1.00	11.50
	between		0.82	6.49	10.13
	within		1.77	1.40	11.61
Corruption (CO)	overall	2.98	1.29	0.00	6.00
	between		1.08	0.77	5.90
	within		0.69	0.88	5.42
Democratic Accountability (DA)	overall	4.01	1.60	0.00	6.00
	between		1.42	0.38	6.00
	within		0.77	0.81	6.41
Law and Order (LO)	overall	3.79	1.40	0.00	6.00
	between		1.22	0.96	6.00
	within		0.66	−0.28	5.72
Economic Complexity (EC)	overall	0.03	1.02	−2.41	2.56
	between		0.99	−2.02	2.40
	within		0.22	−1.13	0.94
Observations	N=1048 n=112 T-bar=9.36				
Panel b: 2006 - 2016					
GEI Individual	overall	0.60	0.08	0.40	0.78
	between		0.08	0.43	0.76
	within		0.03	0.68	0.68
Observations	N=213 n=86 T-bar=2.47				

this work. Entrepreneurship data are obtained from the Global Entrepreneurship and Development Institute. This study utilizes the Global Entrepreneurship Index (GEI) individual, which measures entrepreneurship at the business and individual levels.⁴ The entrepreneurship dataset provides country-level data from 2006 to 2016 for 102 countries. Panel a of Table 1 provides descriptive statistics for most variables, except for the GEI individual, which are presented in Panel b.

4. Results

4.1 Entrepreneurship

There is a trove of empirical research showing a positive association between entrepreneurship and economic development (e.g. [Acs, 2006](#); [Reddy, 2012](#); [Samadi,](#)

⁴See the “Technical Annex for the 2006-2016 dataset” available at <https://thegedi.org/datasets/> for more information about this metric.

Table 2. Dependent variable: LN Real GDP per person (PPP 2011), 2006-2016

	(1)	(2)	(3)	(4)	(5)
	OLS		Fixed Effects (FE)		GMM ^a
Panel a: 3-year interval					
GEI - Individual	3.75*** (7.70)	3.73*** (7.67)	0.07 (0.14)	0.28 (0.77)	0.75 (1.55)
Time Dummies	no	yes	no	yes	yes
Observations	213	213	213	213	213
Panel b: Yearly data					
GEI - Individual	3.62*** (11.30)	3.65*** (11.30)	−0.24 (−0.80)	0.03 (0.13)	0.02 (0.18)
Time Dummies	no	yes	no	yes	yes
Observations	573	573	573	573	573

Notes: *t* statistics in parentheses, * *p* < 0.10, ** *p* < 0.05, *** *p* < 0.01. OLS, RE, and FE regressions are estimated with robust standard errors. ^aGMM estimates pass AR(1) and AR(2) requirements, but fail the Sargan Overidentification test regardless of the lack structure chosen, which casts doubt on their reliability.

2019). The data used in this study also shows a positive association between entrepreneurship and gdp per capita (see Figure 2). Further analysis of the data, however, show that such an association is mostly likely driven by unobserved heterogeneity.

Table 2 reports several estimates of the relationship between economic development and entrepreneurship. OLS Models 1 and 2 show a positive and statistically relationship between the GEI and GDP per capita. However, the coefficient becomes very small and turns statistically insignificant when controlling for country-fixed effects (heterogeneity) in Models 3 and 4 and when addressing both endogeneity and heterogeneity in Model (5). The coefficient estimates on entrepreneurship are unchanged by adding quality of institutions or economic complexity to the model.⁵ This result contradicts Acs (2006), Reddy (2012), and Samadi (2019), among others, but is consistent with Shane (2009). This finding gives rise to possible explanations: first, the underlying data measuring entrepreneurship fails to capture the true impact of individuals and businesses on economic activity and development. Alternatively, entrepreneurship by itself is not a driver of economic development rather underlying economic conditions (e.g. good institutions) facilitate both entrepreneurial activity and economic growth and development.

