

REVIEW

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Understanding cultural diversity and economic prosperity in Europe: a literature review and proposal of a culture–economy framework

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Abstract

Increasingly, cultural diversity is being paid attention to by economists, signifying the importance of international allocation of human capital to world economic wellbeing. This paper attempts to understand how Europe can optimally benefit from cultural diversity while facing a spectrum of obstacles. Hypotheses tested by past studies are important but are generally limited by the multidimensional dynamics of the causality mechanism. This paper synthesizes the social, economic, and institutional element spiral within cultural diversity by proposing a culture–economy framework to understand economic prosperity. This paper is developed by three syntheses of the substantive literature: 1) identifying the research agenda of cultural diversity and economic prosperity, 2) conceptualizing the multidimensional dynamics from cultural diversity to economic prosperity, namely the culture–economy framework, and 3) understanding Asia–Europe relations with respect to cultural diversity and creative destruction. Intercultural learning amid complex interactions of identified elements between factor productivity and barriers was found to be the micro-foundation that links cultural diversity to economic prosperity in Europe. Cultural diversity was found to be the cause of richer ideas, heuristics, perspectives, and skills, suggesting the potential sustainability of economic prosperity with creativity-oriented policies in the region.

Keywords: Birthplace diversity, Creative destruction, Cultural diversity, Economic prosperity, Europe, Innovation, Immigration

Introduction

Intensive exploration of cultural diversity by economists signifies a substantive concern to understand heterogeneity of preferences, perspectives, and heuristics for economic development. The old but still relevant understanding of cultural diversity is ethnic conflict, which can occur in particular due to preference heterogeneity with respect to public goods and policies (Alesina et al. 2005; Easterly and Levine 1997). The consequence is self-evident; ethnic conflict is a prolonging process involving substantial opportunity costs (time and resources) that otherwise could have been utilized for economic development.

The diverse perspectives and heuristics within cultural diversity are distinguished from the above notion of preference heterogeneity: it is where a richer level of experience, ideas, and knowledge concentrates, as suggested in the pro-productivity hypothesis by Alesina and La Ferrara (2005). In contrast to ethnic conflict, whose effects on economic development are directly accessible, the literature with respect to the positive effect of cultural diversity on economic development requires further understanding of the favorable and unfavorable forces involved. Grounded in the pro-productivity hypothesis, the core inquiry of this paper is to understand how benefits of cultural diversity in Europe may be optimized, by identifying and explaining its micro-foundations and a spectrum of potential barriers.

First of all, it is important to credit the strong base of literature on this topic. Cultural diversity pertaining to ethnic groups has been vividly explored and explained, particularly with respect to methods of measurement across countries. To name but a few, Alesina et al. (2003), Alesina et al. (2013, 2016), Audretsch et al. (2010), Easterly and Levine (1997), Fearon (2003), Reynal-Querol (2002), and Posner (2004) each have proposed a methodology to quantify cultural diversity, offering alternative methods depending on the context of the study. For instance, in order to capture the effect of conflict between two ethnic groups, the fractionalization method proposed by Easterly and Levine (1997) does not appear to be better than the polarization method proposed by Reynal-Querol (2002). Nevertheless, to capture skill diversity, the fractionalization approach has been shown to be more suitable than the polarization method (Ager and Brückner 2013).

Another well-studied aspect in terms of its relation to economic prosperity is the understanding of cultural diversity as a social factor that promotes innovation. Cultural diversity is frequently cited to complement productivity. Cox and Blake (1991) seems to be the first literature survey to clarify how management of cultural diversity helps to cultivate competitive advantage in organizations. Alesina and La Ferrara (2005) elaborate a theory in favor of complementary skills within a culturally diverse workforce, suggesting an enhancement of factor productivity in production processes. Increased competition encouraging firms to pursue innovative activities is elaborated by Aghion et al. (2001, 2005, 2009), while improved productivity is associated with enhanced knowledge, as studies using a research and development (R&D)-based endogenous growth model show (Aghion and Howitt 1992; Grossman and Helpman 1991a, 1991b, 1991c; Romer 1990).

