Towards the regional aspects of institutional trust and entrepreneurial ecosystems

Article

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Towards the Regional Aspects of Institutional Trust and Entrepreneurial Ecosystems

Abstract

Purpose

Institutional trust is vital for social and economic activity and crucial in reducing uncertainty for entrepreneurs and society. To shed light on the role of institutional trust on productive entrepreneurial activity, this paper analyses the impact of six urban entrepreneurial ecosystems using the contexts of the transition economies of Eastern Europe, Caucasus, and Central Asia. This study pursues the research question: what role does institutional trust play in the relationship between formal institutions and productive entrepreneurship in the entrepreneurial ecosystems of transition economies? This paper posits that the development and enforcement of formal institutions and institutional trust enhance productive entrepreneurship.

Design/methodology/approach

In this study, we apply a mixed-method approach. Our dataset includes 657 respondents (ecosystem stakeholders) from six city-level entrepreneurial ecosystems in the transition economies of Georgia, Ukraine, and Kazakhstan, as well as 51 semi-structured interviews from entrepreneurial ecosystem representative stakeholders to examine the validity of our findings.

Findings

Institutional trust in many cities has been negatively affected by institutionalized corruption and continuous non-transparent reforms, furthering prior research in developing and transition economies. Our findings suggest that institutional trust can be investigated not as a country phenomenon but as a regional phenomenon extending prior research towards understanding the institutional trust – productive entrepreneurship research domain at the city entrepreneurial ecosystem level.

Originality/value

We apply the institutional trust perspective to the entrepreneurial ecosystems in cities in order to examine how institutional trust affects productive entrepreneurship in challenging institutional environments. We contribute to the literature on institutions and entrepreneurship by using a mixed-method analysis to examine the relationship between formal institutions and institutional trust in the context of EEs in transition economies.

Keywords: Institutional Trust; Productive Entrepreneurship; Entrepreneurial Ecosystems; Transition Economies

1. Introduction

An extensive body of research has investigated the link between entrepreneurial ecosystem (EE) and trust (Anderson and Jack, 2002; Thornton, Ribeiro-Soriano, and Urbano, 2011; Kwon and Sohn, 2021; Welter, 2012, 2021; Belitski, Grigore, and Bratu, 2021; Muldoon, Bauman, and Lucy, 2018; Audretsch and Belitski, 2017) to promote productive and innovation-oriented entrepreneurship and valuable outcomes for the society (Urbano *et al*., 2020; Aparicio,

Audretsch, and Urbano, 2021a). The EE refers to a set of interconnected entrepreneurial actors, availability of resources, industry structure, entrepreneurship culture, and infrastructure (Audretsch and Belitski, 2017; Mason and Brown, 2014; Brown and Mason, 2017). Drawing on Baumol (1996, 30), we define productive entrepreneurship as "any entrepreneurial activity that contributes directly or indirectly to the net output of the economy or to the capacity to produce additional output".

A plethora of prior studies has confirmed that the EE context positively impacts productive entrepreneurship (Content, Frenken, and Jordaan, 2019; Wurth, Stam, and Spigel, 2021) with a crucial role of trust for entrepreneurs (Welter, 2021; Kwon and Sohn, 2021). In this study, we distinguish institutional trust as a part of informal institutions and a more complex form of trust and define it as business relationships that are governed by the norms, values, and codes of conduct inherent within a society (Höhmann and Malieva, 2005; Welter, 2012). Informal institutions encompass societal norms, beliefs, and values that create perceptions and notions of social context as well as provide some insights regarding the ways to support economic activity (North, 1990; Webb, Ireland, and Ketchen, 2014). Prior research highlighted that institutional trust is vital for social and economic activity (Korosteleva, Mickiewicz, and Stępień-Baig, 2020; Guiso, Sapienza, and Zingales, 2010; Efendic, Mickiewicz, and Rebmann, 2015). It plays a crucial role in supporting entrepreneurship and business growth (Welter, 2012), especially in weak institutional environments. However, the limitation of the prior empirical studies is in focusing on personal trust and country-associated data (Welter, 2021; Boudreaux and Nikolaev, 2019; Kwon and Sohn, 2021). This study extends the prior discussion on the role of institutions for entrepreneurship (Urbano, Aparicio, and Audretsch, 2019b; Aparicio, Urbano, and Stenholm, 2021b) by investigating the regional aspects of bridging the institutional trust and EEs for productive entrepreneurship (Bosma, Sanders, and Stam, 2018).

Prior studies also pointed out that context matters for entrepreneurial activity (Turro, Alvarez, and Urbano, 2016; Urbano *et al*., 2019b; Foss, Klein, and Bjørnskov, 2019; Jones *et al*., 2019; Webb *et al*., 2014; Welter and Smallbone, 2011), in particular Malecki (2018), Szerb *et al*. (2019), Spigel (2017), Webb *et al*. (2014) extensively examined the context of developed economies. This stream of research could be extended in terms of further understanding of the context for productive entrepreneurship in transition economies, despite all the progress made in the recent entrepreneurship literature (Guerrero and Urbano, 2020; Kansheba and Wald, 2020; Cao and Shi, 2021; De Brito and Leitão, 2021; Welter and Smallbone, 2011; Efendic *et al*., 2015).

In this paper, we define institutional context as the rules that guide the behaviour of individuals and provide the structure of incentives to the agents (North, 1990; Urbano and Alvarez, 2014). A number of studies have found that the institutional context associated with developing and transition economies (Escandón-Barbosa *et al*., 2019; Bruton, Ahlstrom, and Li, 2010; Eijdenberg *et al*., 2018; Welter and Smallbone, 2011) is weak and less conducive to productive entrepreneurship (Urbano *et al*., 2019a; Aidis, Estrin, and Mickiewicz, 2008, 2012; Estrin and Mickiewicz, 2011). In addition, transition economies are characterised as low-trust societies because of their communist legacy (Estrin and Mickiewicz, 2011; Fukuyama, 1995; Raiser, 1999; Efendic *et al*., 2015). Such context can create some constraints in terms of social outcomes of entrepreneurship, entrepreneurial intentions, and entrepreneurs' decision-making (Cuervo-Cazurra, Mudambi, and Pedersen, 2019). It is, therefore, important to understand the impact of institutional trust on productive entrepreneurship in weak institutional contexts, such as transition economies.

We formulate our research question as follows: *What role does institutional trust play in the relationship between formal institutions and productive entrepreneurship in the entrepreneurial ecosystems of transition economies?*

In order to answer this question, we empirically test the interplay of institutional trust and formal institutions for productive entrepreneurship using the context of the transition economies in Eastern Europe (Ukraine), Caucasus (Georgia), and Central Asia (Kazakhstan). Our dataset includes 243 respondents (ecosystem stakeholders) from Kyiv and Lviv (cities in Ukraine), 202 respondents from Tbilisi and Batumi (cities in Georgia), and 212 respondents from Nur-Sultan (former Astana) and Almaty (cities in Kazakhstan). In addition to quantitative analysis, we performed 51 semi-structured interviews with EE representative stakeholders across six cities in order to examine the validity of our findings.

By answering our research question, we make the following contributions. Firstly, we apply the institutional trust perspective (Welter, 2012; Mickiewicz and Rebmann, 2020; Fredström, Peltonen, and Wincent, 2020) to the entrepreneurial ecosystems in cities in order to examine how institutional trust affects productive entrepreneurship (Aparicio *et al*., 2021b; Urbano *et al*., 2020) in challenging institutional environments (Welter and Smallbone, 2011). We use an example of six cities in transition economies. Secondly, we contribute to the literature on institutions and entrepreneurship (Urbano, Aparicio, and Audretsch, 2019c; Bruton *et al.*, 2010; De Clercq, Lim, and Oh, 2013; Urbano and Alvarez, 2014) by using a mixed-method analysis to examine the relationship between formal institutions and institutional trust in the context of EEs in transition economies.

While prior research (e.g., De Clercq *et al*., 2013; Fuentelsaz, González, and Maicas, 2019) has theorized the role of institutions and trust on new business start-ups, our study is a relevant addition to a discourse on the role of the institutional context for entrepreneurship. More specifically, we extend De Clerq *et al*. (2013), who demonstrated the moderating role of formal and informal institutions in the relationship between access to resources and new businesses and that this relationship increases with the higher levels of trust. In addressing the calls in entrepreneurship context literature (Webb *et al*., 2014; Turro *et al*., 2016; Urbano *et al*.,

2019b; Welter and Smallbone, 2011) and reflecting on De Clerq *et al*. (2013), this study introduces the interplay between institutional trust and formal institutions for productive entrepreneurship in the context of transition economies. Transition economies are characterised by a high level of uncertainty, weak institutions, and low-trust society. Therefore, we position institutional trust and formal institutions as two boundary conditions for productive entrepreneurship within an ecosystem.

This paper is organized as follows. The next section outlines the theoretical framework and formulates research hypotheses. Section 3 introduces data and methodology, while Section 4 presents the results of the study. Section 5 discusses our findings, and Section 6 concludes.

2. Theoretical Framework

2.1. Spatial aspects of entrepreneurial ecosystems

The entrepreneurship literature has generally focused on analysing individuals and firms. However, the emergence of the EE concept (Isenberg, 2011) has shifted the literature's focus towards regions (Szerb *et al*., 2019; Kansheba and Wald, 2020; Stam and Van de Ven, 2021; Kraus *et al*., 2021) and cities (Mack and Mayer, 2016; Spigel, 2017; Belitski and Büyükbalci, 2020). Although the research on EEs has gone from focusing on a region's start-up rate, net entry, or total number of new ventures (Wurth *et al*., 2021) to a more specific type of entrepreneurial activity - productive entrepreneurship and the interdependences of EE attributes and how they interact with each other (Brown and Mason, 2017; Spigel, 2017; Eijdenberg *et al*., 2018). A few studies have specifically drawn attention to place-based and thus community-based institutional contexts (Audretsch and Belitski, 2017).

While prior research has demonstrated that cities and regions with a "healthy" EE have a greater capacity to add value and create well-being (Stam, 2018), there is limited evidence regarding how the formal and informal context of the EE relates to its outcomes and facilitates productive entrepreneurship (Urbano *et al*., 2019a; Wurth *et al*., 2021). The context influences

the pace of entrepreneurial development, entrepreneurial intentions, quality, and the nature of entrepreneurship (Wellter and Smallbone, 2011; Chowdhury, Audretsch, and Belitski, 2019). In order to enter the market, entrepreneurs need to examine both the formal (e.g., property rights, government size) and informal institutions (e.g., trust, corruption, culture) (Fuentelsaz *et al*., 2019; Urbano *et al*., 2019c) as well as the potential interdependences between them (Peng *et al*., 2009).

Formal institutions, mainly regulations, are required for entrepreneurs to reduce the risk of doing business, as well as create incentives and protection for entrepreneurial aspirations and starting a business. The role of formal institutions for entrepreneurship has been particularly examined at regional and national levels (Eijdenberg *et al*., 2018; Urbano *et al*., 2019b; Bjørnskov and Foss, 2013). The formal institutional context provides boundary conditions for entrepreneurship (North, 1990,) while the informal institutional context encompasses trust and culture within the EE and influences its outcomes indirectly, for example, via access to resource and other formal institutions (De Clercq *et al.,* 2013). While formal institutional contexts directly affect decisions to start and develop businesses (Estrin, Mickiewicz, and Stephan, 2013; Stenholm, Acs, and Wuebker, 2013), the informal institutional context has a significant impact on EE stakeholders' choices regarding how and with whom they should or should not cooperate (Hechavarria and Reynolds, 2009). Transparent and unbiased formal institutions could reduce transaction problems and facilitate good practice of economic, political, and social interactions between economic agents under one important condition – the formal institutions should be both established and enforced upon economic agents. Formal institutions conducive to entrepreneurs may create incentives for entrepreneurs to identify and exploit market opportunities only the under condition that they can be enforced, and agents accept and comply with the regulation.

Prior research of formal institutions considered the role of the institutional context for entrepreneurship in developed countries (Urbano and Alvarez, 2014; Urbano *et al*., 2020; Aparicio, Urbano, and Audretsch, 2016), with a little evidence of how formal institutions are introduced and respected in developing and transition economies, such as Russia (Aidis *et al*., 2008, 2012). Countries with strong formal institutions are often listed in the high positions in the *World Bank Doing Business* ranking. Despite this high-ranking recognition, transition economies face severe challenges in providing a robust enforcement mechanism for these formal institutions. For example, in the *World Bank Doing Business* ranking Russia has jumped from 124th place in 2010 to 28th in 2020 (Doing Business, 2020), while entrepreneurial activity has been continuously decreasing (Zemtsov, Komarov, Barinova, 2022). In addition, entrepreneurial activities in transition economies are driven by informal institutions (e.g., local culture, norms, etc.), enabling entrepreneurs to avoid regulations for the benefit of their businesses by using connections to politicians (Belitski *et al*., 2021). The situation is similar in other transition economies, such as Belarus and Kazakhstan, where policymakers have formally declared support for small businesses (World Bank, 2019). However, this did not lead to changes in informal institutions and entrepreneurial culture. We argue that the enforcement mechanism of formal institutions is a necessary condition for productive entrepreneurship. Therefore, we hypothesise:

H1: The development of formal institutions is not associated with productive entrepreneurship in the context of transition economies.