4.2 Quality of institutions

Table 3 and Table A.1 in the Appendix report the estimates of the dynamic model including institutions and structural changes as covariates. Available measures of quality

⁵Because of limited availability of GEI data and the consequent small number of data points (both time series and cross-section), the coefficient and standard error estimates are imprecisely estimated when adding more covariates (institutions and economic complexity) and GMM estimates fail the AR(1) and Sargan overidentification test.

of institutions are all highly correlated, thus this study focuses only on two key metrics produced by the ICRG: Government Stability and Law and Order.⁶

Table 3 reports GMM results using GMM-style instruments that were replaced with their principal components using the methods developed by Kapetanios and Marcellino (2010), Bai and Ng (2010) and Mehrhoff (2009).⁷ Table A.1 in the appendix reports the estimates for similar models using standard GMM style instruments. Despite changes in coefficient and standard errors estimates, the results are similar in both set of regressions. All models include time dummies. The robustness of the GMM estimates is subject to several conditions including the validity of the instruments and the autocorrelation in the disturbances. The lag-structure was chosen so that estimates reported in Table 3 would satisfy the requirements of the Arellano-Bond AR(1) and AR(2) tests. More precisely, we find that the AR(1) correlation is positive and statistically significant, but the AR(2) correlation is not significant at standard levels. In addition, there is no evidence to reject the null hypothesis of the Sargan Overidentification test in all models. The results of the Sargan and AR (1)/AR(2) tests suggest that the instruments are valid for all regressions reported in Table 3 (and Table A.1 in the Appendix).

The coefficients on Government Stability (GS) and Law and Order (LO) are positive and statistically significant in all specifications. This finding suggests that the institutional environment spurs economic growth. This finding is consistent with a large literature and requires little discussion.

The key variable of interest in this study is EC. Model 2 includes EC to the model but excludes quality of institutions. In this model, the coefficient on EC is positive and statistically significant. This result indicates that economies that went through a structural transformation and became relatively more complex are more developed and have higher GDP per person. The coefficients on EC on Models 3 and 6, however, turn much smaller when controls for quality of institutions are added to the model. In addition, in Model 6 the coefficient on EC is statistically significant only at the 15 percent level. Table A.1 in the appendix reports robustness regressions and also show a much smaller coefficient for EC. Models 4 and 7 include interaction terms between EC and institutional quality. The coefficient on the interaction terms between Government Stability and EC are, however, statistically insignificant. In addition, the coefficient on EC turns statistically insignificant in model 7. Similar results are obtained in the robustness analysis presented in Table A.1 in the appendix.

A relevant and noteworthy result is that the size of the coefficients on institutional quality increase controlling for economic complexity (Models 3, 4, 6 and 7). This implies that the relative importance of institutions increases as societies becomes more complex.

The results altogether suggest that nations that transform their economic structure and become more complex experience higher standards of living. However, the impact of economic complexity on economic development is significantly smaller (to the point

⁶As an example, the correlation between Law and Order and i) Democratic Accountability and ii) Corruption -- two other metrics produced by the ICRG -- are 0.62 and 0.45, respectively.

⁷This method is implemented in xtabond2 in Stata.

Table 3. Dependent variable: LN Real GDP per person (PPP 2011), 3-Year Interval, 1986-2016 (GMM-style instruments replaced with their principal components)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
L.LN Real GDP per person	1.01*** (28.38)	0.82*** (14.29)	0.92*** (19.69)	0.91*** (23.30)	1.00*** (35.21)	0.93*** (22.62)	0.93*** (22.65)
Government Stability (GS)	0.03* (1.73)		0.06*** (3.59)	0.06*** (4.00)			
Economic Complexity (EC)		0.19*** (3.87)	0.11*** (2.71)	0.12*** (2.84)		0.06 (1.63)	0.08 (0.75)
Interaction GS x EC				0.00 (−0.30)			
Law and Order (LO)					0.05** (2.15)	0.06*** (2.77)	0.06*** (2.77)
Interaction LO x EC							0.00 (−0.13)
Time Dummies	yes	yes	yes	yes	yes	yes	yes
Observations	1048	1048	1048	1048	1048	1048	1048
# Instruments	27	25	39	49	27	40	40
p-values for:							
AR(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AR(2)	0.62	0.93	0.77	0.65	0.38	0.25	0.25
Sargan Overid	1.00	0.57	0.56	0.27	0.49	0.18	0.14