Nevertheless, as the core inquiry stated above, what would be the optimal channel through which this benefit of cultural diversity can be maximized? This question is based on Schumpeter's (1947) explanation that no factor will behave uniquely in the same way, suggesting that all possible mechanisms should be identified, be it negative or positive. This paper proposes a culture–economy framework based on substantive past studies, particularly for the European cases. Europe is the home of most of the developed countries in the world; hence the growth of cultural diversity is highly of concern, particularly following the large recent trend of immigration to Europe:

However, with the opening of borders within the European Union and its expansion to the East, in addition to increasing migration from Africa and other neighboring areas, members countries of the European Union will become less and less homogeneous; in fact the issue of multiethnicity will be one of the major challenges for Europe in the near future. (Alesina and La Ferrara 2005, 795)

By developing three syntheses supplemented by diagrammatic reasoning, the process of optimizing the benefits of cultural diversity appears to spiral multiple interrelated forces in society. In favor of the pro-productivity hypothesis, the extra forces are determined to be interactions between elements of factor productivity and barriers. A general conclusion to highlight here is that a conducive social structure can encourage knowledge diffusion between intercultural groups. Furthermore, through cultural frame switching, intercultural knowledge sharing can improve creative thinking. As cultural diversity improves creative thinking in production processes, enhanced productivity for higher economic prosperity becomes possible. However, optimizing this process assumes that the prohibitive forces elaborated in the rest of this paper can be minimized.

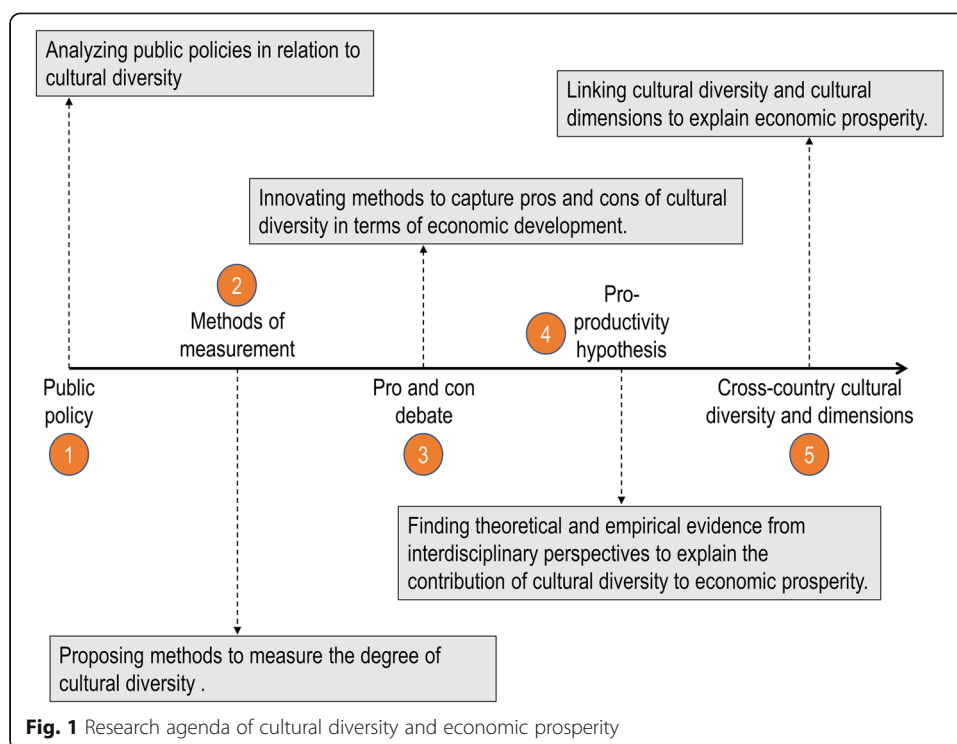
The methodological approach of this study is a mixture of literature review and “mapping review” or “systematic map.” According to Grant and Booth (2009), mapping review aims to map out and categorize past studies by focusing on identifying potential research ideas for further reviews and/or primary studies.¹ For instance, the current review begins by identifying and elaborating five research pillars under the topic of cultural diversity and economic prosperity; this part suggests five ways to gain understanding of the topic. The focus of the following part is case studies across Europe, where the importance of cultural diversity in Europe is reviewed. Because each European country has its own history of socioeconomic evolution, the current review includes up to seven European economies, followed by a review for overall Europe. Under this genre of review, the synthesis of past studies involves graphical or tabular forms. For example, the current review proposes two diagrams to graphically synthesize the understanding of cultural diversity and economic prosperity in Europe. In particular, the two diagrams are embedded with potential research ideas backed by quantitative and qualitative knowledge and evidence realized by past studies. The essence of this review methodology is, as Grant and Booth stated, that there is no formal process of quality assessment; thus, the structure of current review is built on the basis of research design of the studies as a guide toward the arrangement, elaboration, and conceptual proposition of this review. By mixing with standard literature review, quality assessment (e.g., importance of quantitative methods) is not emphasized according to Grant and Booth’s understanding, whereas the feature of standard literature review is to include a wide range of subjects, but at various levels of comprehensiveness and completeness.