2.2. The role of institutional trust in the institutional context for entrepreneurial activity

Ecosystem stakeholders are influenced socially by the context in which they conduct business (Letaifa and Goglio-Primard, 2016; Granovetter, 1985). The context allows

entrepreneurs to be exposed to the local culture, values and be engaged in networks that facilitate entrepreneurial processes (Drakopoulou and Anderson, 2007). Prior research argued that informal institutions (e.g., local networks, trust, connections with government officials) (Peng, 2003; Peng and Luo, 2000) might help carry on and advance entrepreneurial activity. Prior studies have analysed entrepreneurship from a social network and cluster perspective (Scott, Hughes, and Kraus, 2019), with a particular focus on the role of institutional trust for new venture creation (Liao and Welsch, 2005; Zahra, Sapienza, and Davidsson, 2006). For instance, Scott, Hughes, and Ribeiro-Soriano (2022) pointed out that from an EE network perspective, entrepreneurial stakeholders can benefit from accessing finance, knowledge spillovers, and easing institutional barriers. Networks can help foster entrepreneurial ecosystems' development by creating and transmitting ideas, enhancing innovation, learning, and productive entrepreneurship (Kraus *et al*., 2021). Anderson and Jack (2002) argued that trust is a part of social networks and that it serves as the "glue and lubricant" for developing networks while facilitating the success of new businesses (Welter and Smallbone, 2006). Trust is crucial for entrepreneurial activity because it reduces uncertainty and risk for entrepreneurs (Kwon and Sohn, 2021; Knight, 1921; Mayer, Davis, and Schoorman, 1995), enabling them to work in ambiguous market conditions (Mickiewicz and Rebmann, 2020).

Prior studies (e.g., Efendic *et al.*, 2015; Welter, 2012; Kwon and Sohn, 2021; Mickiewicz and Rebmann, 2020) distinguish two main forms of trust: generalised trust (trust in unknown individuals) and institutional trust (trust in institutions). Institutional trust is essential for entrepreneurial activity (Kwon and Sohn, 2021) and embraces political, legal, economic frameworks, and informal rules. The high levels of institutional trust facilitate a conducive environment for more trusting interpersonal relationships between economic agents (Maguire and Phillips, 2008), which increases their willingness to engage in business activities, and take risks in new business creation (Slemrod and Katuščák, 2005).

From a business behaviour perspective, trust is based on a perception of the probability that other agents will behave in a way that is expected by society (Welter and Smallbone, 2006, 465). The social aspect of trust in the field of entrepreneurship refers to the extent to which entrepreneurs can trust their partners, employees, and collaborators to deliver on their promises (Mickiewicz and Rebmann, 2020).

Formal institutions provide "the framework of trust that the entrepreneur needs when starting up a business" (Fuentelsaz *et al*., 2019, 7). They facilitate the perception of market opportunities and affect entrepreneurial judgment (Foss *et al*., 2019) regarding whether or not to enter the market (De Clercq *et al*., 2013). However, if the institutional environment is characterised as low-trust, the entrepreneurial activity can be suppressed because entrepreneurs have to rely on personal trust using social networks and contacts, which increases the transaction costs (Höhmann and Welter, 2002). We argue that this may create additional challenges and risks for conducting entrepreneurial activity in such environments. In addition, the link between institutional trust and formal institutions (Boettke and Coyne, 2009; Boudreaux and Nikolaev, 2019) also affects the proportion of formally-registered businesses. As a consequence, it has been empirically found that high levels of trust positively affect new business formation in city EE (Audretsch and Belitski, 2017). On the contrary, low levels of trust discourage entrepreneurs from engaging in any commercial transactions (Kwon and Sohn, 2021) with EE stakeholders, which inhibits productive entrepreneurship.

We argue that the interplay between formal institutions and institutional trust as a system of social values may increase stakeholders' cooperation and support, leading to productive entrepreneurship in the following ways. Firstly, strong formal institutions and institutional trust will encourage entrepreneurs to formally register their businesses, pay taxes and create jobs (Krasniqi and Desai, 2016). Secondly, higher levels of institutional trust imply that entrepreneurs are making a positive judgment regarding the development of formal

institutions, such as the protection of property rights, law enforcement and court justice, leading to stronger entrepreneurial intentions and motivating entrepreneurs to focus on productive and growth-oriented business activities (Stam, 2018; Urbano *et al*., 2019a). Therefore, we hypothesise:

H2: The higher the level of institutional trust, the stronger the positive relationship between formal institutions and productive entrepreneurship.

3. Data and method

3.1. The institutional context of transition economies: Georgia, Kazakhstan and Ukraine

The institutional context of transition economies originates in the Soviet Union system (1922-1991), with the features of rent-seeking behaviour and bureaucracy. The rent-seeking model has been characterised by the intentions of a market-oriented economy, bribes, corruption, and promoting nepotism, which causes unfair competition (Krueger, 1974). According to Anderson and Boettke (1997, 38), "the mature Soviet system was a market economy heavily encrusted with central government regulation and restrictions."

Transition economies have different institutional challenges (weak regulation, property rights protection, limited contract enforcement, high levels of institutionalized corruption) and high volatility in formal institutions (Cuervo-Cazurra, 2006; Estrin and Mickiewicz, 2011), making them a natural experimental space for testing institutional theories (Mickiewicz, Rebmann, and Sauka, 2019). EEs in transition economies are heterogeneous and characterised by low levels of institutional trust, which may affect the growth aspirations of entrepreneurs and their incentives to establish new firms (Aidis *et al*., 2008).

As transition economies are associated with a weak institutional environment and low-trust societies (Efendic *et al*., 2015; Estrin and Mickiewicz, 2011), informal institutions can be

highly interconnected with formal institutions and affect the development of entrepreneurship. Although transition economies have gone through many institutional transformations (Estrin *et al*., 2006; Mickiewicz *et al*., 2019), it is important to emphasize that it also implies social changes that have occurred at different levels (Smallbone and Welter, 2001; Aparicio *et al*., 2021b) and for different groups of entrepreneurs (Gimenez-Jimenez, Calabrò, and Urbano, 2020). While informal institutions do not change overnight (Fritsch, Greve, and Wyrwich, 2022), the level of institutional trust may vary from region to region within a country. We, therefore, argue that institutional trust is not a country-associated phenomenon (Boudreaux and Nikolaev, 2019; Kwon and Sohn, 2021) and could have different outcomes for productive entrepreneurship in different regions within a single country.

The countries analysed in this paper—Georgia, Kazakhstan, and Ukraine—that emerged following the collapse of the Soviet Union adopted a range of different formal institutional models to support their transition to a market economy (Hoff and Stiglitz, 2004; Svejnar, 2002). Regarding the selection of cities, we focused on each country's capital city (Kyiv for Ukraine, Nur-Sultan (former Astana) for Kazakhstan, Tbilisi for Georgia), and second-largest city (Lviv for Ukraine, Almaty for Kazakhstan, Batumi for Georgia).

Ukraine has become a rent-seeking state with the elements of a rescue state, implying the development of a business-government cooperation model where the government does not systematically control the business environment (Aslund, 2002; Ivy, 2013; Ivy and Perényi, 2020). The governments of rescue states become more active and enforce regulation only in crises that cannot be resolved without government intervention (Iwasaki, 2003). Georgia and Kazakhstan have adopted the rescue state strategy (Ivy, 2013), which is also characterized by an insufficiently-developed economic system of regulations and relationships, vague and unequal governmental support, corruption, bribes, and political entrepreneurship (McCaffrey and Salerno, 2011; Ivy and Perényi, 2020).

Georgia has experienced rapid changes in its market economy. Its transformation has been remarkable, including increased openness and the implementation of an ambitious set of new reforms since 2008 to boost economic resilience, jobs, and living standards (IMF, 2019). The reforms have focused on fighting corruption, adopting the rule of law, and property rights protection. Kazakhstan has developed state control and a clan mentality (Baldakhov and Heim, 2020; Kalyuzhnova, 2016) with high levels of corruption, resulting in a revolution in 2022.

Unequal distribution of state resources led Ukrainian formal institutions to become highly corrupt (Ivy, 2013; Iwasaki, 2003). Reforms have been inconsistent in Ukraine, resulting in two revolutions (in 2004 and 2014) over 10 years. The population has little faith in formal institutions, and the rise of oligarchical clans who ignore the law resulted in a substantial institutional void and a lack of trust in institutions. Finally, recent social and political conflicts in these countries have significantly undermined the trust in institutions among populations.

3.2. Mixed-method approach to studying entrepreneurial ecosystems

In this paper, a mixed-method approach was used to analyse a multi-layer structure of the institutional context in transition economies (Molina-Azorín *et al*., 2012). Firstly, we used regression analysis in order to measure the extent to which changes in institutional trust and stakeholders' perceptions about the efficiency of formal institutions in an ecosystem lead to an increase (reduction) in productive entrepreneurship. We also used a qualitative approach (Gartner and Birley, 2002) to investigate why and how institutional trust and formal institutions are interconnected and the extent to which their interconnectedness affects productive entrepreneurship in cities.

Based on John Stuart Mill's joint method of agreement and difference (Copi and Cohen, 2001), six cities in Ukraine, Kazakhstan, and Georgia were selected. This method implies that the cases for study should be similar in many aspects, so we chose countries with similar culture, language, and corruption levels, as well as a shared history as part of the Soviet Union (Belitski

et al., 2021). However, at the same time, the cases must also demonstrate the difference in some aspects. In this case, the cities we chose, therefore, differ in terms of pathways and EE embeddedness in different institutional contexts following the collapse of the Soviet Union, as well as "the nature of the institutional environment" (Ivy and Perényi 2020, 711).

We then drew on prior research on the role of stakeholders in the ecosystem (Autio and Levie, 2017; Brown and Mason, 2017; Belitski and Büyükbalci, 2020) to collect data on at least eight types of representative EE stakeholders. These included university professors, not-for-profits, governments, creative sector representatives, entrepreneurs, technopark or incubator managers, venture investors, bank or trust representatives, and multinational company C-level managers). This information was analysed using quantitative techniques.

3.3. Quantitative approach

In this study, we collected survey and interview data from economic agents in six cities during the year 2019, covering Georgia (Tbilisi and Batumi), Kazakhstan (Nur-Sultan (former Astana) and Almaty), and Ukraine (Kyiv and Lviv). The survey questions were designed to investigate the role of institutional environments in entrepreneurial ecosystem outcomes.

The data-collection process was started by constructing a representative cross-city sample of randomly-selected entrepreneurial ecosystem stakeholders. The data-collection process was started by constructing a representative cross-city sample of randomly-selected entrepreneurial ecosystem stakeholders. We analysed the availability of companies, universities, research, and business facilities (techno parks, incubators, co-working spaces, VC, etc), and government representatives in each city. We approached the respondents first via administration staff or directors by sending emails about our research and asking to disseminate the questionnaire among employees. In addition, we used a script to trawl the web pages of the organizations where the respondents worked. This was accomplished with the help of the Python program, using keywords related to our ecosystem stakeholders (e.g., policymaker,

entrepreneur, lawyer, loan advisor – for banks, journalists, and so on). We also attended specialised events (conferences, entrepreneurship forums, other business events) in each city to establish contacts with different types of ecosystem stakeholders representatives and encourage them to complete the survey (Harima, Harima, and Freiling, 2021). Thus, we collected email addresses and telephone numbers (where available) and personally approached 147 individuals in Kyiv, 96 individuals in Lviv, 62 individuals in Batumi, and 140 individuals in Tbilisi, as well as 104 individuals in Nur-Sultan (former Astana) and 108 individuals in Almaty. The main industries in our sample include education (10.1%), creative industries (14.5%), other services (32.1%), retail trade (24.4%), research and consultancy (19.78%), and public and government services (11.5%).

Variables, descriptions, data sources, and descriptive statistics for the study variables are summarized in Table 1 for the six cities. The data for our survey items was collected via different survey techniques, including online surveys and telephone interviews. This approach allowed us to avoid common method bias (Bosma and Levie, 2010).

