



# The role of entrepreneurship policy and culture in transitional routes from entrepreneurial intention to job creation: a moderated mediation model

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## Abstract

It has long been assumed that entrepreneurship has significant social and economic benefits, including the creation of jobs. Based on the literature, however, small businesses have often had difficulty expanding to recruit and even surviving due to their plight. In spite of this, little is known about how institutional factors facilitate and constrain the path from entrepreneurial intention to create jobs. Therefore, we develop and test a moderated mediation model to examine how the government's policymaking and national entrepreneurship culture regulate entrepreneurship-based job creation. With the Adult population survey and the National expert survey of the Global Entrepreneurship Monitor (GEM), this study compiled 417 observations from 39 European and North American countries between 2002 and 2020. We prove the partial mediation effect of entrepreneurial behaviour on the relationship between individuals' entrepreneurial intention and job creation. The findings of our study suggest that institutional changes should be mobilised to relieve the pressures on small business owners instead of residing on size-neutral approaches. Furthermore, a progressive, contextually based entrepreneurial culture serves as a critical stimulant to the growth of latent entrepreneurs and early-stage start-ups. Therefore, the study not only describes a new path that underpins entrepreneurship-based job creation, but also highlights a new motive for necessary institutional change.

**Keywords** Entrepreneurial intention · Job creation · Policy initiatives · Entrepreneurial culture · Moderated mediation model

**JEL Classification** L26 · E61

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## Introduction

It is a widely accepted view in the neoliberalism economy to relate regional growth with enterprising, competition, and growth (Branstetter et al. 2014). Litwin and Phan (2013) named emerging small start-ups as the 'engine' of the national economy. Entrepreneurial activities are believed to fuel the labour market and social well-being by establishing entities and creating employment opportunities (Sørensen and Sharkey 2014). However, not all entrepreneurs can launch their businesses, and fewer can grow enough to breed the labour market (Deena and Gupta 2021). Many entrepreneurs face bottlenecks or even fail completely (Eklund et al. 2020). The economic outcomes brought about by entrepreneurial intention (EI) are highly contextually dependent, like available business support (Monteiro et al. 2014) and entrepreneurial culture (Achim et al. 2018). With the prominence of entrepreneurship support in the research agenda (Nielsen 2020), recent scholarship argues that although entrepreneurship could lead to self-employment and the possibility of job creation, institutional policy and social norms heavily influence and shape the entrepreneurial process (Fritsch and Wyrwich 2018; Kwapisz 2020).

Currently, research highlights the significance of purposefully implementing institutional policies for the development and stability of early-stage entrepreneurs (Goel and Karri 2021). It should be noted, however, that intricate policies and social norms may generate heavy compliance costs, which can suppress the aspirations of individuals and the growth of small start-up firms (Bailey and Thomas 2017; Tomy and Pardede 2020). As a result, although entrepreneurial intent can fuel the development of start-ups, it does not necessarily imply that successful jobs will be created. In addition, many small business owners may not consider scaling up without a favourable context in light of the pressures associated with recruiting followers (Urbano et al. 2018). It is still under-examined in academic works how institutional factors contribute to moving start-ups towards the job creation stage. A policymaker's understanding of how to encourage the conversion of entrepreneurial intentions into job creation is not only beneficial to the growth and livelihood of small businesses but is also beneficial to the labour market.

Consequently, in this paper, we aim to examine the path from entrepreneurial intention to job creation and shed light on how institutional factors influence the creation of jobs through entrepreneurship. Increasingly, EI is seen as the stage that precedes entrepreneurial behaviour (Adam and Fayolle 2015; Guzmán-Alfonso and Guzmán-Cuevas 2012). As a summary, it is possible to speculate (e.g. Van Gelderen et al. 2015) that an 'intention–action–job creation' chain is prevalent when considering the connection between the intention–act link and the link between enterprising and job creation (Ajzen 1991; Sørensen and Sharkey 2014). Therefore, we first question whether entrepreneurship-based job creation occurs as a result of intention that is fully mediated by entrepreneurial behaviour. Moreover, a number of possible interventional 'touchpoints' of entrepreneurship policy and social norms are picked and examined as impactors. Based on the formal/informal institutional theory, we selected two representative factors: 'Tax and bureaucracy' (Chowdhury et al. 2015) and 'Entrepreneurial culture and social norms' (CaSN) (Achim et al. 2018; Fritsch and Wyrwich 2018). A size-neutral policy for entrepreneurship has been criticised as

inhibiting small business growth (Nyarku and Oduro 2018), which has the potential to limit the relationship between entrepreneurial intention and job creation. The presence of public faith in entrepreneurship can, however, foster collective recognition of innovation and enterprising—qualities that are associated with entrepreneurial success (Hayton and Cacciotti 2013). For the purpose of analysing the entire mechanism, we compiled the “Global Entrepreneurship Monitor (GEM)” data from 39 countries in Europe and North America between 2002 and 2020.

To characterise the basic structure of the pathway from EI to job creation described above, and to determine whether any moderation effects of institutional factors are noteworthy, we constructed and examined a model. New findings are evident in the present study. As an initial step in entrepreneurship-based job creation, our research confirms that the relationship between EI and job creation is partially mediated by early-stage entrepreneurial activity (TEA). Second, we demonstrate that the indirect effects of EI on job creation (connections between EI and TEA, TEA and job creation) are negatively moderated by TaB but strengthened by CaSN.

Our work makes a number of contributions: (1) We demonstrate how entrepreneurial intentions lead to employment opportunities by modelling a combination of micro-level entrepreneurial journeys and macro-level policy of multiple economies. (2) The role of institutional factors in promoting and constraining entrepreneurship-based job creation is proposed and examined. (3) It provides evidence to policymakers to help them formulate appropriate supportive policies to assist entrepreneurs in scaling, creating jobs, and driving economic growth. Throughout the remainder of this paper, we first present various theoretical hypotheses based on the literature on entrepreneurship and institutional theory. In the methodology section, we discuss the structure of the data, the selection of the sample, the selection of variables, and the methods of modelling and analysis. The results of our analysis are presented in the results section and compared with existing knowledge in the discussion section. Finally, in the future research and conclusion section, results, contributions, limitations, and recommendations are demonstrated.

## Literature review and research hypotheses

### Entrepreneurship, job creation and institutional effect

Entrepreneurship is a journey full of uncertainties, and it is irrational to ignore the high possibility of failure (Fan-Osuala 2021). Job creation may be one of the by-products of entrepreneurs who launch small businesses. However, the creation of jobs brought by entrepreneurial activity is necessary ‘economic nourishment’ for the labour market (Afolabi 2015). Scaling up start-ups has a profound effect on unemployment issues, public welfare, and social stability (Dhaliwal 2016). There have been a number of studies examining this phenomenon over the last century, arguing that job creation is one of the social outcomes of entrepreneurship (e.g. Bailey and Thomas 2017; Decker et al. 2014; Obaji and Olugu 2014).