Notes: t statistics in parentheses, # p < 0.12 * p < 0.10, ** p < 0.05, *** p < 0.01. All regressions are estimated using a one-step system GMM estimator and include (i) two lags as instruments in both the first difference equation and level equation and (ii) time dummies. GMM-style" instruments are replaced with their principal components using the methods developed by [Kapetanios and Marcellino \(2010\)](#), [Bai and Ng \(2010\)](#), [Mehroff \(2009\)](#), and implemented in xtabond2 in Stata.

of being irrelevant) controlling for quality of institutions. In addition, the effect of institutions on economic development increases as economies experience structural changes and increased economic complexity. These findings imply that quality of institutions is not only important to foster economic development, but it is even more important to mediate complex economic structures that emerge as part the development process and structural changes.

5. Conclusion

This research examines the role of institutions and entrepreneurship to foster economic development under increasing complex economic structures caused by structural changes. The results provide evidence that the positive association usually identified between economic development and entrepreneurship is driven by unobserved heterogeneity. The results suggest either the underlying data measuring entrepreneurship fails to capture the true impact of individuals and businesses on economic activity and development or that entrepreneurship is not a key driver of economic development.

The empirical work also provides evidence that economies that went through a structural transformation and became relatively more complex are more developed and have higher GDP per person. However, the positive relationship between economic complexity and economic development becomes relatively weak when controls for quality of institutions are added to the model. Furthermore, the importance of institutional quality on economic development increases accounting for economic complexity.

These findings altogether imply that productive entrepreneurship is likely a byproduct of institutions. Thus, institutional quality is important for transforming entrepreneurial activity into economic growth and development. In addition, quality of institutions is not only important to foster entrepreneurship, but also very important to mediate complex economic structures that emerge as part the development process and structural changes. The main policy implication of this work is that economies in transition must take steps to improve the quality of their institutions, particularly of institutions that enable productive entrepreneurship and mediate the increased complexity resulting from the inherent structural transformation associated with economic development.

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Appendix A: Example with multiple Appendixes

Table A.1. Dependent variable: LN Real GDP per person (PPP 2011), 3-year interval, 1986-2016

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
L.N Real GDP per person	0.99*** (31.09)	0.80*** (13.20)	0.89*** (23.16)	0.89*** (21.45)	0.95*** (29.30)	0.86*** (22.10)	0.86*** (22.00)
Government Stability (GS)	0.05*** (3.93)		0.05*** (4.11)	0.05*** (4.12)			
Economic Complexity (EC)		0.20*** (3.72)	0.12*** (3.50)	0.13** (2.09)		0.13*** (3.32)	0.04 (0.45)
Interaction GS x EC				0.00 (−0.13)			
Law and Order (LO)					0.08*** (2.60)	0.04** (2.21)	0.09*** (3.36)
Interaction LO x EC							0.01 (0.38)
Time Dummies	yes	yes	yes	yes	yes	yes	yes
Observations	1048	1048	1048	1048	1048	1048	1048
# Instruments	64	54	108	108	54	108	98
p-values for:							
AR(1)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AR(2)	0.50	0.95	0.68	0.67	0.15	0.40	0.24
Sargan Overid.	0.82	0.74	0.34	0.29	0.76	0.64	0.80

Notes: *t* statistics in parentheses, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All regressions are estimated using a one-step system GMM estimator and include (i) one lag as instruments in both the first difference equation and level equation and (ii) time dummies.