The paper is organized into six sections. Following this introduction, the next three sections explain the three syntheses based on a literature review with diagrammatic presentations: 2) the research agenda of cultural diversity and economic prosperity, 3–4) the conceptualization of the culture–economy framework, and 5) the mini diagrammatic model that supplements the culture–economy framework. The last section presents concluding remarks.

Research agenda of cultural diversity and economic prosperity

Before discussing the core inquiry in light of the substantive body of previous studies, this paper first identifies five research pillars of cultural diversity and economic prosperity (Fig. 1), particularly for adding extra understanding to the culture–economy framework elaborated in the following section.

¹Grant and Booth (2009) pinpoint and compare 14 types of literature review: critical review, literature review, mapping review/systematic map, meta-analysis, mixed studies review/mixed methods review, overview, qualitative systematic review/qualitative evidence synthesis, rapid review, scoping review, state-of-the-art review, systematic review, systematic search and review, systematized review, and umbrella review.



Public policy

A distinct public policy that corporate businesses meet social responsibility goals is seen in some European countries. For example, the partnership model is used by Denmark, Finland, the Netherlands, and Sweden, which is shared across sectors to cope with socio-employment challenges. This model is different from other models, such as business in the community (in Ireland and the United Kingdom (UK)), sustainability and citizenship (in Australia, Belgium, Germany, and Luxembourg), and Agora (in France, Greece, Italy, Portugal, and Spain) (Albareda et al. 2007). What underpins these different public policies among the countries?

Following Easterly and Levine (1997) and Alesina et al. (2005), preference heterogeneity among ethnic groups across countries is the source of international differences in public policies, based on empirical evidence from multinational samples. Easterly and Levine explained that higher ethnic diversity could give rise to conflicting ideas or preferences over public goods and policies. Moreover, the resulting public policies may be influenced by rent-seeking behaviors (e.g., over-valued exchange rates and financial repression) from politically influential groups. This explanation seems to characterize the economic growth tragedy in Africa in the past where ethnic diversity and conflicts are apparent issues in some countries. Easterly and Levine's (1997) study is a cross-country investigation of economic growth in relation to ethnic diversity for Sub-Saharan African countries. The growth tragedy experienced by the African countries should be taken as a lesson to review Europe's political and economic environment, which is increasingly intertwined with the diversity of immigrants following the growth of the world population.

For Europe, this explanation seems equally important to many European countries that are attractive destinations for immigration worldwide (Alesina and La Ferrara

2005, 795). As such, this paper believes that strategic foresight is essential for public policy for Europe. Examples are the United Kingdom Foresight Programme and the Netherlands Horizon Scan Project. According to Habegger (2010), this approach entails systematic assessment and identification of potential new issues, thereby preparing public policies that can suppress undesirable outcomes, increase maneuverability, and improve overall flexibility. Strategic foresight has gained popularity in helping to design public policies in Sweden since the 1970s, particularly in recommending important agenda for public debate, connecting various interest groups through consultation, and defining scientific and technological priorities (Paillard 2006). Furthermore, three sub-regions of Europe (Eastern, Northwest, and Southern) were distinguished by Keenan and Popper (2008) from other world regions (Asia, North America, and South America) in terms of their style of foresight activities.²

With respect to cultural diversity, there is the diverse learning city agenda from Sohail Inayatullah's Causal Layer Analysis. The objective of the agenda is to build a "vital intercultural city noosphere of learning," suggesting the need for human-consciousness development by the government (Daffara 2011). Particularly, as the European Union (EU) aspires to achieve peace while facing immense immigration inflows, considering Inayatullah's agenda in planning public policies could be helpful to increase economic prosperity through the growth of cultural diversity, although this may need future research to demonstrate its effectiveness.

Methods of measurement

To understand how the benefits of cultural diversity could be optimized, exploring methods of measurement for cultural diversity may be another important aspect of the research agenda. For instance, Alesina and La Ferrara (2005) question whether societies across Europe are getting more heterogeneous in terms of cultural background. This question may be answered in three different ways.