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Dependent Variable

Drawing on Baumol (1993), Urbano *et al*. (2019b), and Stam (2018), we measured productive entrepreneurship by asking the following question via the online survey: "There is a strong focus on growth-oriented and productive entrepreneurship activity in my region (city) (1 – very weak to 7 – very strong)". The average value of EE quality varied from 4.13 in Tbilisi, Georgia, to 5.85 in Nur-Sultan (former Astana), Kazakhstan.

Independent Variables

Our first independent variable is formal institutions (Peng *et al*., 2009; Estrin *et al*., 2013; Fuentelsaz *et al*., 2019), measured as the respondent's perception of the efficiency of formal institutions and regulations in supporting entrepreneurship. It is measured on the Likert

scale from 1 - very weak efficiency of formal institutions and regulation to 7 - very strong efficiency. Formal institutions also include the respondent's perception of collaboration between entrepreneurs and regional government, Chambers of Commerce, and Triple-Helix partnerships (Martínez-Sanchis *et al*., 2021).

Our second independent variable is institutional trust. We proxy institutional trust by an inverse of political entrepreneurship in a region (city) (Ivy, 2013; McCaffrey and Salerno, 2011). Political entrepreneurship represents the unethical behaviour of authorities related to lobbying and promoting institutionalized corruption and politically related enterprises (Belitski *et al*., 2021), and it undermines institutional trust (Mickiewicz *et al*., 2019; Mickiewicz and Rebmann, 2020).

We use the following survey question to measure political entrepreneurship (Belitski *et al*., 2021): "There is an economic activity of entrepreneurs via formal and informal cooperation with the local (national) government to access resources in a privileged way compared to other entrepreneurs whose access to resources could be limited or restricted measured on the Likert scale from 1 – very weak to 7 – very strong". The inverse of political entrepreneurship is measured on the 7-point Likert scale, where (-7) represents a lack of institutional trust while (-1) represents a high level of institutional trust and, accordingly a low level of political entrepreneurship. The average value of institutional trust varies, from a low of -5.03 in Kyiv (Ukraine) to a high of -4.05 in Tbilisi (Georgia). Overall, the levels of institutional trust in these cities are low, which supports the World Bank Enterprise Survey data published in 2019 on the level of corruption in the developing economies and the fairness of the court system (World Bank Enterprise Survey, 2019).

Control Variables

Following Stam (2015, 2018) and Stam and Van de Ven (2021), our control variables are related to framework conditions and systemic conditions. The framework conditions include

social capital, regional culture, and other informal and formal institutions (e.g., human capital, regulatory environment, infrastructure), while systemic conditions include networks of entrepreneurs, finance, leadership, talent, knowledge, and support services (Stam, 2015; Audretsch and Belitski, 2017). We include the variables of government support for entrepreneurship (Audretsch and Link, 2019), social ties (Aidis *et al*., 2008; Bordeaux and Nikolaev, 2019)**,** and entrepreneurial culture (Stenholm *et al*., 2013; Brown and Mason, 2017).

In addition, we also included variables such as access to financial resources (debt and venture capital, alternative financing) (Cumming and Vismara, 2017; Cumming, Meoli, and Vismara, 2021), talent, knowledge, and various support services (Stam, 2018). We also included civil society, proxied by the number of nationally- and internationally recognized not-for-profit organizations in a city (Goldsmith, 2010).

We included the variable that measures the level of media attention paid to entrepreneurs; for example, whether an entrepreneur is a local role model of leadership (Stenholm *et al*., 2013; Bordeaux and Nikolaev, 2019). Individual-level controls include the respondent's occupation as a set of binary variables, along with gender, human capital (university degree or above), and age range (Reynolds and Curtin, 2011). The descriptions of the variables and summary statistics can be seen in Table 2.

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Econometric Model

To test our hypotheses, we estimate two models for each city, using ordinary least square (OLS) estimation with standard errors, which are robust for heteroscedasticity in all specifications. We follow Baltagi (2008), who used the regression model to capture the effects within the cross-sectional data given by (1). Inclusion of city and country fixed effects was not possible due to the cross-sectional nature of the data. The following model was estimated:

$$y_i = \beta_0 + \beta_1 x_i + \beta_2 z_i + u_i \qquad (1)$$

where y_i is productive entrepreneurship in city i. β_i are parameters to be estimated, $x_i$is a vector of independent explanatory variables in city i related to testing our hypothesis; z_i is a vector of control variables representing framework and systemic conditions for ecosystems and individual characteristics of respondents in city i. To address the concern of multicollinearity, we used variance inflation factor (VIF) across six models with VIF<3.

3.4. Qualitative approach

We conducted a series of interviews in each city in order to obtain an entrepreneur-centered view of the local ecosystems (Strauss and Corbin, 1994; Ivy and Perényi, 2020). The purpose of the interviews was to validate our empirical findings by collecting detailed information about the role that institutional trust plays (why, how, when) in facilitating productive entrepreneurship (Fuentelsaz *et al*., 2019).

We conducted 51 semi-structured interviews with at least one representative of each stakeholder in the EEs (Brown and Mason, 2017) (Appendix 1). We used a snowballing sampling strategy to approach interviewees as well as simultaneously seeking different types of stakeholders to achieve the "multiple realities" (Schuetz, 1945). We had had no previous contact with any stakeholders in these ecosystems (Harima *et al*., 2021), so we collected information about the interviewees via local sources (newspapers, articles, websites, CVs, and so on). We then approached the interviewees via either email, social media, or telephone.

The respondents were selected based on their expertise, experience, occupation, and knowledge about EEs. The interviewees had to have at least five years of working experience in business, public service, or academia. In order to avoid a bias toward the founders of larger and more successful start-ups, we restricted entrepreneurs to a maximum of 7 years since establishment and a maximum of 250 employees.

In creating the interview questions, we drew on the approach to understanding the framework and systemic conditions of the ecosystem suggested by Wurth *et al*. (2021). The

interview outline consisted of 25 open questions. The outline focused on the analysis of attitudes to formal institutions, mechanisms of cooperation with formal and/or informal institutions, and the level of institutional trust with supporting examples or a detailed explanation of the interviewee's views (Scheidgen, 2021; Harima *et al*., 2021; Ivy and Perényi, 2020; Ivy, 2013). The data was collected between 2018-2019, and fieldwork included travelling to the selected cities where the targeted participants were located. The interviews were conducted in either English, Russian, or Ukrainian. They were recorded face-to-face and lasted about an hour on average.

Upon completing at least eight interviews, we moved towards the additional interviews if we determined that any of the stakeholders were underrepresented and that more information was thus required. We followed Corbin and Strauss (2014) in that once we reached a theoretical saturation (a situation whereby new codes no longer emerged), we then stopped conducting further interviews. Based on the qualitative method, we subjected the interviews to four stages of analysis (Miles and Huberman, 1994). In order to create codes categorised in a four-order model, we organised and sorted the results of the interviews using the NVIVO 12 software package (Corbin and Strauss, 2014). The four-order model is presented in Figure 1.

FIGURE 1 ABOUT HERE

The first-order codes are intended to investigate the patterns in a city's entrepreneurial environment. The second-order codes referred to the research topic by investigating the patterns between entrepreneurial activity and formal and informal institutions. The third- and fourth-order codes are related to the role of both types of institutions in the EE, as well as institutional trust issues.

4. Results

4.1. Regression results

Table 2 presents the results of estimation (1) across six cities using interaction analysis of institutional trust and formal institutions (columns 2, 4, 6, 8, 10, 12). We start our analysis by looking at the significance of the interaction coefficients between formal institutions and trust. For Almaty (Kazakhstan) we find the direct negative effect of formal institutions on productive entrepreneurship (β=-0.74, $p<0.05$), not supporting H1. We also find the negative interaction effect with trust (β=-0.12, $p<0.01$), not supporting H2. The negative coefficient means that an increase in the efficiency of formal institutions reduces productive entrepreneurship in Almaty, and the reduction is greater as institutional trust increases, changing the result from 0.74 to 0.86 (β=-0.12-0.74, $p<0.01$) (column 12, Table 2).

This contrasts with the findings for Nur-Sultan (former Astana), where the negative direct effect of informal institutions on productive entrepreneurship disappears after controlling for trust (column 10, Table 2), not supporting H1. The result for Almaty demonstrates that EEs should be deregulated if policy-makers are aiming for high-growth and productive entrepreneurship, as formal institutions in regions with poor quality of other institutions and high corruption prevent productive entrepreneurship (Dove, 2020; Audretsch *et al*., 2021). Social networks are the only institutional factor that could explain the increase in productive entrepreneurship in Almaty.

Formal institutions facilitate productive entrepreneurship in Tbilisi (Georgia), supporting H1 (β=0.55, $p<0.05$) (column 6, Table 2). The interaction of formal institutions and institutional trust is positive and significant for Tbilisi (β=0.063, $p<0.05$) (column 6, Table 2). This finding supports H2, which states that an increase in institutional trust enhances the relationship between formal institutions and productive entrepreneurship. In addition, Tbilisi's entrepreneurial culture and the availability of venture capital facilitate the high-growth orientation of its entrepreneurial ecosystem. We do not find support for our hypotheses for other cities, as the interaction coefficients are insignificant. Interestingly, the positive direct effect of

formal institutions in Lviv (Ukraine) (β=0.18, $p<0.05$) (column 3, Table 2) supports H1; however, the effect disappears once we control for the level of institutional trust (column 4, Table 2). This means that while formal institutions are perceived as efficient, the lack of institutional trust prevents productive entrepreneurship. For Kyiv, Batumi, and Nur-Sultan (former Astana), both the direct and indirect effects of formal institutions and trust are insignificant for productive entrepreneurship. For Lviv, we found that government support and entrepreneurial culture facilitate productive entrepreneurship, while the availability of venture capital was a driver of productive entrepreneurship in Kyiv.

4.2. Interview results

The interview results enabled us to articulate six categories of descriptors supported by prior literature (Ivy, 2013; Ivy and Perényi, 2020; Webb, Khoury, and Hitt, 2020; Puffer, McCarthy, and Boisot, 2010). These are formal institutional voids; support provided by the informal institutions; strong formal institutions' identity; perceiving institutional trust as a positive phenomenon; the reasons causing negative attitudes towards institutional trust; and institutional trust – formal institutions – culture relationships (Table 3).

TABLE 3 ABOUT HERE

The 'formal institutional voids' category refers to the failure of existing institutions to support effective market transactions (Webb *et al*., 2020, 504) and is widely discussed in the prior literature (Puffer *et al*., 2010; Webb *et al*., 2020; Pinkham and Peng, 2017). The descriptors that Kyiv (Ukraine) interviewees used within this category demonstrate that formal institutions in Kyiv are "*insufficiently developed*" (Q6) to support productive entrepreneurship, resulting in a "*low level of formal institutions and institutional trust*" (Q1). The local entrepreneurs "*do not cooperate with the government*" (Q3), and "*the role of formal institutions in the EE is very low*" (Q8). Kyiv has an uncertain and high-risk business environment, where EE stakeholders do not trust formal institutions and choose informal support and social ties

when starting businesses. This corresponds to the second category, "support provided by the informal institutions". In this case, the informal network (Ivy, 2013) acts as a substitute for formal networks and highly uncertain regulatory norms (Webb *et al*., 2020). The descriptors are "*the informal networks and social ties are critical for supporting Kyiv's EE*" (Q3), "*the role of informal networks in supporting entrepreneurship is high because in-person contacts drive business in Kyiv*" (Q5), and "*networking plays an important role in knowledge- and experience-sharing*" (Ivy and Perényi, 2020).

In Tbilisi (Georgia), both formal and informal institutions are highly important and interconnected. This is because they are diversified mechanisms to support high-growth productive entrepreneurship (Fuentelsaz *et al*., 2019) and include "*banks, government grants, VCs, private investors, etc*." (Q33). The informal network support complements the government's active participation in the EE, and interviewees recognise that "*formal and informal networks play a huge role in supporting the EE*", while most entrepreneurs "*trust government and believe the regulation is efficient*" (Q34). While "*informal networks are vital in everything*" (Q35), and "*informal networks in the region are strong and efficient*" (Q40), it was emphasized that in Tbilisi "*the task of the informal networks is to support formal institutions and norms to develop start-up communities and disseminate knowledge about entrepreneurship and success stories*" (Q36).