In regions that have sufficient entrepreneurial infrastructure and support to foster nascent businesses, regional economic competitiveness tends to enhance (Henderson

and Weiler 2010). Entrepreneurs who engage in innovative practices and offer mentorship also act as catalysts in the labour market, increasing the vitality of the entire sector (Chege and Wang 2020; Shafiu et al. 2020). As an opposite example, Decker et al. (2014) investigate the labour market in the United States. They claim most small businesses are at risk and will remain precarious, being crowded out, or even being forced to exit the market. It is the stability of start-ups that affects the career paths of their employees and the pressures of the labour market (Failla et al. 2017). Many under-resourced entrepreneurs face precarious situations and severe obstacles during their expansion (Nijhoff 2021). Although these entrepreneurs are capable of revitalising the regional economy and creating jobs, they are not provided with the necessary support to deal with the fragility of their marginalised businesses (Decker et al. 2014). That is why, although entrepreneurship symbolises the possible emergence of new jobs, the stability and expansion of start-ups are the driving force to sustain long-term job creation.

In Krueger et al. (2000) comparison of Ajzen's (1991) theory of planned behaviour and Shapero's (1982) entrepreneurial event model, a foundation for EI is laid. Based on their findings, EI we use here is coming from two main constructs: perceived feasibility based on self-efficacy and perceived desirability based on expected outcomes (Krueger et al. 2000). The work of Van Gelderen et al. (2015) provides us with a framework for constructing job creation logic based on latent entrepreneurs' aspirations. Based on their results, the conversion of entrepreneurs to early-stage entrepreneurial activities may be mired in a 'lack of action' morass. According to Meoli et al. (2020), external pro-entrepreneurship support (universities' entrepreneurial infrastructure and peer-peer interaction) promotes 'intention-act' (transferring from entrepreneurial intention to entrepreneurial action). So, 'intention-act' provides a theoretical hook in our study to capture the relationship between entrepreneurship and job creation. In other words, locating action as a pivot point triggers job creation, which is driven by entrepreneurial intentions.

In view of the divergent entrepreneurial performance derived from entrepreneurial intentions, institutional theory offers us another possible window into the phenomenon. As stated by Goel and Karri (2021), institutional structure could constrain or facilitate entrepreneurs' access to venture capital. Entrepreneurs' behaviour is regulated by the interaction between institutional theory and entrepreneurship as well as shaped by exogenous constraints and incentives (Stephan et al. 2015). There is a strong emphasis by most scholars who study institutions' impact on entrepreneurs on the distinct effects of formal and informal institutions. By 'forging' public shared cultural values toward entrepreneurial action, informal institutions interfere with latent entrepreneurs' expectations for their entrepreneurial futures (Bruton et al. 2010; Meoli et al. 2020). In contrast, formal institutions act as a code of conduct for (latent) entrepreneurs (Boudreaux and Nikolaev 2019).

Research by Meoli et al. (2020) suggests that the transition from entrepreneurial intelligence to entrepreneurial behaviour may "off-put" many latent entrants. The institutional context plays a pivotal role in the transition between 'intention' and 'action' by constraining outcomes, options, and constellations pursued by policy-makers (Ehrlich 2011; Meoli et al. 2020). For owners who have already launched their SMEs, the entrepreneurial policy and social norms are also believed to affect

the prospects of their organisation (Fritsch and Wyrwich 2018; Park et al. 2020). However, neither Meoli et al. (2020), Van Gelderen et al. (2015), nor Park et al. (2020) considers entrepreneurship-based job creation under the influence of formal/informal institutional structure/policy.

### **Hypothesis development: mediation effects**

EI has been described in the literature as the psychological engagement of latent entrepreneurs to commit to self-employment (Meoli et al. 2020). In many universities and local governments, entrepreneurial education is provided to students/adolescents so that they can generate, improve, and sustain their entrepreneurial abilities (Barba-Sánchez and Atienza-Sahuquillo 2018). Accordingly, the entrepreneurial intention is a prerequisite for the early-stage entrepreneurial act (Pérez-Fernández et al. 2020), which can energise individuals to learn enterprising skills and finally contribute towards the overburdened labour market (Bauman and Lucy 2021; McGee et al. 2009).

As start-ups emerge, innovate, and grow, they need to recruit to meet their organisational needs, which in turn generates a demand for employees (Yazdanfar and Öhman 2019). According to a review of theories that describe the relationship between start-ups (SMEs) and job creation, entrepreneurs' ability to access capital and resources is vital to their innovation capability and performance (Peteraf 2005). In the case of a start-up per se, recruitment activities are intended to generate financial returns (Yazdanfar and Öhman 2019). Innovative demand stimulates recruitment by creating a skill gap, and upscaling also creates noticeable hiring demands by creating a gap between workload and labour (Moneta et al. 2013; Zhu et al. 2021). As a result, it confirms that the primary motivation for creating new jobs in the labour market is often the development of start-ups (innovation and/or scaling) rather than the launch of new businesses (Yazdanfar and Öhman 2019). The establishment of start-ups represents the possibility of creating jobs in the labour market; thus, the creation of jobs could be indirectly attributed to EI, mediated by early-stage entrepreneurial behaviour. We, therefore, make our first hypothesis:

**H1a** The early-stage entrepreneurial behaviour mediates the relationship between entrepreneurial intention and job creation.

Parallel to this, EI is generally referred to as the 'outcome' of individuals' perceptions when they are exposed to external intervention. There is no consideration of the feedback mechanism of EI towards context. Over the past two years, some work has led us to notice that such a mechanism does exist. Individuals with EI can only turn into 'active' entrepreneurs in part, but collective EI indicates that more individuals understand and recognise entrepreneurial behaviour as a respectable career path (Tajpour and Hosseini 2021), which has a significant impact on the development of the supportive context (Nowiński et al. 2020). Additionally, the generation of EI entails not only the improvement of entrepreneurial self-efficacy, but also the enhancement of labour quality and innovation capability (Meoli et al. 2020). It is imperative to develop regional entrepreneurial awareness and business capability in

order to expand pro-entrepreneurship support/ecosystems (Hassan et al. 2021). Moreover, this can improve the situation of most start-ups and foster their growth, which could lead to the creation of new jobs in the future. Although many latent entrepreneurs are not able to participate fully in early-stage entrepreneurial activities, their impact on regional entrepreneurship and innovation cannot be overstated. Therefore, we reckon EI's influence on job creation cannot be entirely mediated by entrepreneurial behaviour. Therefore, we believe that it is necessary to examine whether EI is likely to affect job creation without TEA in the middle.