First, by assessing the diversity of ethnic groups that are native to the measuring country. One solution is to use the methodology of Alesina et al. (2003) to calculate an ethnic fractionalization index based on linguistic background and other racial characteristics. The ethnic fractionalization index was computed from data on about 650 ethnic groups. This index is also supplemented by two other indices for pure linguistic and religious diversity in Alesina et al.'s study. Their linguistic fractionalization index was developed excluding physical characteristics of race, based on 1055 major languages. The religious fractionalization index was developed from data on 294 regions defined consistently across countries. Covering 190–215 countries, each of the three indices was developed by subtracting the Herfindahl index by one,

$$\text{FRAC}_j = 1 - \sum_{i=1}^N s_{ij}^2, \quad (1)$$

where s_{ij} indicates the proportion of ethnic group i in country j . For example, assuming that the population of country j belongs to a single ethnic group, s_{ij} would be equal to one; hence, FRAC_j (fractionalization) would be equal to zero, indicating that there is no ethnic diversity in country j . For example, Alesina et al. (2003) report that

²Further details of Keenan and Popper's (2008) findings are deemed to be less pivotal to be discussed here.

Liechtenstein has an ethnic fractionalization index of 0.5726, suggesting that there is a 57.3% probability that two randomly selected individuals from the population of Liechtenstein are from different ethnic groups.

Second, by assessing the magnitude of net immigration to the country. Many European countries actually show a decline in net immigration in 2017 in comparison to 2012 (World Development Indicators 2019). In Austria, for example, the net immigration in 2017 is about 100,000 immigrants, a decrease of approximately 63% from 270,000 net immigrants in 2012. This reflects the fact that the diversity between native and immigrant groups has declined in Austria. Notwithstanding the fall of net immigration in Austria, there could be an increase in the fraction of immigrants in terms of countries of birth, which can be determined using the third of the three measurements.

A 2-in-1 formula of cultural diversity, taking into account the last two measurements mentioned above, is formalized by Alesina et al. (2013, 2016) with slightly different terminology. They introduce the index of population diversity:

$$Div_{pop} = 2(s_{mig})(1-s_{mig}) + (s_{mig})^2(Div_{mig}), \quad (2)$$

where s_{mig} is the share of foreign-born immigrants (workers only). Eq. (2) comprises two components, namely “diversity between” and “diversity within.” The diversity-between component is shown by the first summation term, $2(s_{mig})(1-s_{mig})$, capturing the difference between natives and immigrants (cultural distance). The second summation term indicates the diversity-within component (cultural variety), $(s_{mig})^2(Div_{mig})$, i.e., diversity within the immigrant group. The last term, Div_{mig} can be computed by Eq. (1) using data on the share of immigrants by country of birth i for the receiving country j . The difference between Eqs. (1) and (2) is that Eq. (2) represents diversity coming solely from first-generation immigrants. Based on a panel-data sample over a hundred countries, Alesina et al. (2013, 2016) ascertained the effect of first-generation birthplace diversity as robust in terms of controlling for effects of the second- or third-generation birthplace diversity. In addition, robustness against age of entry of immigrants, outliers, and fixed effects should be checked according to development process demonstrated by Alesina et al.

Further improvement to Eqs. (1) and (2) may be needed as one research direction to improve understanding of cultural diversity and economic prosperity in Europe, particularly for individual countries such as those in the German regions, as demonstrated by Audretsch et al. (2010). Audretsch et al. argue that the degree of fractionalization is largely determined by the relatively large share of the native population, and hence cannot unambiguously indicate the diversity among the foreign-born. Thus, the study offers an improvement using the entropy index. Overall, this supports the current paper’s suggestion of the potential to explore the methods of measurement of cultural diversity for European studies.

The pro and con debate: how to measure?

Without understanding the downsides of cultural diversity for economic prosperity, information to determine its optimized economic benefit may be lacking. Other than as a social force that supports productivity (such as the pro-productivity hypothesis discussed below), arguments for the downside of cultural diversity are also prevalent.

Based on Easterly and Levine's (1997) argument, the higher the ethnic diversity in a country, the higher the likelihood of social polarization. The problem of social polarization may also entail differences in resource allocation between ethnic groups, but this assertion requires further studies to investigate. The incidents of violent clashes (e.g., the Ituri conflicts and Batwa-Luba clashes) in the Democratic Republic of Congo are evidence in favor of Easterly and Levine's argument. This is also reinforced by the study of Alesina et al. (2005) on country size, trade, and economic growth; the larger the country size, the larger would be preference heterogeneity owing to ethnic diversity. Indeed, the Democratic Republic of Congo is one of the largest countries by population in Africa (World Population Prospects 2017) and the index of population diversity for immigrants only is 0.934 (Alesina et al. 2013, 2016). Germany, for example, is a large country by population with the level of birthplace diversity (immigrants only) as high as the Democratic Republic of Congo, implying that ethnic conflicts due to preference heterogeneity are still possible even though it is a highly developed nation.