The category 'strong formal institutions' identity' refers to entrepreneurs who actively collaborate with formal institutions (e.g., law-making, forums, Triple-Helix Model), which supports productive entrepreneurship. The region's formal institutions are open to collaboration, able to set up financial support for entrepreneurs (Cumming and Zhang, 2016). They can facilitate knowledge transfers between public and private organisations. In Lviv (Ukraine), entrepreneurs "*take an active part in the EE development and have created networks to support opportunity entrepreneurship*" (Q12) through "*centres for entrepreneurship,*

business incubators, open entrepreneurship courses, and access to finance (e.g., incentives, grants, bank financing)" (Q11). However, "*a lack of trust in local and national government prevents many from relying on formal rules and laws to start and grow businesses*" (Q12). Having access to and actively using the local government's support mechanisms in Lviv, the interviewees emphasized that "*entrepreneurs rely on government financial support and assistance*" (Q9), while there are "*still issues [regarding] whether this support is based on private contacts and is fair to everyone*" (Q10).

In Batumi (Georgia), formal institutions and regulations were able to create a friendly environment for doing business (North, 1990). The formal institutions have influenced economic policies, defined strategies, and shared knowledge. It is likely that the ecosystem is still too small to reach critical mass and that productive entrepreneurship activity in Batumi is small-scale and does not require substantial government support. "*For scaling up, entrepreneurs move to Tbilisi*" (Q51).

Nur-Sultan (former Astana) (Kazakhstan) has demonstrated strong compliance with the rules/regulations. "*The government agencies and offices are located in Nur-Sultan, which allows entrepreneurs to do business more efficiently as the infrastructure is provided*" (Q16). Having equal access to tax benefits, business networks, and international collaboration, the interviewee mentioned that "*Nur-Sultan is a vibrant political and business capital city with lots of formal networks and motivated young entrepreneurs, so we just use the provided infrastructure and resources to develop business whatever they are*" (Q16). The formal institutions are widely recognised; however, "*without relatives and local authorities supporting your business it is hard to enter the market*" (Q20). The examples of the descriptors — "*the local authorities make a lot of effort to support entrepreneurship*" (Q19) and "*if you know someone in the government you are very likely to get privileged support*" (Q21) —demonstrated some trust issues, however, the EE stakeholders are still willing to do business even if the level

of institutional trust can be not that high as expected. Based on the interview results in Nur-Sultan, we conclude that start-ups that have or do not have institutional trust in local authorities are still driven by the opportunity to start and develop a business.

Almaty (Kazakhstan) demonstrated that EE stakeholders trust formal institutions less than in Nur-Sultan (former Astana) (Kazakhstan). Almaty's entrepreneurs are characterised as self-motivated and self-sufficient. They have used their own resources to grow and develop their ventures and believe that "*the formal institutions can support the "right" projects*" (Q27). Friends and family ties (Huggins and Thompson, 2016) also play an important role in establishing new businesses in Almaty, where people have been building strong family ties for a long time. Old friends and family are considered to be more reliable and trustworthy than the "*unfamiliar informal networks (VC, angel investors, accelerators, etc.)*" (Q29). Kazakhstan's clan mentality is more visible in Almaty. The descriptors of this phenomenon are "*we cooperate only with people we know personally, and we do not need government support*" (Q28), and "*there is a high social barrier and hierarchy that could be a challenge when cooperating with new people or organisations for the first time, we only trust people we know personally and for a long time*" (Q24). There is thus a strong link between entrepreneurship and culture (Hayton, George, and Zahra, 2002; Freytag and Thurik, 2007; Huggins and Thompson, 2015), which affects attitudes to entrepreneurship, formal institutions, and institutional trust in Almaty.

5.Discussion and Conclusions

The main objective of this study is to examine the relationship between formal institutions and the level of productive entrepreneurship, with institutional trust moderating the relationship in the context of a) urban ecosystems and b) transition economies. In order to achieve this objective, this study draws on the institutional context for entrepreneurship literature (Urbano *et al*., 2019a, 2019c) and applies it to a city EE (Wurth *et al*., 2021). We also extend prior research on the role of institutions in entrepreneurship (Welter and Smallbone,

2006; Dove, 2020; Aparicio *et al*., 2021b) by performing a joint test of institutional trust and formal institutions in a context of city EEs in transition economies. Our results suggest that the development of formal institutions is not enough to enhance productive entrepreneurship rather than informal institutions, such as institutional trust, may complement formal institutions in their effect on productive entrepreneurship (Bosma *et al*., 2018; Estrin *et al*., 2019).

To answer our research question, we have focused on the regional perspective of EEs and understanding why, how, and under what conditions institutional trust can facilitate the formal institution - productive entrepreneurship nexus (Ivy and Perényi, 2020; Liu, 2011; Narooz and Child, 2017; Martínez-Sanchis *et al*., 2021). By addressing the research question using a mixed-method approach, we provide an in-depth understanding of the complementarity between institutional trust and formal institutions for productive entrepreneurship in transition economies. In addition, the mixed-method approach has validated our argument that institutional trust is not a country-associated phenomenon, adding to what we know about the institutional context of regional EEs (Urbano *et al*., 2019b).

This study moves the discussion of EEs from being predominantly focused on the role of entrepreneurs and other stakeholders (Brown and Mason, 2017) to emphasizing the primary role of institutional trust within an institutional perspective for productive entrepreneurship (Estrin *et al*., 2019; Aparicio *et al*., 2021a). We extend prior research (Patel, Goh, and Bagchi, 2021) demonstrating that formal institutional constraints negatively affect the development and allocation of EE resources driven by low levels of institutional trust. Our findings suggest that institutional trust in many cities has been negatively affected by different social challenges (Brieger, and De Clercq, 2018; Barkemeyer, Preuss, and Ohana, 2018), such as institutionalized corruption, briberies, and continuous non-efficient partial reforms, extending prior research in developing economies (Cuervo-Cazurra, 2006; Aidis *et al*., 2008; Estrin and Mickiewicz, 2011; Gwartney, Lawson, and Hall, 2016). We argue that informal networks and corruption are a part

of the business culture in transition economies. Regulations in these cases are either not enforced or could be challenged informally by economic agents (Baranov *et al.*, 2015; Belitski *et al.*, 2021). Prior research suggested that growth-oriented entrepreneurs should follow existing formal institutions to obtain resources and legitimacy (Su, Zhai, and Karlsson, 2017), while it may be challenging in the highly informal institutional environment of transition economies (Aidis *et al*., 2008; Audretsch *et al*., 2021).

We argue that productive entrepreneurship activity in cities is highly heterogeneous and will not always respond positively to an increase in the quality of formal institutions and institutional trust. The institutional trust-entrepreneurship nexus is insignificant in four of the six cities we studied. Our results for Lviv (Ukraine) demonstrate that the positive effect of formal institutions on productive entrepreneurship disappears once we control for the level of institutional trust. The same happens for Nur-Sultan (former Astana) (Kazakhstan), where the negative effect of formal institutions on productive entrepreneurship also disappears once institutional trust is controlled for. This area requires further investigation, in particular the size of the effect of trust on entrepreneurship in cities where formal institutions have both positive and negative effects. We, therefore, argue that productive entrepreneurs in transition economies are especially motivated to start high-growth entrepreneurship activity by informal institutions, such as institutional trust, in addition to other financial forms of motivation such as venture capital. The findings also confirm our hypotheses that urban boundaries are a good approximation of the EE, furthering Turro *et al*. (2016).

Transition economies are characterized by overly complicated regulations and existence of institutional loopholes that could be used by entrepreneurs to negotiate business conditions with policymakers (Belitski *et al*., 2016). Based on our findings, we contend that formal institutions are not an essential condition for EE in transition economies to enhance productive

entrepreneurship. This could be explained by the limited ability to create incentives for entrepreneurs in specific regions and countries where enforcement of the regulation is remitted.

Furthermore, this study focuses on institutional trust as a regional and not country phenomenon, as debated in prior research (Welter, 2021; Boudreaux and Nikolaev, 2019; Kwon and Sohn, 2021). We extend prior research towards understanding the regional aspects of institutional trust – productive entrepreneurship (Welter, 2021). Our qualitative analysis validates the results from the regression model by demonstrating that the relationship between formal institutions and productive entrepreneurship is conditional on an informal institutional setting (Estrin *et al*., 2013, 2019; Ivy and Perényi, 2020; Gimenez-Jimenez *et al*., 2020; Wurth *et al*., 2021). Particularly, in entrepreneurial ecosystems, an increase in institutional trust is not associated with productive entrepreneurship relying on formal institutions. This relationship is likely to be affected by uncertainty avoidance and cultural differences (Fuentelsaz *et al*., 2019). For example, our qualitative findings demonstrate that the levels of institutional trust are different in the EEs of Kyiv and Lviv (Ukraine) and Nur-Sultan (former Astana) and Almaty (Kazakhstan) within the same national institutional setting, which affects entrepreneurial activity in these distinct cities. We also found a moderating effect of the culture and traditions. This could also affect the level of institutional trust of EE stakeholders in two different cities within the same country (.e.g, Nur-Sultan and Almaty (Kazakhstan). In Almaty city (Kazakhstan), entrepreneurs rely on social ties and networks to grow businesses with people they trust personally and whom they have known for a long time.

These findings contrast with those observed in Lviv and Kyiv cities (Ukraine), where there is an overall low level of institutional trust, albeit with a higher level of institutional trust in Lviv. Given the overall low levels of institutional trust in the six cities EE in our study, we conclude that any positive changes in business regulation and government support will not be converted into productive entrepreneurship. The EE stakeholders are convinced that

government support is focused on supporting firms that are politically connected (McCaffrey and Salerno, 2011; Belitski *et al*., 2021) instead of enforcing fair competition. Institutional trust and confidence in formal institutions are essential to support productive entrepreneurship.

Policy Implications

Our study has relevant implications for policymakers. Despite the growing interest in improving regulation and supporting innovation and entrepreneurship in transition economies, it is important to consider that not all city EE stakeholders will respond equally to changes in formal institutions. As our study mainly represents EE stakeholders from the education sector, creative industries, retail trade, research and consultancy, and public and government services, our policy recommendations will focus on these sectors.

Since Sobel (2008), Fuentelsaz *et al*. (2019), and Urbano's *et al*. (2019a) seminal works, we know that improvements to formal institutions require public financing, but this may not translate into value creation or support the high-growth orientation of entrepreneurs (Estrin *et al*., 2013; Stam, 2018). For this reason, local policymakers should essentially focus on engaging broader stakeholders in reforms and concentrate on long-term objectives and outcomes rather than the inputs and resources. This is because focusing on inputs and short-term outcomes have been found to produce political entrepreneurship and corruption in transition economies (Belitski *et al*., 2021).

Another implication is the importance of strengthening formal institutions at the regional level. In such locations, the availability of resources is limited, and local entrepreneurs may have strong emotional attachments to a place and be more willing to become productive entrepreneurs. Policymakers may use this to facilitate productive entrepreneurship driven by institutional trust. Policymakers who wish to foster regional development by increasing the attractiveness of entrepreneurial ecosystems (Roundy, 2019) need to understand the interplay

between the changes in formal institutions and the role of institutional trust and how this may affect entrepreneurial behaviour (Welter, 2012; Foss *et al*., 2019).

Finally, the mixed-method approach enabled us to move beyond the focus on either the formal or informal institutional perspective and the limits of quantitative or qualitative approaches to research EEs. Controlling for other regional factors driving productive entrepreneurship, such as social ties, entrepreneurial culture, debt, and equity capital that could further contribute to understanding the role of systemic factors for EE research, we unpacked how they interact with institutional trust more broadly.

Our interview results confirmed that institutional trust is perceived differently by EE stakeholders in the examined cities because of their social ties, past experiences, and local culture. While EE stakeholders may build strong social ties and trust (Boudreaux and Nikolaev, 2019) to create legitimacy and provide access to much-needed financial and knowledge resources, our findings demonstrate that this does not mean that formal institutions can be substituted or replaced by networks and social ties. At the same time, social ties as a form of the informal institution can influence the identity, personal preferences, goals, and strategies of entrepreneurs (Qin and Estrin, 2015), and may motivate them to take risks and start businesses when formal institutions are weak.

Limitations and Future Research

First, limitations related to method and data. Our quantitative part of the study is based on cross-sectional data, which is unable to enforce causality. While interviews with leading EE agents were helpful in completing the gaps in econometric modelling, further research will focus on using longitudinal data. Our mixed-method analysis certainly contributed to a more detailed and causal understanding of the relationship between institutional trust, formal institutions, and entrepreneurship, and helped provide further validity and reliability to quantitative analysis using single-item measures. While we relied on both regression analysis

and the retrospective views of our interviewees, their judgement may be biased and subjective, as well as limited within a short time period (e.g., their residence in a city). Other methods of data collection could be used in addition to a snowballing strategy.