**H1b** The entrepreneurial intention positively influences job creation, with TEA as partial mediator.

### Hypothesis development: moderation effects

Furthermore, empirical research indicates that tax reductions and bureaucratic simplification assist in the launch and stabilisation of small businesses (e.g. Monteiro and Assunção 2012). It has been suggested that the bureaucratic system may prevent many start-ups from accepting external investment (Frâncu 2014). Furthermore, many start-up companies may not be able to handle the complicated paperwork and approval process. According to Frâncu (2014), this may result in latent entrepreneurs missing out on the right moment to enter the market and generating high opportunity costs. Entrepreneurs' anticipation and assessment of their entrepreneurial prospects is the key step in their 'intention-act' transformation (Emami and Klein 2020), suggesting that the lengthy bureaucratic entrepreneurial process might be unappealing to them. Therefore, perceived action-related fear inhibits latent entrepreneurs' conversion from intention to action (Van Gelderen et al. 2015).

Size-neutral taxation has a similar effect. Tax increases are thought to inhibit business expansion and shift part of the formal economy to the informal economy (Djankov et al. 2010). Accordingly, we believe that a size-neutral tax policy may have a more significant impact on start-ups than on large corporations. Ravšelj et al. (2019)'s study on SMEs in the EU supports this position. According to them, the fragility of small businesses makes size-neutral taxation an additional burden that undermines their sustainability and business agility. Therefore, we speculate that the continuity of entrepreneurial activities could also limit job creation.

In reflecting on the potential direct link between EI and job creation, we can find clues in the impact of taxation and bureaucracy. When latent entrepreneurs perceive and assess taxes and bureaucracy negatively (Van Gelderen et al. 2015), negative judgments may be formed regarding challenges in entrepreneurship. It is possible that this feeling may contribute to demonising entrepreneurship's "dark side" as it develops (Bandera et al. 2021), which may adversely affect public perceptions of entrepreneurship, preventing existing SMEs from accessing more resources and expanding (Frâncu 2014). In summary, we propose:

**H2a** Tax and bureaucracy negatively moderates the indirect effect of entrepreneurial intention on job creation through early-stage entrepreneurship behaviour.

**H2b** Tax and bureaucracy negatively moderates the direct effect of entrepreneurial intention on job creation.

Despite their confidence in their business plans, a considerable number of entrepreneurs lack the capital to sustain or grow their ventures (Manev et al. 2005). Researchers have found that one collective value proposition that emphasises self-reliance, innovation, and personal initiative motivates entrepreneurs to pursue self-sufficiency, adventure, and sustained innovation (e.g. Danish et al. 2019; Hechavarría and Ingram 2019). The term entrepreneurial culture and social norm (CaSN) is interpreted in this study as an embodiment of informal institutions that are related to public awareness and government rhetoric, which indicates high recognition of entrepreneurial behaviour and related traits in the social belief system (Fritsch and Wyrwich 2018; Scott 2013).

As a result of CaSN, entrepreneurs are able to receive a high level of public acceptance and recognition of their socioeconomic status, which could benefit start-ups in their quest to survive and thrive (Capelleras et al. 2019). In institutional theory, culture is viewed as the intangible shared values that surround individuals (Scott 2013). Therefore, the anastomosis of an entrepreneur's identity and culture profoundly affects their access to resources and entrepreneurial support, as well as their legitimacy in public (Capelleras et al. 2019). In their research, Fernández-Serrano et al. (2018) confirmed the importance of a well-developed CaSN for the development of regional economies based on innovation. According to Fernández-Serrano et al. (2018) and Capelleras et al. (2019), CaSN is conducive to the formation of desirable public attitudes toward enabling the conduct of entrepreneurial activities. Researchers have demonstrated the influence of this phenomenon on the development of SMEs and entrepreneurs from a variety of perspectives. The following are some examples: stimulating innovation and knowledge spillover (Stuetzer et al. 2018), motivating entrepreneurs to pursue growth (Bosma and Schutjens 2011), increasing the availability of entrepreneurial resources (Autio et al. 2013), etc. On the basis of the above arguments, we propose that CaSN may moderate the relationship between TEA and job creation.

In addition to intervening in the perception of latent entrepreneurs, CaSN also logically intervenes in the connection between EI and TEA, and EI and job creation. The recognition of entrepreneurial actions collectively can enhance the influence and persuasive power of entrepreneurial success narratives (Contín-Pilart and Larraza-Kintana 2015). The formation of positive word-of-mouth about entrepreneurship in social networks, the flow of advanced experience, and the spread of knowledge of successful entrepreneurs are positively affected (Capelleras et al. 2019). By gaining entrepreneurial experience and access to a variety of learning opportunities, a latent entrepreneur is more likely to resist the 'fear of failure' and develop self-confidence (Wyrwich et al. 2016). A welcoming entrepreneurial environment, on the other hand, appears to embody the 'pull' effect of institutional commitment on the conversion of intentions into actions (Meoli et al. 2020). Therefore, we reckon the link between EI and TEA may be positively regulated by CaSN, mainly based on latent entrepreneurs' evaluation and perception of context in their feasibility assessment (Emami and Klein 2020).

In addition to the indirect mediation path ‘EI-TEA-job creation’, entrepreneurial culture can also influence how EI contributes directly to job creation. SMEs may benefit from the collective pro-entrepreneurship ideology formed through the process (Hassan et al. 2021). Additionally, the CaSN represents a call for independence and economic development in social networks to ensure the sustainability of the entrepreneurial support ecosystem (Bischoff 2021). Therefore, intangible culture may provide many visible ‘arenas’ for transforming the above-mentioned pro-entrepreneurial ideology into a tangible support context, bringing in a variety of social actors, and supporting the development of a broader network of support. To sum up, we propose hypotheses:

**H3a** Entrepreneurial culture and social norms positively moderates the indirect effect of entrepreneurial intention on job creation through early-stage entrepreneurship behaviour.

**H3b** Entrepreneurial culture and social norms positively moderates the direct effect of entrepreneurial intention on job creation.

Overall, Fig. 1 presents our conceptual framework embody in a moderated mediation model as below:

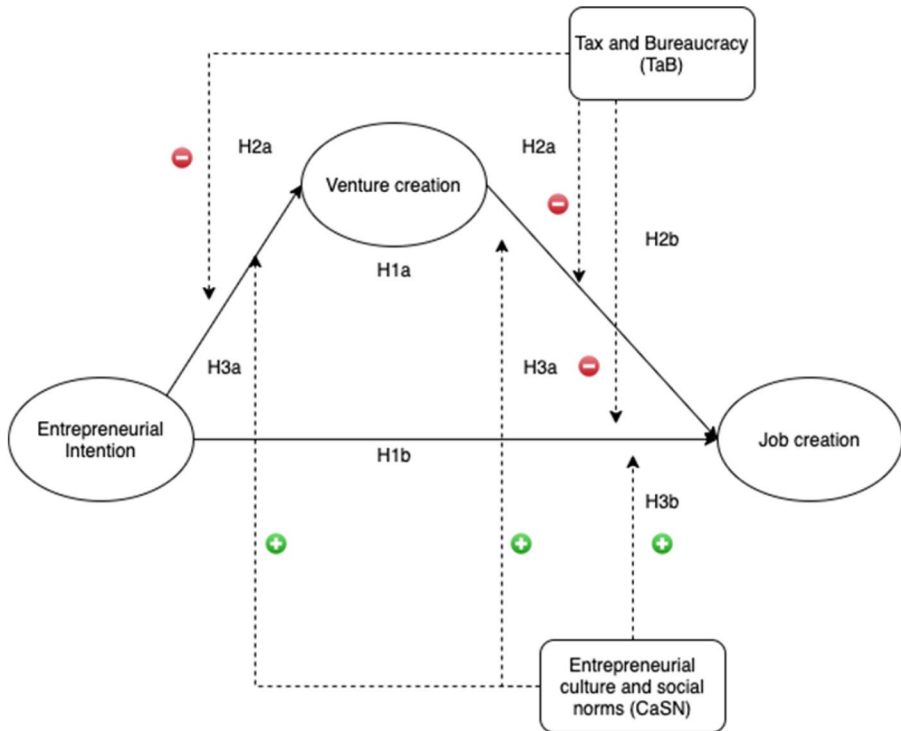


Fig. 1 Conceptual framework



## Methods and measure

### Data and sampling

In this study, we examine how the promotion of entrepreneurial intentions in a region/country affects the labour market and creates employment opportunities, and how institutional factors moderate that process. In order to address this issue, we have selected a variety of variables and data to reflect this model. We attempt to combine individual perceptions of entrepreneurs within a country with their entrepreneurial context, as opposed to most studies that solely focus on individual entrepreneurial motivation or parameters at the national level. This is intended to explain the relationship between individual entrepreneurship and job creation, as well as the role of institutional elements in this relationship.

Based on the above considerations, we selected a national dataset that includes data from 39 European and North American economies between 2002 and 2020. In the dataset are individual-level surveys: Adult Population Survey (APS) and national-level surveys: National Expert Survey (NES) that have been collected by Global Entrepreneurship Monitor (GEM) and published in the public domain under GEM's jurisdiction. As a result, there is no conflict of interest to disclose. As the composition of countries surveyed by GEM varies slightly from year to year, the dataset includes 417 observations and is comprised of pooled cross-sectional data. Table 1 below shows the composition of the data sample:

From the 'Entrepreneurial Behaviour and Attitudes indicators' of this GEM dataset, independent variables, possible mediators, and dependent variables were selected to reflect individual-level perception. To reflect the institutional conditions of regional entrepreneurialism, the moderators were selected from 'Entrepreneurial Framework Conditions (EFCs)'. The selected variables are based on Coduras et al. (2008)'s EI model and Mas-Tur et al. (2020)'s measurement of job creation for start-up companies. The control variables were also selected from EFCs. The criteria for reflecting institutions and defining control variables follow Hechavarría and Ingram's (2019) explanation of institutional influence on early-stage entrepreneurship. As the two types of questionnaire data for each country are aggregated in GEM, error checks and corrections were thoroughly performed as a quality control procedure before publishing the dataset for research purposes (GEM 2021). The data used in this study is therefore proved in terms of its completeness, clarity, and accuracy.

### Independent, mediator and dependent variable

In accordance with Coduras et al. (2008)'s EI model and Van Gelderen et al. (2015)'s study of 'intention-act' research, EI serves as a perceptual indicator of latent entrepreneurialism, which could activate the associated entrepreneurial behaviour. The conversion of an intention to action is dependent on the intervention of entrepreneurial support and micro-level individual agency (Meoli et al. 2020; Van

**Table 1** Sample description

Economy	Frequency	Economy	Frequency
Austria	7	Kosovo	1
Belarus	1	Latvia	12
Belgium	11	Lithuania	4
Bosnia and Herzegovina	8	Luxembourg	8
Bulgaria	4	Montenegro	1
Canada	11	Netherlands	16
Croatia	19	North Macedonia	7
Cyprus	5	Norway	16
Czech Republic	3	Poland	11
Denmark	10	Portugal	9
Estonia	6	Romania	5
Finland	15	Russia	13
France	10	Serbia	3
Germany	18	Slovakia	10
Greece	18	Slovenia	19
Hungary	12	Spain	19
Iceland	8	Sweden	13
Ireland	17	Switzerland	16
Italy	16	United Kingdom	17
		United States	18

Gelderen et al. 2015). We, therefore, use the Entrepreneurial Intention Rate (EI) in the GEM data as an independent variable, which measures the proportion of the 18–64 age group who are interested in entrepreneurship in the next three years. The proportionality data were obtained from the Adult Population Survey of a minimum of 2000 working-age adults (18–64 years old) from each country.

The early-stage entrepreneurship activity (TEA) was selected as an indicator of the establishment of the entrepreneurial act (Moneta et al. 2013). TEA is also calculated from the APS survey to reflect the proportion of individuals of appropriate age who have begun to participate in entrepreneurial activities and who have managed a start-up for less than 3.5 years. In addition, according to Mas-Tur et al. (2020)'s measurement criteria and Yazdanfar and Öhman (2019)'s elaboration on entrepreneurship-based job creation, we choose the High Job Creation Expectation Rate (HJCE, from APS) as the dependent variable to reflect job creation brought by entrepreneurship. As an indicator, HJCE measures the proportion of early-stage entrepreneurs that may create six or more employment opportunities in the next five years. It measures the proportion of stabilised start-ups and the increase in job creation brought about by entrepreneurialism.

## Moderate variable

The NES is a structured questionnaire that is distributed through the convenience sample approach to experts in each economy who meet the criteria of reputation and experience. No less than 36 people are surveyed in each economy every year. The item generation in this questionnaire is to present the national conditions related to entrepreneurship. As per hypotheses 2a, 2b, and Chowdhury et al. (2015), the National Expert Survey provides a pool of indicators reflecting the degree of tax policy and bureaucracy. The selected indicator should be able to connect with the APS indicator to reflect the intervention level of EFCs on individual perception and journey. Hechavarría and Ingram (2019)'s discussion of exogenous support for entrepreneurial behaviour based on NES provides us with a basis for indicator selection. In the study of Hechavarría and Ingram (2019), 'Tax and bureaucracy' from NES is used to explain the government's policy orientation towards start-ups. Taxes and Bureaucracy (TaB) presents assessments of a panel of experts for the favourability of taxation policies towards SMEs and the burdensome levels for launching start-ups within their country. The higher the value, the less favourable the tax policy for start-ups and the more bureaucratic the process of business venturing.

To reflect hypotheses 3a and 3b, we referred to the indicator cited by Hechavarría and Ingram (2019) as the moderate variable: Culture and social norms (CaSN). As an informal institutional factor, CaSN captures five value propositions of entrepreneurial belief: individual efforts, self-reliance, risk-taking, creativity and self-responsibility in life. This can be a comprehensive composition to map out the context in which emerging entrepreneurs could immerse themselves, leverage resources, and gain support and knowledge.