Although Europe is the home of most of the developed countries in the world, incidents of cultural conflicts are readily apparent there throughout history. Particularly, the anti-immigration sentiment facing contemporary Europe opens an inquiry whether the ethnic fractionalization methodology is sufficient to capture the impact of cultural diversity taking place in the region. As the anti-immigration conflict involve natives and immigrants, this phenomenon may be better represented by ethnic polarization rather than ethnic fractionalization. Montalvo and Reynal-Querol (2005a) note the ambiguity of ethnic fractionalization in capturing ethnic diversity and its conflicts; for example, some studies failed to prove such culture–conflict relationships. Among the reasons given by Montalvo and Reynal-Querol, one to be highlighted here is the absence of “ethnic distance” in the fractionalization concept. As they argue, there is no solid underpinning to support the proposition that an increase in the degree of ethnic diversity would increase the probability of a conflict.

This is represented by Eq. (3) for the index of polarization of Reynal-Querol (RQ); proposed in Reynal-Querol (2002):

$$RQ = 1 - \sum_{i=1}^N \left(\frac{\alpha - \pi_i}{\alpha} \right)^2 \pi_i, \quad (3)$$

where $\alpha = 0.5$ and π_i indicates the proportion of ethnic group i . According to one of Montalvo and Reynal-Querol's justifications, the probability of an ethnic conflict is higher in a society composed by two populations, a relatively large ethnic minority amid the ethnic majority (Horowitz 1985). For example, if the share of the ethnic minority approaches half the size of the entire population, i.e., where $\alpha = 0.5$, $RQ = 1$, indicating the highest probability of ethnic polarization.³

Montalvo and Reynal-Querol empirically demonstrate a persuasive explanation of ethnic polarization on civil wars using the RQ indicator, suggesting that the ethnic fractionalization indicator has a weak explanatory power in the ethnic conflict and civil war relationship. In a broader context, such as ethnic diversity and economic development

³The use of “minority” in this part is to distinguish a smaller ethnic group “minority” from the bigger group “majority” in the population. It is generally recognized that, when a small ethnic group has grown to the size of half the population, it is no longer a minority.

as discussed in Montalvo and Reynal-Querol (2005b), ethnic fractionalization was shown to directly and negatively affect economic growth. However, such an adverse effect was not found to be indirectly related to conflicts such as civil wars. In contrast, they ascertained an indirect effect from polarization through conflicts.

In contrast, ethnic fractionalization is based on the Herfindahl index, which is a statistical measurement for concentration (Rhoades 1993). The opposition of concentration, namely dispersion (e.g., a miscellany of ethnic cliques), can be approximated as one minus the Herfindahl index, because the original index ranges between 0 and 1. In a developed country with good institutions (institutional quality), will the two conflicting indicators yield what each is designed to capture? Ager and Brückner (2013) answered this question by simultaneously testing the effects of fractionalization and polarization on productivity growth. Using formulae such as Eqs. (1) and (3) in a case study using the United States (US), they ascertained the positive effect of cultural fractionalization in opposition to the negative effect of cultural polarization. The negative effect of polarization was asserted to come from conflicts among European immigrants in the US. Ager and Brückner's regression approach signals one important technique that past studies did not consider: if cultural fractionalization is regressed and tested without controlling for cultural polarization, the effect on output growth was found to be significant and negative. A significant and positive effect was seen when cultural polarization was controlled. The implication is that the fractionalization variable could pick up the effect of the polarization variable when the latter is not controlled in the regression. However, as this study is based on solely on the US, particularly during the age of mass migration in the 1870–1920 period, further confirmation may be needed for the European case.

Moreover, as discussed above, the index of population diversity developed by Alesina et al. (2013, 2016) also has the component of cultural distance between natives and immigrants. Thus, a performance disparity of the two formulae may need further studies to ascertain, for capturing the pros and cons of cultural diversity toward economic prosperity.