Second, limitations related to the heterogeneous nature of informal institutions. This study provides important evidence of the heterogeneous nature of informal institutions across regions in a single country. Further research may want to unpack the cultural-cognitive dimension of the regional institutional context for productive entrepreneurship (Urbano and Alvarez, 2014) and for transition and middle-income economies. Informal institutions, including entrepreneurial culture and norms constitute the lens for entrepreneur through which they perceive and interpret individual information (Estrin *et al*., 2013) and responds with market entry. There are significant differences in what informal institutions and society guide productive entrepreneurs to do (norms and values), and what productive entrepreneurs actually do (cultural practices and behavior) (Autio, Pathak, and Wennberg, 2013). Future research will study the complementarities between informal institutions, such as cultural behaviour and practices, norms, and values in a combination with formal institutions (Stenholm *et al.*, 2013), such as regulation.

Third, limitations related to mechanisms of entrepreneurial support. Along with institutional trust, further research could focus on the attempt to fine-tune the public-private mechanisms of entrepreneurship support in transition economies. These mechanisms, such as Triple and Quadruple helix, could bring together entrepreneurs, industry, universities, and government, increasing the scope and scale of innovation, increasing trust between private and public agents, increasing transparency as use these mechanisms as best practices to learn for other regions. The most obvious challenge is that financing of such programs by public bodies is limited, and private solutions need to be involved. Subsequent research will evaluate the returns to public-private partnerships for productive entrepreneurship and how applied support

mechanisms (e.g., government incentives, programmes, grants, training, networks) (OECD, 2019) could help increase the level of institutional trust and, consequently productive entrepreneurship.

Future research should investigate how institutional trust and other informal institutions may interact and help policymakers to develop means of developing, maintaining, and restoring institutional trust in authorities in EEs in transition economies. This study calls for further investigation of the public and private mechanisms in building institutional trust with policymakers and entrepreneurs and further understanding of the complexity of institutional trust (e.g., non-linear effects) across different EE stakeholders.

References

Aidis, R., Estrin, S. and Mickiewicz, T. (2008). Institutions and entrepreneurship development in Russia: A comparative perspective. *Journal of business Venturing*, 23(6), pp.656-672.

Aidis, R., Estrin, S. and Mickiewicz, T.M. (2012). Size matters: entrepreneurial entry and government. *Small Business Economics*, 39(1), pp.119-139.

Anderson, A.R. and Jack, S.L. (2002). The articulation of social capital in entrepreneurial networks: a glue or a lubricant?. *Entrepreneurship & regional development*, 14(3), pp.193-210.

Anderson, G.M. and Boettke, P.J. (1997). Soviet venality: A rent-seeking model of the communist state. *Public Choice*, *93*(1), pp.37-53.

Aparicio, S., Audretsch, D. and Urbano, D. (2021a). Why is export-oriented entrepreneurship more prevalent in some countries than others? Contextual antecedents and economic consequences. *Journal of World Business*, 56(3), p.101177.

Aparicio, S., Urbano, D., & Audretsch, D. (2016). Institutional factors, opportunity entrepreneurship and economic growth: Panel data evidence. *Technological forecasting and social change*, *102*, 45-61.

Aparicio, S., Urbano, D., and Stenholm, P. (2021b). Attracting the entrepreneurial potential: A multilevel institutional approach. *Technological Forecasting and Social Change*, 168, p. 120748.

Aslund, A. (2002). Building capitalism: the transformation of the former Soviet bloc. *Cambridge University Press.*

Audretsch, D. B., Belitski, M., & Desai, S. (2015). Entrepreneurship and economic development in cities. *The Annals of Regional Science*, 55(1), 33-60.

Audretsch, D.B. and Belitski, M. (2021). Towards an entrepreneurial ecosystem typology for regional economic development: the role of creative class and entrepreneurship. *Regional Studies*, 55(4), pp.735-756.

Audretsch, D.B. and Belitski, M. (2017). Entrepreneurial ecosystems in cities: establishing the framework conditions. *The Journal of Technology Transfer*, *42*(5), pp.1030-1051.

Audretsch, D.B., Belitski, M., Chowdhury, F. and Desai, S. (2021). Necessity or opportunity? Government size, tax policy, corruption, and implications for entrepreneurship. *Small Business Economics*, pp.1-18.

Audretsch, D.B. and Link, A.N. (2019). Entrepreneurship and knowledge spillovers from the public sector. *International Entrepreneurship and Management Journal*, 15(1), pp.195-208.
Autio, E. and Levie, J. (2017). Management of entrepreneurial ecosystems. *The Wiley handbook of entrepreneurship*, 43, pp.423-449.
Autio, E., Pathak, S. and Wennberg, K., 2013. Consequences of cultural practices for entrepreneurial behaviors. *Journal of International Business Studies*, *44*(4), pp.334-362.
Baranov, A., Malkov, E., Polishchuk, L., Rochlitz, M. & Syunyaev, G. (2015). How (not) to measure Russian regional institutions. *Russian Journal of Economics*, 1(2), 154-181, Doi: 10.1016/j.ruje.2015.11.005.
Baldakhov, U. and Heim, I. (2020). Institutional reform in Kazakhstan. In Kazakhstan's Diversification from the Natural Resources Sector (pp. 3-29). *Palgrave Macmillan, Cham*.
Baltagi, B.H., 2008. *Econometric analysis of panel data* (Vol. 4). *Chichester: John Wiley & Sons.*
Barkemeyer, R., Preuss, L. and Ohana, M. (2018). Developing country firms and the challenge of corruption: Do company commitments mirror the quality of national-level institutions?. *Journal of Business Research*, *90*, pp.26-39.
Baumol, W.J. (1996). Entrepreneurship: Productive, unproductive, and destructive. *Journal of business venturing*, 11(1), pp.3-22.
Baumol, W.J. (1993). Formal entrepreneurship theory in economics: Existence and bounds. *Journal of business venturing*, 8(3), pp.197-210.
Belitski, M. and Büyükbalci, P. (2020). Uncharted waters of the entrepreneurial ecosystems research: Comparing Greater Istanbul and Reading ecosystems. *Growth and Change*. 52(2), pp.727-750.
Belitski, M., Grigore, A.M. and Bratu, A. (2021). Political entrepreneurship: entrepreneurship ecosystem perspective. *International Entrepreneurship and Management Journal*, 17, pp. 1973–2004.
Bjørnskov, C., & Foss, N. (2013). How strategic entrepreneurship and the institutional context drive economic growth. *Strategic Entrepreneurship Journal*, *7*(1), 50-69.
Boettke, P.J. and Coyne, C.J. (2009), Context Matters: Institutions and Entrepreneurship. Foundations and Trends in Entrepreneurship: Vol. 5 No. 3, pp 135-209.
Bosma, N., Sanders, M., & Stam, E. (2018). Institutions, entrepreneurship, and economic growth in Europe. *Small Business Economics*, *51*(2), 483-499.
Boudreaux, C.J. and Nikolaev, B. (2019). Capital is not enough: opportunity entrepreneurship and formal institutions. *Small Business Economics*, *53*(3), pp.709-738.
Bosma, N.S. and Levie, J. (2010). Global Entrepreneurship Monitor 2009 Executive Report.
Brieger, S.A. and De Clercq, D. (2018). Entrepreneurs' individual-level resources and social value creation goals: The moderating role of cultural context. *International Journal of Entrepreneurial Behavior & Research*, 25(2), pp. 193-216.
Brown, R. and Mason, C. (2017). Looking inside the spiky bits: a critical review and conceptualisation of entrepreneurial ecosystems. *Small Business Economics*, 49(1), pp.11-30.
Bruton, G.D., Ahlstrom, D. and Li, H.L. (2010). Institutional theory and entrepreneurship: where are we now and where do we need to move in the future?. *Entrepreneurship theory and practice*, 34(3), pp.421-440.
Cao, Z. and Shi, X. (2021). A systematic literature review of entrepreneurial ecosystems in advanced and emerging economies. *Small Business Economics*, 57(1), pp.75-110.
Chowdhury, F., Audretsch, D.B. and Belitski, M. (2019). Institutions and entrepreneurship quality. *Entrepreneurship Theory and Practice*, 43(1), pp.51-81.
Content, J., Frenken, K. and Jordaan, J.A. (2019). Does related variety foster regional entrepreneurship? Evidence from European regions. *Regional Studies*.53(11), pp. 1531-1543.
Copi, I and Cohen, C. (2001). *Introduction to logic*, Englewood Cliffs, NJ: Prentice Hall.

Corbin, J. and Strauss, A. (2014). Basics of qualitative research: Techniques and procedures for developing grounded theory. *Sage publications.*
Cuervo-Cazurra, A. (2006). Who cares about corruption?. *Journal of international business studies*, 37(6), pp.807-822.
Cuervo-Cazurra, A., Mudambi, R., & Pedersen, T. (2019). Clarifying the relationships between institutions and global strategy. *Global Strategy Journal*, *9*(2), 151-175.
Cumming, D., Meoli, M. and Vismara, S. (2021). Does equity crowdfunding democratize entrepreneurial finance?. *Small business economics*, *56*(2), pp.533-552.
Cumming, D.J. and Vismara, S. (2017). De-segmenting research in entrepreneurial finance. *Venture Capital*, 19(1-2), pp.17-27.
Cumming, D. and Zhang, Y. (2016). Alternative investments in emerging markets: A review and new trends. *Emerging Markets Review*, *29*, pp.1-23.
De Brito, S. and Leitão, J. (2021). Mapping and defining entrepreneurial ecosystems: a systematic literature review. *Knowledge Management Research & Practice*, *19*(1), pp.21-42.
De Clercq, D., Lim, D. S., & Oh, C. H. (2013). Individual–level resources and new business activity: The contingent role of institutional context. *Entrepreneurship Theory and Practice*, *37*(2), 303-330.
Doing business (2020). Comparing Business Regulation in 190 Economies. Available at: https://documents1.worldbank.org/curated/en/688761571934946384/pdf/Doing-Business-2020-Comparing-Business-Regulation-in-190-Economies.pdf
Dove, J.A. (2020). Opportunity entrepreneurship and regulation: a state-level analysis. *Applied Economics Letters*, 27(12), pp.987-991.
Drakopoulou Dodd, S., & Anderson, A. R. (2007). Mumpsimus and the mything of the individualistic entrepreneur. *International Small Business Journal*, *25*(4), 341-360.
Efendic, A., Mickiewicz, T., & Rebmann, A. (2015). Growth aspirations and social capital: Young firms in a post-conflict environment. *International Small Business Journal*, *33*(5), 537-561.
Eijdenberg, E. L., Thompson, N. A., Verduijn, K., & Essers, C. (2018). Entrepreneurial activities in a developing country: an institutional theory perspective. *International Journal of Entrepreneurial Behavior & Research*, 25(3), 414-432.
Escandón-Barbosa, D. M., Urbano, D., Hurtado-Ayala, A., and Dominguez, A. Z. (2019). Formal institutions, informal institutions and entrepreneurial activity: A comparative relationship between rural and urban areas in Colombia. *Journal of Urban Management*, 8(3), 458-471.
Estrin, S., Meyer, K. E., and Bytchkova, M. (2006). Entrepreneurship in transition economies. *The Oxford handbook of entrepreneurship*, pp. 693-725.
Estrin, S. and Mickiewicz, T. (2011). Entrepreneurship in transition economies: The role of institutions and generational change. *The dynamics of entrepreneurship: Evidence from the global entrepreneurship monitor data*, pp.181-208.
Estrin, S., Mickiewicz, T. and Stephan, U. (2013). Entrepreneurship, social capital, and institutions: Social and commercial entrepreneurship across nations. *Entrepreneurship theory and practice*, 37(3), pp.479-504.
Estrin, S., Mickiewicz, T., Stephan, U., and Wright, M. (2019). Entrepreneurship in emerging markets. *The Oxford handbook of management in emerging markets*, *457*.
Foss, N.J., Klein, P.G. and Bjørnskov, C. (2019). The context of entrepreneurial judgment: organizations, markets, and institutions. *Journal of Management Studies*, *56*(6), pp.1197-1213.
Fredström, A., Peltonen, J. and Wincent, J. (2020). A country-level institutional perspective on entrepreneurship productivity: The effects of informal economy and regulation. *Journal of Business Venturing*, 36(5), p.106002.