## Control variable and statistical method

To control the variables related to the countries and timings as comprehensively as possible, we use Hechavarría and Ingram (2019)'s analysis of how other GEM data presents related entrepreneurial circumstances that could influence start-up growth. We control exogenous parameters from seven dimensions, including the timing of entrepreneurial activities (Years, dummy variables), the market size and structure of a specific country (from NES, Level of internal Market openness, internal Market Dynamics), the gender ratio in entrepreneurship (from APS, Female/Male early-stage entrepreneurial activity), national benefits in research and development (from NES, the level of research and development conditions in the particular economy that could boost innovation of SMEs), entrepreneurial education (from NES, Post and Basic school entrepreneurial education and training), and the available

entrepreneurial infrastructure (from NES, the threshold and cost for accessing essential utilities and commercial services).

We first dealt with missing data (deleted missing observations, all-satisfying ‘Missing completely at random’) and outliers, obtaining 409 observations for analysis. Then, based on the pooled OLS and the moderated mediation model, we conducted a descriptive statistical analysis of the variables followed by bivariate correlation analysis to investigate the relationships between pairwise variables. In the model examination phase, we used the PROCESS macro, an SPSS custom dialogue designed by Hayes (2017). Using Hayes (2017)’s suggestion for constructing and validating a moderated mediation model, we initially assessed whether the simple mediation model shed light on TEA’s mediating effect between EI and HJCE and its pattern. This determined our statistical model choice when examining the moderation effects in the next stage. Therefore, we first refer to model four (mediation model) listed by Hayes (2017, p. 585) to verify hypotheses H1a and H1b. Based on the computational function of PROCESS, we used 5000 bootstrap samples with a 95% confidence level to examine the existence and significance of indirect effects.

Before performing PROCESS regressions, to control the possible extreme multicollinearity issue caused by introducing high-order interaction terms, we standardised and zero-centred all predictors (Dawson 2014), including the four main low-order variables (EI TEA TaB GEP). Therefore, we get a group of transformed variables used to construct the interaction terms in the PROCESS macro.

After we determined that Model 4 (simple mediation model, confidence intervals: 95, bootstrap samples: 5000) could explain the mediation structure between the three variables (EI-TEA-HJCE), we mapped our hypotheses H2a, H2b and H3a, H3b using the guideline of PROCESS macro (Hayes 2017). This indicates our conceptual framework is best aligned with the pre-set model 76 proposed by Hayes (2017, p. 606), built on the premise that the mediation model successfully holds. Under the processing of PROCESS macro, we obtained two moderated mediation regression equations with TEA and HJCE as outcomes, respectively. This helps us examine whether the direct and indirect relationship between EI and HJCE generates differential outcomes under the intervention of institutional effects.

After getting the results of Model 76 (moderated mediation model with two moderators, confidence intervals: 95, bootstrap samples: 5000) and confirming moderating effects, we conducted slope analysis to visualise the moderating impact of institutional elements based on the visualisation exemplar of moderating research in business/social fields (Dawson 2014). In user-setting of PROCESS, we went for ‘mean and mean minus/plus one standard deviation’ as conditional values/focal points (ibid, Hayes 2017) to plot slopes.

**Table 2** Descriptive statistics of variables ( $N=409$ )

	Range	Mean (SD)
Entrepreneurial intentions	2.1–32.9	10.62 (5.76)
Total early-stage entrepreneurial activity (TEA)	1.6–19.4	7.55 (3.14)
High job creation expectation	0.5–44	21.65 (8.46)
Cultural and social norms	1.62–4.59	2.73 (0.54)
Taxes and bureaucracy	1.34–3.99	2.46 (0.56)
Internal market dynamics	1.84–4.15	2.91 (0.42)
Internal market openness	1.82–3.73	2.70 (0.37)
Physical and services infrastructure	2.76–4.82	3.87 (0.44)
Commercial and professional infrastructure	2.24–4.21	3.21 (0.32)
R&D transfer	1.68–3.73	2.54 (0.39)
Female/male TEA	0.24–1.02	0.55 (0.14)
Basic school entrepreneurial education and training	1.32–3.51	2.13 (0.38)
Post school entrepreneurial education and training	1.89–3.89	2.83 (0.34)

*SD* standard deviations

## Results

### Descriptive statistics

The descriptive statistical analysis of the study variables is shown in Table 2, which shows the range, mean and standard deviation of the study variables. It can be seen from the results that the value span of High Job Creation Expectation is eye-catching (0.5 to 44). However, within the range of values, the standard deviations of all variables are less than their average, and there is no noticeable data distortion. In Table 3, we analysed the bivariate correlations between selected variables. In the results, the absolute values of the pairwise correlations we obtained are less than the multicollinearity threshold of 0.7. Therefore, no obvious multicollinearity clue could be identified in the relationship between variables.

Grounded on our proposed hypotheses, several pairwise correlation levels are noted. Entrepreneurial intention and total early-stage entrepreneurial activity ( $r=0.51$ ,  $p<0.01$ ), total early-stage entrepreneurial activity and job creation ( $r=0.36$ ,  $p<0.01$ ), entrepreneurial intention and job creation ( $r=0.40$ ,  $p<0.01$ ) show a positive correlation. Similar also includes cultural and social norms and total early-stage entrepreneurial activity ( $r=0.46$ ,  $p<0.01$ ), cultural and social norms and job creation ( $r=0.12$ ,  $p<0.05$ ).

### Mediation analysis

We tested hypotheses 1a and 1b using the PROCESS macro of Model 4 in SPSS (Hayes 2017). We constructed 5000 bootstrap samples with 95% confidence. In the results (Table 4), we obtained three models for this path hypothesis, namely: entrepreneurial intention ( $\beta=2.99$ ,  $p<0.01$ ) has a significant positive effect on high job

**Table 3** Bivariate correlations of variables (N = 409)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Entrepreneurial intentions	1												
2. Total early-stage entrepreneurial activity (TEA)	0.51***	1											
3. High Job Creation Expectation	0.40***	0.36***	1										
4. Cultural and social norms	-0.04	0.46***	0.12**	1									
5. Taxes and bureaucracy	-0.09*	0.20***	0.00	0.61***	1								
6. Internal market dynamics	0.29***	0.06	0.15***	-0.04	-0.28***	1							
7. Internal market openness	-0.13***	0.18***	0.01	0.57***	0.63***	-0.36***	1						
8. Physical and services infrastructure	-0.08*	0.17***	-0.003	0.36***	0.55***	-0.21***	0.51***	1					
9. Commercial and professional infrastructure	-0.14***	0.18***	0.01	0.52***	0.60***	-0.43***	0.70***	0.57***	1				
10. R&D transfer	-0.15***	0.08	-0.009*	0.54***	0.69***	-0.37***	0.68***	0.55***	0.67***	1			
11. Female/male TEA	-0.14***	0.15***	-0.020***	0.25***	0.20***	-0.02	0.10**	0.14***	0.08	0.17***	1		
12. Basic school entrepreneurial education and training	0.02	0.28***	0.13***	0.59***	0.49***	-0.011**	0.52***	0.34***	0.56***	0.44***	0.01	1	
13. Post school entrepreneurial education and training	0.04	0.23***	0.08*	0.53***	0.50***	-0.015***	0.46***	0.36***	0.55***	0.62***	0.17***	0.52***	1