The pro-productivity hypothesis

The pro-productivity hypothesis refers to the positive effect of cultural diversity on economic prosperity (e.g., enhanced productivity). Many countries in Europe may be characterized by the pro-productivity hypothesis, due largely to the conducive atmosphere of institutions that facilitate the productivity benefit of cultural diversity. Alesina and La Ferrara (2005) highlight three pro-productivity properties of cultural diversity, namely ability, experience, and culture. Diversity in these properties, in certain ways, is hypothesized to promote creativity and innovation. Among the micro-foundations they elaborate to support this hypothesis, one prominent explanation comes from the understanding of a general model of diverse problem-solvers as explained by Hong and Page (1998): a collection of bounded ability and heterogeneous problem-solvers was ascertained to outperform a group of skilled problem-solvers who are more homogeneous in cultural background, particularly in looking for an optimal solution to a problem.

The meaning of heterogeneous problem-solvers in Hong and Page's model refers specifically to the diversity of perspectives and heuristics, which is deemed correlated with cultural diversity. Particularly, they emphasize diversity of life experience. The current

paper's interpretation of Hong and Page's conclusions is that perspectives and heuristics are developed out of one's life experience that in turn developed out of one's cultural experience. For example, the ability of mathematical processing in the brain was found to be different between Chinese-speaking natives and English-speaking natives, ascertained as the cognitive and neural influences of cultural affiliation on the cognitive ability to digest mathematical problems (Cantlon and Brannon 2007). According to some investigations of cognition, cultural knowledge, including beliefs, learned practices, and values, is habitually applied in a variety of situations (Lee et al. 2012; Lubart 1990; Tadmor and Tetlock 2006).

When individuals of other cultural backgrounds engage in a dominant culture, Benet-Martínez et al. (2006, 387) pinpoint four distinct possibilities: "assimilation (identification mostly with the dominant culture), integration or biculturalism (identification with both cultures), separation (identification largely with the ethnic culture), or marginalization (low identification with both)." What Benet-Martínez et al. found in this bicultural meeting investigation is cultural representations that are more complex and integrative, particularly for conflicting cultural identities (in contrast to cultural compatibility). The implication is related to cognitive intelligence because said cultural complexity and integration are related to higher levels of cultural empathy and flexibility, suggesting the level of one's ability to comprehend others' cultural behaviors and to adopt or switch among cultural strategies.

Such flexibility in cultural frame switching in a bicultural relationship is asserted to raise one's ability to detect, process, and organize cultural cues. Lee et al. (2012) attribute cultural frame switching to creative thinking; for example, they found that creativity was typically exhibited by students who studied abroad in comparison to those who did not study abroad. In short, the cognitive investigations support Alesina and La Ferrara's (2005) proposition of three pro-productivity aspects of cultural diversity (ability, experience, and culture).

The pro-productivity benefit of ethnic diversity may be conditional on institutional quality. As articulated by Alesina and La Ferrara (2005), better institutions allow a society to manage conflicts associated with ethnic diversity, thereby suppressing its adverse effects, on the one hand. On the other, a developed economy is typical of highly diversified production processes (creativity), hence matching with the diversity of perspectives and heuristics from ethnic diversity. Based on a case study in the US, Sobel et al. (2010) identify the effects of ethnic fractionalization under conditions of well-established institutional quality. Furthermore, this study sheds light on the hypothesis of diverse perspectives and heuristics mentioned above, as its focus is on the impact of ethnic fractionalization on entrepreneurial activities.

Sobel et al.'s hypothesis is simple but consistent with that stated by Alesina and La Ferrara (2005): better institutions promote ethnic diversity for innovative activities. They attribute "cultural capital" to be a complementary factor of productivity that immigrants bring to the receiving country, fostering an amalgamation and interchange of beliefs, ideas, and practices. Such knowledge diffusion is believed to promote entrepreneurial activities, whereby they tested several aspects of entrepreneurship: growth rate of new and small start-ups, venture capital investment, patents per capita, and the intensity of entrepreneurial activity. Using the formula of ethnic fractionalization shown in Eq. (1), they found evidence for this hypothesis.

In contrast, what do poor institutions offer in relation to ethnic conflicts? In the social-psychological approach of Lieberman and Singh (2012), based on the social identity theory, a two-step process is highlighted. Initially, when certain institutions give rise to intergroup comparisons, it suggests that a dividing line that marks ethnic separation arises in a society. Intergroup comparisons refer to ethnic groups' worry about relational status. Next, this occurrence can develop into political disappointment to some ethnic groups. This signifies an unhealthy development whereby some ethnic leaders are prone to take action that could cause intergroup ethnic tensions.