Freytag, A. and Thurik, R. (2007). Entrepreneurship and its determinants in a cross-country setting. *Journal of evolutionary Economics*, 17(2), pp.117-131.
Fritsch, M., Greve, M., & Wyrwich, M. (2022). The Long-Run Effects of Communism and Transition to a Market System on Self-Employment: The Case of Germany. *Entrepreneurship Theory and Practice*, 10422587221094498.
Fuentelsaz, L., González, C. and Maicas, J.P. (2019). Formal institutions and opportunity entrepreneurship. The contingent role of informal institutions. *BRQ Business Research Quarterly*, *22*(1), pp.5-24.
Fukuyama, F. (1995). Trust: The Social Virtues and the Creation of Prosperity (p. 26). New York: Simon e Shuster.
Gartner, W.B. and Birley, S. (2002). Introduction to the special issue on qualitative methods in entrepreneurship research. *Journal of Business Venturing*, 17. pp. 37-395.
Gimenez-Jimenez, D., Calabrò, A., and Urbano, D. (2020). The neglected role of formal and informal institutions in women's entrepreneurship: a multi-level analysis. *Journal of International Entrepreneurship*, 18(2), 196-226.
Goldsmith, S. (2010). The power of social innovation: How civic entrepreneurs ignite community networks for good. *John Wiley & Sons*.
Granovetter, M. (1985). Economic action and social structure: The problem of embeddedness. *American journal of sociology*, 91(3), 481-510.
Guerrero, M. and Urbano, D. (2020). Institutional conditions and social innovations in emerging economies: insights from Mexican enterprises' initiatives for protecting/preventing the effect of violent events. *The Journal of Technology Transfer*, 45, pp. 929–957.
Guiso, L., P. Sapienza, and L. Zingales (2010). Rebuilding trust after the crisis. Implications for financial markets, Politics, Economics and Global Governance: *The European Dimensions Policy Papers.*
Gwartney, J., Lawson, R. and Hall, J. (2016). Economic Freedom of the World: 2015 Annual Report. *Vancouver BC: Fraser Institute.*
Harima, A., Harima, J. and Freiling, J. (2021). The injection of resources by transnational entrepreneurs: towards a model of the early evolution of an entrepreneurial ecosystem. *Entrepreneurship & Regional Development*, 33(1-2), pp.80-107.
Hayton, J.C., George, G. and Zahra, S.A. (2002). National culture and entrepreneurship: A review of behavioral research. *Entrepreneurship theory and practice*, 26(4), pp.33-52.
Hechavarria, D. M., & Reynolds, P. D. (2009). Cultural norms & business start-ups: the impact of national values on opportunity and necessity entrepreneurs. *International Entrepreneurship and Management Journal*, *5*(4), 417-437.
Hoff, K. and Stiglitz, J.E. (2004). The transition process in post-communist societies: towards a political economy of property rights. *Toward Pro-Poor Policies: Aid, Institutions and Globalization*, pp.231-45.
Höhmann, H.H. and Malieva, E. (2005). The concept of trust: Some notes on definitions, forms and sources. *Trust and entrepreneurship*, pp.7-23.
Höhmann, H. H., & Welter, F. (2002). Entrepreneurial strategies and trust. *Structure and Evolution of Entrepreneurial Behavioural Patterns in East and West European Environments-Concepts and considerations. Bremen Forschungsstelle Osteur*.
Huggins, R. and Thompson, P. (2015). Culture and place-based development: A socio-economic analysis. *Regional Studies*, 49(1), pp.130-159.
Huggins, R. and Thompson, P. (2016). Socio-spatial culture and entrepreneurship: some theoretical and empirical observations. *Economic Geography*, 92(3), pp.269-300.
IMF (2019). Georgia — Harnessing Reforms to Boost Inclusive Growth. International Monetary Fund. Available at: https://www.imf.org/en/News/Articles/2019/05/20/sp052016-lagarde-georgia-harnessing-reforms-to-boost-inclusive-growth

Isenberg, D. (2011). The entrepreneurship ecosystem strategy as a new paradigm for economic policy: Principles for cultivating entrepreneurship. *Presentation at the Institute of International and European Affairs*, 1(781), pp.1-13.
Ivy, J. (2013). State-controlled economies vs. rent-seeking states: Why small and medium enterprises might support state officials. *Entrepreneurship & Regional Development*, 25(3-4), pp.195-221.
Ivy, J. and Perényi, Á. (2020). Entrepreneurial networks as informal institutions in transitional economies. *Entrepreneurship & Regional Development*, 32(9-10), pp.706-736.
Iwasaki, I. (2003). Evolution of the government–business relationship and economic performance in the former soviet states–order state, rescue state, punish state. *Economics of Planning*, 36(3): 223–57
Jones, P., Ratten, V., Klapper, R. and Fayolle, A. (2019). Entrepreneurial identity and context: Current trends and an agenda for future research. *The International Journal of Entrepreneurship and Innovation*, *20*(1), pp.3-7.
Kaasa, A. and Andriani, L. (2021). Determinants of institutional trust: the role of cultural context. *Journal of Institutional Economics*, pp.1-21.
Kalyuzhnova, Y. (2016). The Kazakstan Economy: Independence and Transition. *Springer.*
Kansheba, J.M.P. and Wald, A.E. (2020). Entrepreneurial ecosystems: a systematic literature review and research agenda. *Journal of Small Business and Enterprise Development*, 27(6), pp. 943-964
Knight, F. H. (1921). Risk, Uncertainty and Profit. *Signalman Publishing, Orlando.*
Korosteleva, J., Mickiewicz, T. and Stępień-Baig, P. (2020). It takes two to tango: complementarity of bonding and bridging trust in alleviating corruption in cities. *Regional Studies*, *54*(6), pp.851-862.
Krasniqi, B.A. and Desai, S. (2016). Institutional drivers of high-growth firms: country-level evidence from 26 transition economies. *Small Business Economics*, 47(4), pp.1075-1094.
Kraus, S., McDowell, W., Ribeiro-Soriano, D. E., & Rodríguez-García, M. (2021). The role of innovation and knowledge for entrepreneurship and regional development. *Entrepreneurship & Regional Development*, *33*(3-4), 175-184.
Krueger, A.O. (1974). The political economy of the rent-seeking society. *The American economic review*, *64*(3), pp.291-303.
Kwon, I. and Sohn, K. (2021). Trust or distrust: entrepreneurs vs. self-employed. *Small Business Economics*, 56(4), pp.1553-1570.
Letaifa, S. B., & Goglio-Primard, K. (2016). How does institutional context shape entrepreneurship conceptualizations?. *Journal of Business Research*, *69*(11), 5128-5134.
Liao, J. and Welsch, H. (2005). Roles of social capital in venture creation: Key dimensions and research implications. *Journal of small business management*, *43*(4), pp.345-362.
Liu, Y. (2011). High-tech ventures' innovation and influences of institutional voids: A comparative study of two high-tech parks in China. *Journal of Chinese Entrepreneurship*. 3(2), pp. 112-133.
Mack, E. and Mayer, H. (2016). The evolutionary dynamics of entrepreneurial ecosystems. *Urban studies*, *53*(10), pp.2118-2133.
Mair, J., & Marti, I. (2009). Entrepreneurship in and around institutional voids: A case study from Bangladesh. *Journal of business venturing*, *24*(5), 419-435.
Maguire, S., & Phillips, N. (2008). 'Citibankers' at Citigroup: A study of the loss of institutional trust after a merger. *Journal of management studies*, *45*(2), 372-401.
Malecki, E.J. (2018). Entrepreneurship and entrepreneurial ecosystems. *Geography compass*, *12*(3), pp. 12359.

Martínez-Sanchis, P., Iturrioz-Landart, C., Aragón-Amonarriz, C., Radu-Lefebvre, M. and Seaman, C. (2021). Institutional settings and local embeddedness of European entrepreneurial families: an inter-regional comparison. *European Planning Studies*, 29(10), pp. 1819-1844.
Mason, C., & Brown, R. (2014). Entrepreneurial ecosystems and growth oriented entrepreneurship. *Final report to OECD, Paris*, *30*(1), 77-102.
Mayer, R.C., Davis, J.H. and Schoorman, F.D. (1995). An integrative model of organizational trust. *Academy of management review*, 20(3), pp.709-734.
McCaffrey, M. and Salerno, J.T. (2011). A theory of political entrepreneurship. *Modern Economy*, 2(4), pp.552-560.
Mickiewicz, T., Rebmann, A. and Sauka, A. (2019). To pay or not to pay? Business owners' tax morale: Testing a neo-institutional framework in a transition environment. *Journal of Business Ethics*, 157(1), pp.75-93.
Mickiewicz, T. and Rebmann, A. (2020). Entrepreneurship as trust. *Foundations and Trends in Entrepreneurship*, *16*(3), pp.244-309.
Miles, M.B. and Huberman, A.M. (1994). *Qualitative data analysis: An expanded sourcebook*. *Sage*.
Molina-Azorín, J.F., López-Gamero, M.D., Pereira-Moliner, J. and Pertusa-Ortega, E.M., (2012). Mixed methods studies in entrepreneurship research: Applications and contributions. *Entrepreneurship & Regional Development*, *24*(5-6), pp.425-456.
Muldoon, J., Bauman, A., and Lucy, C. (2018). Entrepreneurial ecosystem: do you trust or distrust?. *Journal of Enterprising Communities: People and Places in the Global Economy.* 12(2), pp.158-177
Narooz, R. and Child, J. (2017). Networking responses to different levels of institutional void: A comparison of internationalizing SMEs in Egypt and the UK. *International Business Review*, 26(4), pp.683-696.
North, D. (1990). Institutions, Institutional Change and Economic Performance, *Cambridge New York.*
OECD (2019). Promoting entrepreneurship and private sector engagement. in Regions in Industrial Transition: Policies for People and Places, OECD Publishing, Paris. Available at: https://www.oecd-ilibrary.org/docserver/e3ffdc84-en.pdf?expires=1652875573&id=id&accname=guest&checksum=5AB7607348C6232767F7B92E44836F54
Patel, P. C., Doh, J. P., & Bagchi, S. (2021). Can Entrepreneurial Initiative Blunt the Economic Inequality–Growth Curse? Evidence From 92 Countries. *Business & Society*, 60(2), 496–541.
Peng, M. W. (2003). Institutional transitions and strategic choices. *Academy of management review*, 28(2), 275-296.
Peng, M. W., & Luo, Y. (2000). Managerial ties and firm performance in a transition economy: The nature of a micro-macro link. *Academy of management journal*, *43*(3), 486-501.
Peng, M.W., Sun, S.L., Pinkham, B. and Chen, H. (2009). The institution-based view as a third leg for a strategy tripod. *Academy of management perspectives*, *23*(3), pp.63-81.
Pinkham, B.C. and Peng, M.W. (2017). Overcoming institutional voids via arbitration. *Journal of International Business Studies*, 48(3), pp.344-359.
Puffer, S.M., McCarthy, D.J. and Boisot, M. (2010). Entrepreneurship in Russia and China: The impact of formal institutional voids. *Entrepreneurship theory and practice*, 34(3), pp.441-467.
Qin, F. and Estrin, S. (2015). Does Social Influence Span Time and Space? Evidence from I ndian Returnee Entrepreneurs. *Strategic Entrepreneurship Journal*, 9(3), pp.226-242.
Raiser, M. (1999). *Trust in transition* (Vol. 39). London: European Bank for Reconstruction and Development.