\* $p < 0.1$ . \*\* $p < 0.05$ . \*\*\* $p < 0.01$

**Table 4** Indirect effect of entrepreneurial intention on job creation with entrepreneurial activity as mediator (N = 409)

Regression		Fit index		Significance of regression coefficient			
Dependent variable	Independent variable	R-square	F	$\beta$ (SE)	LLCI	ULCI	t
High job creation expectation	Entrepreneurial intention	0.25	4.75***	2.99 (0.43)	2.14	3.84	6.90***
	Intercept			24.97 (1.92)	21.20	28.74	13.03***
	Covariates						
Total early-stage entrepreneurial activity	Entrepreneurial intention	0.45	11.42***	0.51 (0.04)	0.42	0.59	11.51***
	Intercept			-0.10 (0.19)	-0.48	0.28	-0.51
	Covariates						
High job creation expectation	Entrepreneurial intention	0.29	5.47***	1.90 (0.49)	0.94	2.8700	3.88***
	Total early-stage entrepreneurial activity			2.14 (0.49)	1.17	3.11	4.34***
	Intercept			25.19 (1.87)	21.5	28.87	13.44***
	Covariates						

With PROCESS macro of SPSS (26), MODEL 4, bootstrap 5000; SE standard error; 95% confidence level, *L/ULCI* lower/upper limit for confidence interval. \* $p < 0.1$ . \*\* $p < 0.05$ . \*\*\* $p < 0.01$

creation expectation, the entrepreneurial intention has a significant positive effect on early-stage activity ( $\beta=0.51, p<0.01$ ), and significant positive effects of entrepreneurial intention ( $\beta=1.9, p<0.01$ ) and early-stage activity ( $\beta=2.14, p<0.01$ ) on high job creation expectation. From the results, the existence of early-stage activity confirms the indirect effects between entrepreneurial intention and high job creation expectation (indirect effect:  $\beta(\text{EI} \sim \text{TEA}) \times \beta(\text{TEA} \sim \text{HJCE})=1.08, p<0.01, 95\% \text{ CI } 0.61\text{--}1.62$ ). The indirect effect accounts for about 36% of the total effect. Therefore, it can be confirmed that early-stage entrepreneurial activity partially mediates the positive relationship between EI and job creation.

### Moderation analysis

We further examined whether the indirect and direct effects between EI and job creation could be further moderated by formal institutional factors: Tax and bureaucracy (H2a, H2b) and informal institutional factors: entrepreneurial culture and norms (H3a, H3b), also in which manner. We selected model 76 of the PROCESS macro with a 95% confidence level and 5000 bootstrap samples. The results in Table 5 show that in the path from EI to TEA, the standardised regression coefficient of the interaction term between Tax and bureaucracy and EI is statistically significant and negative ( $\beta (\text{Tax and bureaucracy} \times \text{EI}) = -0.23, p < 0.01, 95\% \text{ CI } -0.33 \text{ to } -0.14$ ). This explains the inhibitory effect of Tax and bureaucracy on the positive relationship between EI and TEA (Table 5).

Simultaneously, in the path of EI, TEA~HJCE, the standardised regression coefficient of the interaction term between Tax and bureaucracy and TEA is statistically significant and negative ( $\beta (\text{Tax and bureaucracy} \times \text{TEA}) = -2.27, p < 0.01, 95\% \text{ CI } -3.43 \text{ to } -1.11$ ). This explains the inhibitory effect of Tax and bureaucracy on the positive relationship between TEA and HJCE. These confirm that this institutional factor lends a negative moderating effect on the indirect impact of EI on job creation. In other words, this corroborates H2a. However, in the path of EI, TEA~HJCE, the standardised regression coefficient of the interaction term of Tax and bureaucracy with EI is not statistically significant, which refutes H2b.

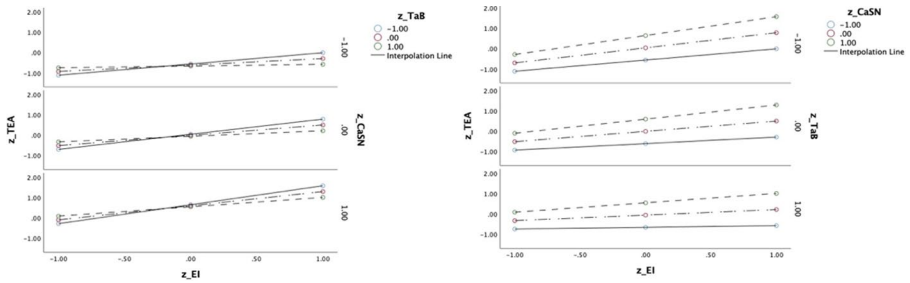
Similarly, we unfolded the moderating effects of entrepreneurial culture and norms. In the path of EI~TEA, the standardised regression coefficient of the interaction term between culture and social norms and EI is statistically significant and positive ( $\beta (\text{culture and social norms} \times \text{EI}) = 0.19, p < 0.01, 95\% \text{ CI } 0.08 \text{ to } -0.30$ ). In the pathway of EI, TEA~HJCE, the positive effect of culture and social norms also exists on the relationship between TEA and HJCE, which is statistically significant ( $\beta (\text{culture and social norms} \times \text{TEA}) = 1.65, p < 0.01, 95\% \text{ CI } 0.68 \sim 2.61$ ). Therefore, this confirms that entrepreneurial culture and norms positively moderate the positive relationship between EI and TEA and strengthen the positive relationship between TEA and job creation.