The pro-productivity benefits of birthplace diversity may be elaborated with the cultural frame switching described previously (e.g., Lee et al. 2012). From the anthropological understanding, human beings, in contrast to even their nearest primate relatives, are adaptable for culture (Tomasello 2000). Tomasello pinpoints two groups of literature in regards to cognitive development; one is pro-biology studies and the other one is pro-culture studies. The pro-biology studies believe in organic evolution that instills specific domains of knowledge into human beings, including biology, language, mathematics, and psychology, among others. The pro-culture studies believe in the role of cultural dimensions in cognitive development:

These cultural psychologists begin with the fact that human children grow into cognitively competent adults in the context of a structured social world full of material and symbolic artifacts such as tools and language, structured social interactions such as rituals and games, and cultural institutions such as families and religions. The claim is that the cultural context is not just a facilitator or motivator for cognitive development, but rather a unique "ontogenetic niche" (i.e., a unique context for development) that actually structures human cognition in fundamental ways. (Tomasello 2000, 37)

In favor of Tomasello's explanation, culture is widely known to correlate with the right hemisphere of human brain, where one of its functions is creativity. Particularly, culture's role in the right hemisphere includes shared-function social organisation and learning by example (verbal instructions), and is less dependent on verbal communication (Rohrl 1979). This culture–intelligence development complements the hypothesis of Lee et al. (2012) that creative thinking is due to cultural frame switching.

There is a western-centered perspective toward economic and political integrations such as the EU. The challenge pinpointed in this paper is to bring together the dominant culture of the local people and cultural capital or social assets contributed by immigrants. According to the literature review in this section, the advantages of cultural diversity in promoting innovation and enhancing productivity seem to be a promising foundation for economic and political integrations. As discussed in the following section of policy conflicts, however, a constraint facing policy-makers is that there is preference heterogeneity among economic agents in each of the European countries, hence, a promising cultural diversity does not necessarily lead to successful economic and political integrations. Despite Europe's attraction to educated immigrants, this region is also facing disintegration challenges (e.g., Brexit). Hence, the pro-productivity hypothesis discussed above is proposed as one essential aspect of the research agenda for Europe. This paper's perspective is that the composition of developed countries in Europe (e.g., the EU) is far more substantive than other global regions, which is a

competitive advantage for technological progress. Particularly, based on the productivity hypothesis, future research on the economic integration in Europe might explain a uniquely determined way that cultural diversity could optimally benefit said competitive advantage.

Cross-country cultural diversity and dimensions

What specific cultures in Europe are known to promote intelligence? Language could be one aspect that is important, as shown by a group of studies that focus on role of language, linguistic differences, and cognitive ability in mathematic learning (e.g., Austin and Howson 1979; Dehaene et al. 1999; Geary et al. 1996). There is a considerable amount of literature to digest covering this aspect; thus, it is not intended that it be elaborated further here, in order to save space for other elaboration more in line with the objectives of this paper.

The specific culture that needs emphasis here is the concept or dimension of individualism introduced under Hofstede's cultural dimensions theory. As explained by Hofstede (1980), there are multiple traits associated with this cultural dimension, to name a few: commitment to oneself and immediate family, identity, emotional independence, initiative, achievement, leadership, a feeling of a right to express opinions, autonomy, variety, financial security, and universal value standard. An individualistic culture, with those traits combined in one way or another, is ascertained by past studies to be important to productivity and innovation (e.g., Gorodnichenko and Roland 2011a, 2011b, 2017; Williams and McGuire 2010).

Following Gorodnichenko and Roland (2017), the pursuit of achievements and leadership (e.g., market power, patents, and social status) are behaviours under the individualistic culture, suggesting that this cultural dimension can potentially lead to more innovative activities. The study found significant contribution of individualism on three aspects of economic prosperity, namely income per worker, total factor productivity, and patents per capita. This cultural dimension was also tested separately by region, where the study found minor differences across regions but the findings remain robust in line with the hypothesis.⁴

The current paper's perspective on individualism is twofold, focused on diversity and dimension. First, this paper perceives that even for two countries that are equally strong in individualism, each country could be unique in terms of the combination of the cultural traits mentioned above (e.g., Hofstede 1980). Specifically, people from both countries can be strong in achievements and leadership, whereas their perspectives and heuristics toward said cultural traits could be dissimilar due to their different countries of origin; this paper makes this argument based on Tomasello's (2000) anthropological understanding previously discussed. Second, as indicated by Yong's (2019) regional investigation, countries sharing a region can be dominated by one cultural dimension, such as individualism in Europe and power distance in Asia. Yong's findings have a huge implication on the understanding of global economic divergence, particularly