Reynolds, P.D. and Curtin, R.T. (2011). Overview and commentary. *New Business Creation* (pp. 295-334). *Springer, New York, NY*.
Roundy, P.T. (2019). Back from the brink: The revitalization of inactive entrepreneurial ecosystems. *Journal of Business Venturing Insights*, *12*, p.e00140.
Scheidgen, K. (2021). Degrees of integration: how a fragmented entrepreneurial ecosystem promotes different types of entrepreneurs. *Entrepreneurship & Regional Development*, *33*(1-2), pp.54-79.
Schuetz, A. (1945). "On Multiple Realities." *Philosophy and Phenomenological Research*, 5 (4),pp. 533–576.
Scott, S.A., Hughes, M., and Kraus, S. (2019), "Developing Relationships in Innovation Clusters", *Entrepreneurship and Regional Development*, 31(1-2), 22-45.
Scott, S., Hughes, M., & Ribeiro-Soriano, D. (2022). Towards a network-based view of effective entrepreneurial ecosystems. *Review of Managerial Science*, *16*(1), 157-187.
Slemrod, J., & Katuščák, P. (2005). Do trust and trustworthiness pay off?. *Journal of Human Resources*, *40*(3), 621-646.
Sobel, R.S. (2008). Testing Baumol: Institutional quality and the productivity of entrepreneurship. *Journal of Business Venturing*, 23(6), pp.641-655.
Smallbone, D. and Welter, F. (2001). The distinctiveness of entrepreneurship in transition economies. *Small business economics*, 16(4), pp.249-262.
Smallbone, D. and Welter, F. (2012). Entrepreneurship and institutional change in transition economies: The Commonwealth of Independent States, Central and Eastern Europe and China compared. *Entrepreneurship & Regional Development*, *24*(3-4), pp.215-233.
Smith, D.A. and Lohrke, F.T. (2008). Entrepreneurial network development: Trusting in the process. *Journal of Business Research*, 61(4), pp.315-322.
Spigel, B. (2017). The relational organization of entrepreneurial ecosystems. *Entrepreneurship theory and practice*, *41*(1), pp.49-72.
Stam, E. (2015). Entrepreneurial ecosystems and regional policy: a sympathetic critique. *European Planning Studies*, 23(9), pp.1759-1769.
Stam, E. (2018). Measuring entrepreneurial ecosystems. In *Entrepreneurial ecosystems* (pp. 173-197). *Springer, Cham.*
Stam, E. and Van de Ven, A. (2021). Entrepreneurial ecosystem elements. *Small Business Economics*, *56*(2), pp.809-832.
Stenholm, P., Acs, Z.J. and Wuebker, R. (2013). Exploring country-level institutional arrangements on the rate and type of entrepreneurial activity. *Journal of Business Venturing*, 28(1), pp.176-193.
Strauss, A., & Corbin, J. (1994). Grounded theory methodology: An overview. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 273–285). *Sage Publications, Inc.*
Su, J., Zhai, Q., & Karlsson, T. (2017). Beyond red tape and fools: Institutional theory in entrepreneurship research, 1992–2014. *Entrepreneurship Theory and Practice*, 41(4), 505-531.
Svejnar, J. (2002). Transition economies: Performance and challenges. *Journal of Economic perspectives*, *16*(1), pp.3-28.
Szerb, L., Lafuente, E., Horváth, K. and Páger, B. (2019). The relevance of quantity and quality entrepreneurship for regional performance: the moderating role of the entrepreneurial ecosystem. *Regional Studies*, 53(9), pp.1308-1320.
Thornton, P.H., Ribeiro-Soriano, D. and Urbano, D. (2011). Socio-cultural factors and entrepreneurial activity: An overview. *International small business journal*, 29(2), pp.105-118.
Turro, A., Alvarez, C. and Urbano, D. (2016). Intrapreneurship in the Spanish context: a regional analysis. *Entrepreneurship & Regional Development*, *28*(5-6), pp.380-402.

Urbano, D., and Alvarez, C. (2014). Institutional dimensions and entrepreneurial activity: an international study. *Small business economics*, *42*(4), 703-716.
Urbano, D., Aparicio, S., and Audretsch, D. B. (2019a). *Institutions, entrepreneurship, and economic performance* (Vol. 41). Springer.
Urbano, D., Aparicio, S. and Audretsch, D.B., (2019b). Institutional context, entrepreneurial activity, and social progress. *Institutions, Entrepreneurship, and Economic Performance* (pp. 131-149). Springer, Cham.
Urbano, D., Aparicio, S., and Audretsch, D. (2019c). Twenty-five years of research on institutions, entrepreneurship, and economic growth: What has been learned? *Small Business Economics*, *53*(1), 21-49.
Urbano, D., Audretsch, D., Aparicio, S. and Noguera, M. (2020). Does entrepreneurial activity matter for economic growth in developing countries? The role of the institutional environment. *International Entrepreneurship and Management Journal*, 16(3), pp.1065-1099.
Webb, J.W., Ireland, R.D. and Ketchen Jr, D.J. (2014). Toward a greater understanding of entrepreneurship and strategy in the informal economy. *Strategic Entrepreneurship Journal*, *8*(1), pp.1-15.
Webb, J.W., Khoury, T.A. and Hitt, M.A. (2020). The influence of formal and informal institutional voids on entrepreneurship. *Entrepreneurship Theory and Practice*, 44(3), pp.504-526.
Webb, J.W., Tihanyi, L., Ireland, R.D. and Sirmon, D.G. (2009). You say illegal, I say legitimate: Entrepreneurship in the informal economy. *Academy of management review*, 34(3), pp.492-510.
Welter, F. (2012). All you need is trust? A critical review of the trust and entrepreneurship literature. *International Small Business Journal*, *30*(3), pp.193-212.
Welter, F. (2021). *Trust and entrepreneurship*. *World encyclopedia of entrepreneurship*. Edward Elgar Publishing. pp. 623–628
Welter, F. and Alex, N. (2015). Researching trust in different cultures. In *Handbook of research methods on trust*. Edward Elgar Publishing.
Welter, F. and Smallbone, D. (2006). Exploring the role of trust in entrepreneurial activity. *Entrepreneurship Theory and Practice*, 30(4), pp.465-475.
Welter, F., & Smallbone, D. (2011). Institutional perspectives on entrepreneurial behavior in challenging environments. *Journal of Small Business Management*, *49*(1), 107-125.
World Bank Enterprise Survey 2014 – 2019 (WBES). Available at https://www.enterprisesurveys.org/en/data
World Bank (2019). Fast-Paced Reforms Lead to Improvements in Ease of Doing Business Across Kazakhstan. Available at: https://www.worldbank.org/en/news/press-release/2019/06/17/doing-business-in-kazakhstan-2019
Wurth, B., Stam, E. and Spigel, B. (2021). Toward an entrepreneurial ecosystem research program. *Entrepreneurship Theory and Practice*, pp. 1-50.
Zahra, S.A., Sapienza, H.J. and Davidsson, P. (2006). Entrepreneurship and dynamic capabilities: A review, model and research agenda. *Journal of Management studies*, 43(4), pp.917-955.
Zemtsov, S.P., Komarov, V.M. and Barinova, V.A. (2022). Uncovering New Economy Potential Of Russian Regions On The Basis Of The Last 20 Years Dynamics'analysis. *Экономика региона*, 18(1), pp.92-104.

Table 1: Descriptive statistics

City name		Kiev		Lviv		Tbilisi		Batumi		Nur-Sultan (formerAstana)		Almaty	
Variables	Variables description	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Productive entrepreneurship	Do you agree with the statement: There is a strong focus on growth-oriented and productive entrepreneurship activity in my region (city) (1 - very weak, 7 - very strong)	5.01	1.34	4.88	1.28	4.13	1.23	4.60	1.19	5.85	1.15	5.38	1.18
Government support	Do you agree with the statement: There is a number of government entrepreneurship support programs in my region (city) (1- very weak, 7 - very strong)	3.95	1.43	3.88	1.28	3.98	1.54	3.74	1.46	3.93	1.44	3.60	1.45
Culture	Do you agree with the statement: There is a strong entrepreneurship culture and orientation in my region (city) and I personally know entrepreneur who started a business in the previous years (1- very weak, 7 - very strong)	4.20	1.60	4.54	1.50	3.82	1.50	4.93	1.50	4.62	1.17	4.54	1.51
Social ties	Do you agree with the statement: There is a well-developed informal network to entrepreneurship in my region (city) (1- very weak, 7 - very strong) (e.g. knowing angel investors personally, informal business meetings, membership in business clubs, entrepreneur's families, friends, colleagues and relations with other actors)	4.45	1.42	4.58	1.39	3.92	1.39	4.52	1.51	5.16	2.02	5.72	1.20
Venture capital	Do you agree with the statement: There is a well-developed private equity capital (business angels, venture capital, crowdfunding) in my region (city) to support entrepreneurship (1- very weak, 7 - very strong)	4.03	1.59	3.63	1.43	2.90	1.53	2.60	1.37	3.77	1.25	3.53	1.41
Debt capital	Do you agree with the statement: There is a well-developed debt capital (bank and other debt capital providers, financial associations, peer-to-peer lending, business-to-business lending, invoice factoring, etc.) in my region (city) to support entrepreneurship (1- very weak, 7 - very strong)	4.65	1.70	4.48	1.79	4.08	1.58	5.05	1.48	5.69	1.34	5.61	1.13
Civil society	Number of nationally and internationally recognized non-for-profit organizations in my city (region) focused on changing human behaviour related to inequality, democracy, civil rights, health and environmental protection, labour market regulation, home abuse)	18.00	0.00	20.00	0.00	16.00	0.00	12.00	0.00	19.00	0.00	7.00	0.00
Media support	Do you agree with the statement: There is a high status of entrepreneur in my region (city) as well as support of independent mass media to entrepreneurship in my region (city) (1- very weak, 7 - very strong)	4.25	1.49	3.78	1.56	3.75	1.47	3.48	1.42	3.72	1.31	3.63	1.38
Formal institutions	Do you agree with the statement: There are well-developed formal institutions and regulations to support entrepreneurship EE in my region (city) (1- very weak, 7 - very strong) (government support to universities, Chambers of Commerce to start a new business and in a form of government grants, Triple-Helix partnerships as well as legal bundle of rules conducive to entrepreneurship and specific institutional settings and regulation that enable disruptive entrepreneurship)	3.96	1.37	3.82	1.47	3.46	1.39	3.87	1.37	3.49	1.22	3.62	1.27

Trust	Do you agree with the statement: "There is an economic activity of entrepreneurs via formal and informal cooperation with the local government to access resources in a privileged way compared to other entrepreneurs whose access to resources could be limited or restricted measured on the Likert scale from 1 – very weak to 7 – very strong. We calculated an inverse of this indicator as a measure of institutional trust. That means that on the Likert scale (-7) – is the lack of institutional trust, while (-1) – represents high level of trust to formal institutions and local authorities.	-5.03	1.42	-4.76	1.58	-4.05	1.42	-4.66	1.48	-4.44	0.97	-4.92	1.14
Entrepreneur	Area of activity (entrepreneur = 1, otherwise =0)	0.12	0.33	0.24	0.43	0.24	0.43	0.26	0.44	0.89	0.31	0.72	0.45
Gender	Gender (male=1, female=0)	0.45	0.50	0.57	0.50	0.61	0.49	0.58	0.50	0.40	0.49	0.39	0.49
University degree	Have you got a university degree or higher? (1 - yes; 0 - no)	0.88	0.32	0.98	0.14	0.92	0.27	0.97	0.18	0.96	0.19	0.96	0.19
Age range	Age group (less than 29 years old = 1; 30-39 = 2; 40-49 = 3; 50-59 = 4; 60-69 = 5; more than 70 = 6)	2.38	1.23	2.34	0.84	2.00	0.92	2.16	0.76	1.67	0.76	1.94	0.75

Source: Authors calculations using entrepreneurship ecosystem data

Table 2: Regression results using the OLS estimation. Dependent variable: Productive entrepreneurship

City	Kyiv, Ukraine		Lviv, Ukraine		Tbilisi, Georgia		Batumi, Georgia		Nur-Sultan (former Astana), Kazakhstan		Almaty, Kazakhstan	
Specification	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Entrepreneur	-0.530* (0.32)	-0.267 (0.29)	0.226 (0.27)	0.226 (0.28)	-0.252 (0.17)	-0.245 (0.17)	-0.439 (0.32)	-0.426 (0.33)	0.726*** (0.24)	0.586** (0.28)	0.361 (0.28)	0.472* (0.28)
Gender	0.319* (0.19)	0.203 (0.20)	0.233 (0.21)	0.235 (0.21)	0.497*** (0.16)	0.530*** (0.16)	0.184 (0.30)	0.198 (0.32)	0.054 (0.22)	0.088 (0.22)	-0.062 (0.22)	-0.041 (0.21)
University degree	1.112*** (0.31)	1.264*** (0.31)	1.031 (0.90)	0.985 (0.93)	0.704* (0.38)	0.737* (0.43)	-1.002 (0.66)	-0.889 (0.68)	0.345 (0.31)	0.361 (0.30)	0.926* (0.51)	0.926* (0.50)
Age range	-0.135 (0.09)	-0.119 (0.09)	0.158 (0.11)	0.184 (0.12)	0.081 (0.10)	0.069 (0.10)	0.085 (0.17)	0.075 (0.17)	0.231* (0.12)	0.238* (0.12)	0.075 (0.14)	-0.010 (0.17)
Government support	0.142 (0.10)	0.044 (0.10)	0.242** (0.11)	0.239** (0.11)	0.150** (0.07)	-0.006 (0.32)	0.077 (0.11)	0.338 (0.27)	0.249*** (0.09)	0.243** (0.10)	0.121 (0.10)	0.142 (0.10)
Culture	0.010 (0.08)	-0.007 (0.09)	0.278*** (0.09)	0.278*** (0.10)	0.247*** (0.08)	0.241*** (0.08)	0.281*** (0.10)	0.314*** (0.11)	0.128 (0.11)	0.140 (0.11)	0.149 (0.15)	0.135 (0.15)
Social ties	0.088 (0.10)	-0.006 (0.11)	0.117 (0.11)	0.139 (0.11)	-0.071 (0.08)	0.069 (0.31)	-0.034 (0.10)	-0.289 (0.25)	0.073 (0.06)	0.075 (0.07)	0.169* (0.09)	0.145 (0.10)
Venture capital	0.215** (0.09)	0.265*** (0.09)	0.022 (0.08)	0.032 (0.09)	0.172** (0.07)	0.177** (0.07)	0.188 (0.12)	0.179 (0.11)	-0.016 (0.11)	-0.011 (0.12)	0.299* (0.15)	0.314** (0.15)
Debt capital	0.048 (0.08)	0.072 (0.08)	0.052 (0.07)	0.051 (0.07)	-0.028 (0.07)	-0.009 (0.06)	0.211** (0.10)	0.210** (0.10)	0.248** (0.10)	0.259** (0.10)	0.036 (0.12)	0.055 (0.12)