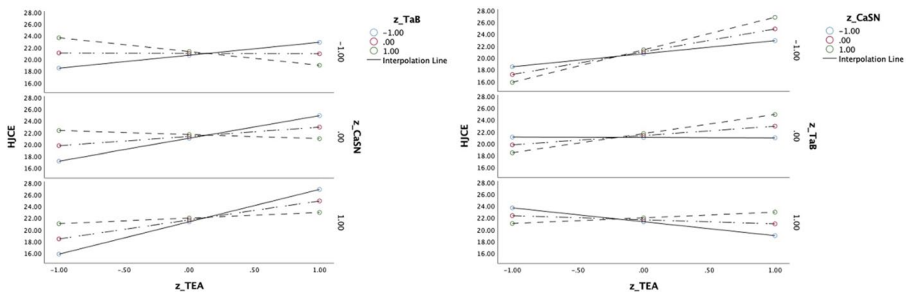
**Table 5** Moderating effects of 'tax and bureaucracy' and 'entrepreneurial culture' on indirect effect of entrepreneurial intention on job creation (N=409)

Regression		Fit index		Significance of regression coefficient				
Dependent variable	Independent variable	R-square	F	$\beta$ (SE)	LLCI	ULCI	t	
Total early-stage entrepreneurial activity	Entrepreneurial intention	0.62	19.71***	0.51 (0.04)	0.43	0.58	13.53***	
	Tax and Bureaucracy			-0.05 (0.05)	-0.98	-0.15	0.05	
	Culture and social norms			0.60 (0.05)	0.5	0.7	12.09***	
	Entrepreneurial intention×tax and bureaucracy			-0.23 (0.05)	-0.33	-0.14	-4.78***	
	Entrepreneurial intention×culture and social norms			0.19 (0.05)	0.08	0.30	3.46***	
	Intercept				-0.22 (0.16)	-0.54	-0.98	-1.36
	Covariates							
High job creation expectation	Entrepreneurial intention	0.33	5.38***	1.81 (0.52)	0.78	2.8400	3.46***	
	Total early-stage entrepreneurial activity			1.58 (0.60)	0.39	2.77	2.61***	
	Tax and bureaucracy			0.32 (0.58)	-0.83	1.46	0.54	
	Culture and social norms			0.33 (0.72)	-1.08	1.74	0.46	
	Entrepreneurial intention×tax and bureaucracy			0.27 (0.65)	-1.01	1.55	0.41	
	Entrepreneurial intention×culture and social norms			-0.87 (0.69)	-2.23	0.5	-1.25	
	Total early-stage entrepreneurial activity×tax and bureaucracy			-2.27 (0.59)	-3.43	-1.11	-3.84***	
Total early-stage entrepreneurial activity×culture and social norms	Intercept			1.65 (0.49)	0.68	2.61	3.35***	
	Covariates			24.43 (1.89)	20.72	28.14	12.94***	

With PROCESS macro of SPSS (26), MODEL 76, bootstrap 5000; SE standard error, 95% confidence level, LLULCI lower/upper limit for confidence interval. \* $p < 0.1$ . \*\* $p < 0.05$ . \*\*\* $p < 0.01$



**Fig. 2** Slope analysis: the moderating effects of ‘tax and bureaucracy’ and ‘entrepreneurial culture’ on the relationships between entrepreneurial intention and entrepreneurial activity



**Fig. 3** Slope analysis: the moderating effects of ‘tax and bureaucracy’ and ‘entrepreneurial culture’ on the relationships between entrepreneurial activity and job creation

### Simple slope analysis

To visualise the moderating effect of the two factors, we performed a simple slope analysis using the mean  $\pm$  one standard deviation as focal points, as shown in Figs. 2 and 3. From the figure, we show that when ‘entrepreneurial culture and norms’ is controlled, the positive relationship between EI and TEA is negatively moderated by ‘Tax and bureaucracy’, weakening the facilitative effect of intention on behaviour. Conversely, when Tax and bureaucracy are controlled, the positive relationship between EI and TEA is positively moderated by ‘entrepreneurial culture and norms’, and the conversion between intention and behaviour is enhanced. The above trend is also significant in the relationship between TEA and HJCE (Fig. 3).

### Discussion

The purpose of this study is to explore how entrepreneurial intentions contribute to job creation, as well as the role that entrepreneurial behaviours and institutional factors play in this process. Based on empirical results (Fig. 4), this paper identifies four takeaways: First, entrepreneurial intention can help generate entrepreneurship-based job creation in the region, which is partially mediated by entrepreneurial activities.

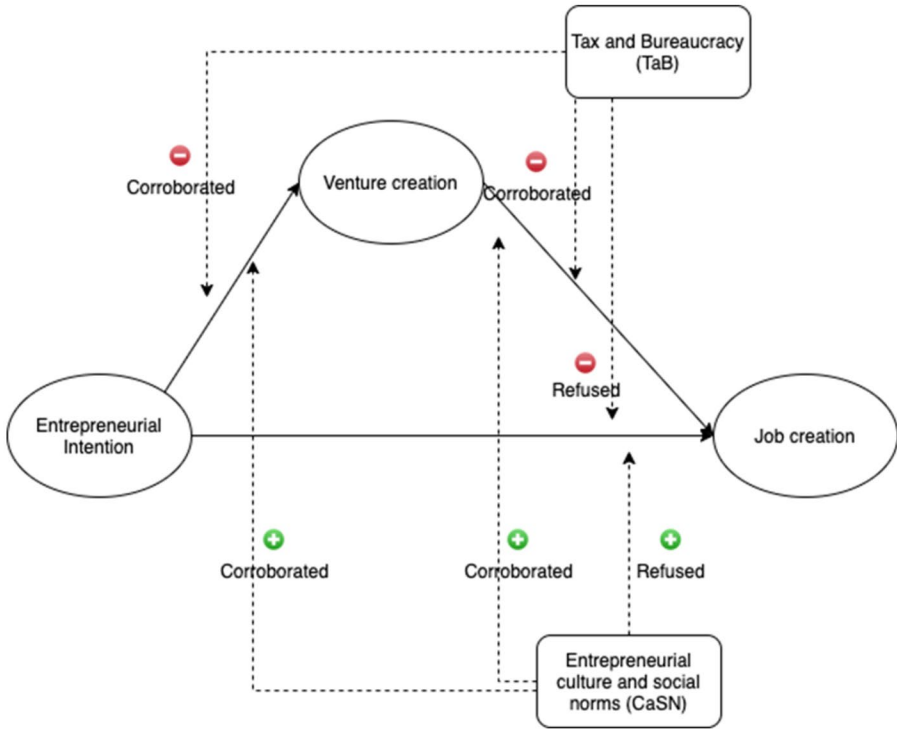


Fig. 4 Moderated mediation model results

This affirms the positive relationship between entrepreneurship and job creation with a novel mediative structure (Dhaliwal 2016). This new mediation mechanism also supports the view of Tajpour and Hosseini (2021) and Chege and Wang (2020) on the positive link between collective ‘entrepreneurial understanding’/‘enthusiasm for innovation’ and SMEs’ survival.

Second, grounded on the research of Meoli et al. (2020), this paper corroborates that the ‘intention-act’ transition is interfered with by ‘taxes and bureaucracy’ and ‘entrepreneurship culture’. This can be used to shed light on the entrepreneurial perception proposed by Emami and Klein (2020) and Meoli et al. (2020), that is, latent entrepreneurs evaluate the context before acting and then respond to the evaluation. The adverse effects of taxation and bureaucracy on this path explain the need for government-proffered inclusive policies to encourage ‘intention-act’ transformation in the entrepreneurial process. The higher the cost of fulfilling formal institutional norms, the more inclined latent entrepreneurs are not to carry out entrepreneurial action (resonate with Frâncu 2014).