Media support	0.072 (0.09)	0.093 (0.09)	-0.081 (0.10)	-0.082 (0.10)	-0.020 (0.06)	-0.033 (0.06)	0.072 (0.11)	0.098 (0.12)	0.084 (0.09)	0.090 (0.09)	-0.222* (0.12)	-0.263** (0.12)
Formal institutions	0.0948 (0.12)	0.0472 (0.31)	0.183* (0.10)	0.187 (0.22)	0.286*** (0.09)	0.550** (0.23)	0.101 (0.14)	0.262 (0.31)	-0.268** (0.12)	-0.111 (0.39)	-0.0836 (0.11)	-0.739* (0.38)
Trust		-0.135 (0.22)		0.033 (0.20)		-0.056 (0.39)		-0.452 (0.36)		-0.008 (0.32)		0.282 (0.35)
Formal institutions x Trust		-0.015 (0.05)		0.004 (0.05)		0.063** (0.03)		0.041 (0.06)		0.031 (0.08)		-0.12** (0.05)
Constant	1.424** (0.57)	0.973 (1.25)	-0.136 (1.04)	-0.048 (1.37)	0.471 (0.54)	0.209 (1.86)	1.659 (1.41)	-0.464 (2.45)	1.808*** (0.59)	1.662 (1.56)	1.861** (0.92)	3.595* (1.92)
Number of obs.	147	147	96	96	140	140	62	62	104	104	108	108
R2	.42	.40	.49	.49	.54	.55	.52	.53	.33	.34	.28	.32
RMSE	1.06	1.03	.96	.97	.87	.87	.92	.93	.97	.97	1.05	1.04
F statistics	9.16	6.53	6.85	5.98	16.21	13.62	10.45	8.62	11.11	9.27	3.89	4.82
Log-loglikelihood	-196.27	-166.64	-126.34	-126.05	-159.73	-158.78	-73.61	-72.84	-135.38	-134.97	-150.03	-145.77

Note: *0.05, **0.01, ***0.001 significance level.
Source: Authors calculations using entrepreneurship ecosystem data

Table 3. Emerged categories from the interviews and their characteristics

Emerged category	**Characteristics of the category**	**City**	**References**
Formal institutional voids	Insufficiently developed formal institutional support; High risks; Low level of trust to the institutions; Non-transparent activity; Lack of incentives to promote and support entrepreneurship	Kyiv	Formal institutional voids and entrepreneurship (Puffer et al. 2010; Webb et al., 2020; Webb et al., 2009
Support provided by the informal institutions	Knowledge and experience sharing within informal networks; developed informal institutional infrastructure; low barriers to enter informal networks; Network-based trust; Business connections	Kyiv; Tbilisi	Network support (North, 1990; Ivy, 2013; Ivy and Perényi, 2020)
Strong formal institutions' identity	Easy access to government support; Transparent funding procedures; Availability of debt capital marker; Formal institutions participate in informal networking and share knowledge; Reputation among EE stakeholders	Tbilisi; Batumi; Lviv; Nur-Sultan (former Astana)	Chowdhury et al.,2019; Smallbone and Welter, 2012;
Perceiving institutional trust as a positive phenomenon	Predictable institutional environment; Cooperation with the government; Positive reputation; Formal institutions support entrepreneurship and entrepreneurial infrastructure	Tbilisi, Batumi, Lviv	Institutional trust for productive entrepreneurship (Höhmann and Welter, 2005; Welter, 2012; Mickiewicz and Rebmann, 2020)
The reasons, causing negative attitude towards institutional trust	Corruption; Bribes; Negative past experience; Social injustice; Mentality; internal regional conflicts; Biases; Formal institutions are associated with theft from the community	Kyiv,Almaty	Factors of low level of institutional trust (Smallbone & Welter, 2001; Puffer, McCarthy, and Boisot, 2010; Chowdhury et al., 2019; Welter. 2012; Korosteleva et al., 2020;)
Institutional trust – formal institutions – culture relationships	Social ties; Hierarchy; Low level of personal trust; Active government participation in EE evolvement; Past experience	Nur-Sultan (former Astana), Almaty	The role of culture in entrepreneurship and trust (North, 1990; Freytag and Thurik, 2007; Welter and Alex, 2015; Kaasa and Andriani, 2021)

Source: Authors

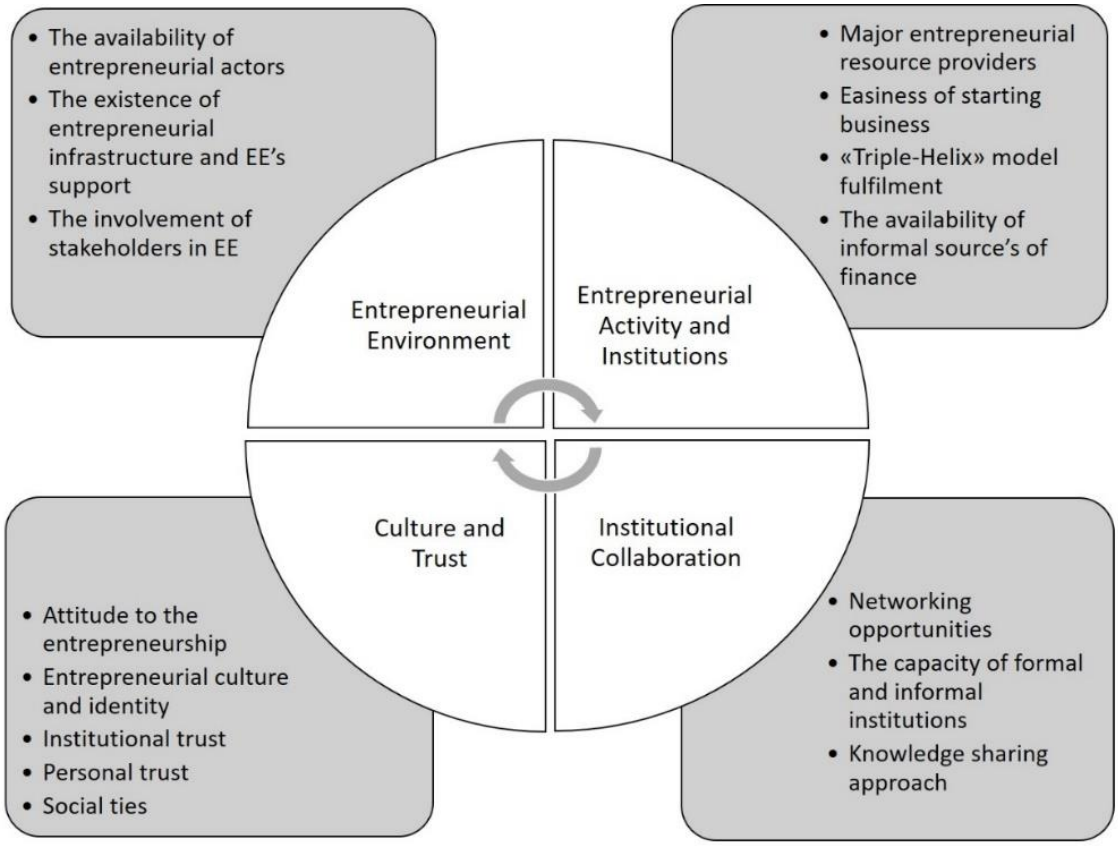

Figure 1. The four-order model for analysing the role of trust and formal institutions for productive entrepreneurship.
Source: Authors

Appendix 1. Key characteristics of the interview participants

№	Sex	Age	Role in the EE	City and Country	Industry
1	F	33	Expert of Economic Programmes	Kyiv, Ukraine	Business Analytics, Economics
2	F	31	Lawyer	Kyiv, Ukraine	Law, education
3	F	50	Investment Adviser, Business Development Specialist, VC	Kyiv, Ukraine	Finance, Startup tech sector
4	F	48	Professor	Kyiv, Ukraine	Education
5	M	55	TTO Manager	Kyiv, Ukraine	Medicine
6	M	30	Owner of the company	Kyiv, Ukraine	Creative sector
7	M	34	Director of the company	Kyiv, Ukraine	Investment
8	M	47	Science Park Director	Kyiv, Ukraine	Education
9	M	43	Economic Development Official	Lviv, Ukraine	Public sector
10	M	47	Investor	Lviv, Ukraine	Creative Sector
11	M	44	Lawyer	Lviv, Ukraine	Law, education
12	F	51	Professor	Lviv, Ukraine	Education
13	M	36	TTO Manager	Lviv, Ukraine	Education, Services
14	F	42	Company Director	Lviv, Ukraine	Creative Sector
15	M	30	Business Incubator Manager	Lviv, Ukraine	Education, Services
16	F	36	CEO	Nur-Sultan (former Astana), Kazakhstan	Consulting, Green Tech, Finance
17	M	33	Broker	Nur-Sultan (former Astana), Kazakhstan	Services, Research, Sales
18	F	32	Entrepreneur	Nur-Sultan (former Astana), Kazakhstan	Creative sector
19	F	56	Entrepreneur	Nur-Sultan (former Astana), Kazakhstan	Services, Medicine

20	M	29	Manager	Nur-Sultan (former Astana), Kazakhstan	Education, Consulting
21	M	30	CEO	Nur-Sultan (former Astana), Kazakhstan	Research, Consulting
22	F	32	Entrepreneur	Nur-Sultan (former Astana), Kazakhstan	Creative Sector
23	M	58	Director of the Department	Nur-Sultan (former Astana), Kazakhstan	Retail, Services
24	M	33	CEO	Almaty, Kazakhstan	Creative Sector
25	F	62	Board Member of the NGO	Almaty, Kazakhstan	Public Sector, Research
26	F	52	Commercial Director	Almaty, Kazakhstan	Construction
27	F	33	CEO	Almaty, Kazakhstan	Creative Sector
28	F	33	Deputy Director	Almaty, Kazakhstan	Manufacturing, Sales
29	F	45	Manager	Almaty, Kazakhstan	Research, Services
30	M	59	Sales Manager	Almaty, Kazakhstan	Sales, Manufacturing
31	M	31	Director	Almaty, Kazakhstan	Logistics
32	M	32	Entrepreneur	Tbilisi, Georgia	Sales, Retail
33	M	39	Manager of the Strategy Department	Tbilisi, Georgia	Finance, Banking
34	M	42	Investor	Tbilisi, Georgia	Investment, Services
35	M	28	Entrepreneur, executive manager	Tbilisi, Georgia	Manufacturing
36	F	30	Entrepreneur	Tbilisi, Georgia	Creative Sector
37	M	25	Manager at the Business Accelerator	Tbilisi, Georgia	Services, Investment, Education
38	F	40	Lecturer, Trainer, and entrepreneur	Tbilisi, Georgia	Education
39	M	48	Manager in TTO at university	Tbilisi, Georgia	Services, Research, Education
40	M	40	Investor & CEO	Tbilisi, Georgia	Sales, International Trade
41	M	31	Manager	Tbilisi, Georgia	Creative Sector
42	M	34	Entrepreneur	Batumi, Georgia	Creative Sector
43	F	45	Senior specialist	Batumi, Georgia	Education
44	F	49	Head of Economic Development Department	Batumi, Georgia	Public Sector, Finance
45	F	39	Entrepreneur, executive manager	Batumi, Georgia	Tourism
46	F	26	Business Consultant	Batumi, Georgia	Services, Medicine
47	F	29	Entrepreneur, Director / executive manager	Batumi, Georgia	Creative sector
48	F	36	Director / executive manager; economic development official	Batumi, Georgia	Public Sector
49	M	48	Investor	Batumi, Georgia	Finance, Investment
50	M	40	Entrepreneur	Batumi, Georgia	Logistics
51	M	56	Deputy Chairman	Batumi, Georgia	Public Sector, Industry