Furthermore, our findings unfold a way to inspire latent entrepreneurs. It is possible to reduce the off-putting perception by developing a well-developed entrepreneurial culture and social norms and to promote the transformation of ‘intention-act’. In this study, the primary manifestation of such entrepreneurial culture is social/regional public acceptance and recognition of entrepreneurial-related actions

(Capelleras et al. 2019). Our outcomes support Stuetzer et al. (2018)'s and Contín-Pilart and Larraza-Kintana (2015)'s claims, which is the positive collective perception of entrepreneurship could help latent entrepreneurs move forward and innovate avidly. This also indirectly resonates with the 'pull' effect of hospitable context on self-employment (Meoli et al. 2020).

Thirdly, we bridge entrepreneurial initiatives and job creation based on exogenous formal/informal institutional factors. Even for those who have successfully achieved an 'intention-act' transformation, their entrepreneurial journey is still full of ups and downs (Manev et al. 2005). For entrepreneurs, both innovation-driven and scale-driven recruitment demands (Moneta et al. 2013) aim to generate returns for SMEs (Yazdanfar and Öhman 2019). Our findings suggest that institutional factors can enact the positive impact of entrepreneurial activity on job creation. First, taxation and bureaucracy limit the positive effects of entrepreneurial activity on regional labour markets. This validates and develops the views of Djankov et al. (2010) and Ravšelj et al. (2019). This indicates that the fragility of start-ups is exacerbated by exclusive formal institutions (taxes and bureaucracy), making it problematic for early-stage entrepreneurs to configure resources for growth, hindering job creation. Such exogenous factors have improperly eliminated start-ups, preventing many promising entrepreneurial ideas from thriving.

We also find entrepreneurial culture in informal institutions can provide a shield for start-up owners. Our conclusions illustrate that the shared social value of embracing entrepreneurs' socioeconomic status and entrepreneurial traits can fuel SMEs to move forward, thereby strengthening the link between entrepreneurial behaviour and job creation. This conclusion supports: one of the driving forces of resource flow in the entrepreneurial ecosystem is the approbation of entrepreneurial behaviour (Autio et al. 2013). Also, our views can be intertwined with the literature on entrepreneurial support. For instance, collective endorsement of entrepreneurial 'temperament' is conducive to people's pursuit of personal adventure (Bosma and Schutjens 2011), promoting innovation and making changes (Stuetzer et al. 2018), nurturing entrepreneurial knowledge and entrepreneurial skills (Wyrwich et al. 2016). According to the job creation theory of Yazdanfar and Öhman (2019), whether it is innovation, adventure, or knowledge spillover, it promisingly increases the demand of businesses for labour and generates employment opportunities.

Last but not least, our study identified a direct link (or non-act link) between EI and job creation. Existing research has not explicitly explored or informed the mechanism behind this direct link (another mediator?). The possible explanation we propose is that, compared with the entrepreneurial culture formed historically (Capelleras et al. 2019), EI can enable the collective understanding of entrepreneurship, information interaction, communications, and activate support networks on a regional scale (see Tajpour and Hosseini 2021). Although this change-making result differs from entrepreneurial activities, EI can shape effective information interaction and promote social awareness of pro-entrepreneurship and innovation (Nowiński et al. 2020). According to research on EI, the formation of EI also means the improvement of labour quality and innovation ability of groups (Meoli et al. 2020). The increase in innovative thinking, labour quality, and creative messages may serve as prerequisites for job creation (Zhu et al. 2021).

## Future research and conclusion

A critical theoretical gap is addressed in this study by investigating the mechanism of the path between entrepreneurial intention and job creation, as well as the role of institutional factors. Our findings indicate that entrepreneurial behaviour can partially mediate the positive impact of entrepreneurial intentions on job creation. Moreover, we examined the adverse moderating effects of taxation and bureaucracy on the conversion of 'intention' to 'action' and the scale of start-ups. The study also confirms entrepreneurial culture's facilitative role in facilitating 'intention-act' and its role as a catalyst in enhancing the relationship between entrepreneurial behaviour and job creation. Our theoretical contributions are three-fold: (1) This study explains the mechanism of the pathway behind entrepreneurship-based job creation, and examines the direct and indirect effects of entrepreneurial intentions on job creation. (2) This study proposes and tests the moderating effects of tax and bureaucracy and entrepreneurial culture on the relationship between entrepreneurial intention and job creation. This bridges entrepreneurship research and policy research, thereby providing insights into a novel theoretical stream (policy intervention in entrepreneurship). (3) The direct effects of entrepreneurial intentions on job creation in this moderated mediation model offer directions for future empirical research. Qualitatively, we encourage researchers to examine how latent entrepreneurs facilitate job creation without 'acting', such as through phenomenological exploration, ethnography, and case studies in a particular institutional context. Quantitatively, we hope that researchers engage with this research stream to explore more structural, agentic and institutional factors' impacts, thereby providing more evidence for formulating an inclusive institutional framework and presenting the multi-faceted value of inclusive policies for start-ups. Additionally, we are aware of a limitation inherent in the research methodology, namely the inability to develop sensitivity in our model to detailed cultural and social constructs. As a result of the structure of the sample set and the raw data we used, indicators pertaining to culture, ethnicity, geopolitics, social movements, etc., either were used as control variables or could not be focalised. Although this facilitates the construction of relevant quantitative models, it may limit the significance of the model in a specific ethnic, political, and ideological context. Since the aforementioned elements of sociality have a significant impact on the micro-level entrepreneurial process, we encourage future research to delve more into comparative studies to examine the model in consideration of space and time.

In practice, this article provides theoretical evidence and direction for designing a tailored supportive policy for small businesses and latent entrepreneurs. A tailored support system that includes inclusive tax policy and bureaucracy and entrepreneurship-friendly policies (Fritsch and Wyrwich 2018) could not only inform a stable and welcoming entrepreneurial environment but also serve as a 'silver bullet' that stabilises the labour market and could address the unemployment issue. For policymakers, tax reductions and institutional simplifications for entrepreneurs are, therefore, vital to creating jobs and reaping economic benefits.

Additionally, inclusive rhetoric (entrepreneurial narratives), education, and enabling policies can deliver clear messages about the actual value of entrepreneurship.

**Author contributions** SQ and XC developed the topic and structure for this article together. Material preparation, data collection, and analysis were performed by SQ and XC. The first draft of the manuscript was written by SQ. Editing of the manuscript was done by XC. All authors contributed actively to the revision and consolidation of the text.

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**Data availability** Main data used in this article are publicly available at the webpage of GEM: <https://www.gemconsortium.org/data> Furthermore, the post-organised version is available upon reasonable request.

## Declarations

**Conflict of interest** We, the authors, declare that there is no potential conflict of interest regarding this research and its publication.

**Ethics approval and consent to participate** This article does not contain any studies with human participants performed by any of the authors.

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