⁴Although this study considered regional differences in the effect of this cultural dimension, however, Yong's (2019) argument implies that Gorodnichenko and Roland's empirical investigations, as well as several other studies, have not clearly distinguished the regional differences in terms of culture. Specifically, the argument implies that determining regional differences in terms of culture is not similar to determining different effects of culture across regions. Yong's study shows that individualism alone deserves no interpretation of similar economic effects from a regional perspective.

between Europe and Asia (e.g., Broadberry and Gupta 2006; Parthasarathi 2011). This could suggest that the birthplace diversity of immigrants from individualism-dominant regions would favor the pro-productivity hypothesis more than other regions. Evidence of such argument is shown by Hansen (2013) in an investigation on the contribution of US second-generation immigrants (from individualism-oriented countries) to the country's annual earnings.

This research area deserves further consideration by researchers to find the optimal economic contribution of cultural diversity, particularly in relation to immigrants in Europe whose countries of origin are dominated, one way or another (e.g., region), by certain cultural dimensions.

Literature review of European case studies

To restrict the length of this paper, seven European countries are arbitrarily selected for review, while other countries are reviewed based on multiple-country case studies for the region.

Postwar history: Germany and Great Britain

Germany and the UK were two of the top five countries in terms of positive net immigration in 2017 (the others were Turkey, Canada, and the US) based on statistics from the World Development Indicators (2019). Correlated with the contemporary evidence is the fact that the two countries were also historic pioneers of a public policy supporting cultural diversity in Europe in the postwar era.

Since 1955, West Germany invited foreign guest workers from Italy to help reestablish the country after the Second World War. Evidence was captured particularly on the 10 September 1964 as the last person of the 1 million laborers, Armando Rodriguez, arrived in Köln Hauptbahnhof in Cologne and was cheered by the crowd and the Federal Minister of Labor Affairs (Joppke 1996). From the Minister's speech, Joppke highlights three targets that the country expected from having the 1 million guest workers: maintaining price stability, production growth, and world market reputation. Particularly, postnationalism was one prominent goal of the Green Party, aiming at the relationship between immigration and a multicultural society. The multicultural society was defined by the party as "the indivisibility of human rights."

Great Britain in the post-war era was seen to receive an immense quantity of immigrants from the Caribbean and India. As the Caribbean and India also later became two member states of the Commonwealth of Nations, said immigration to Great Britain could be an initial motive toward a political integration. However, according to Joppke (1996), the absence of economic considerations (e.g., labor market needs) and racial sentiments in immigration policy caused Britain to experience a period of decreased and uncertain stage of economic development. An immigration policy was introduced at latter point in time, which Joppke coined as "a generous and elaborated regime" that aim to harmonize relations among ethnic groups. Said regime was defined by the Home Secretary, Roy Jenkins, to be one of equal opportunities and mutual tolerance amid cultural diversity.

Findings: cultural diversity and economic prosperity

Germany

It is necessary to acknowledge that, in Germany, the largest group of immigrants is from Turkey. In the late 1990s, D'Amuri et al. (2010) calculated that foreign-born workers in Germany represented approximately 10% of the country's labor force. Focusing on the area of the former West Germany, this investigation showed a negative employment effect. Specifically, approximately three to four incumbent immigrant workers (> 5 years) were found to be replaced by each 10 new immigrant workers (≤ 5 years). This effect was also found on the incumbent immigrant workers' wage rate. However, no negative effects of immigrant workers were found on the native employment and wage rates in Germany.

The current paper's view is that the incumbent immigrant workers should be more familiar to the cultural environment (e.g., social structure and institutions) in Germany than the new immigrants. Hence, as the studies of cultural frame switching discussed previously, the replaced immigrants may be able to develop creative thinking for entrepreneurial activities. Also, Audretsch et al. (2010) assert that entrepreneurs are not "lone giants"; entrepreneurs are highly interactive and dependent individuals in looking for resources and opportunities. Audretsch et al. found several dimensions in which entrepreneurial activities are related to cultural diversity across German regions. First, recognizing, absorbing, and realizing entrepreneurial opportunities were found to be related to cultural diversity from nearly a hundred regions across Germany. Second, the pro-productivity effect of cultural diversity was typically determined from technologically oriented start-ups. Last but not least, regions intensive in R&D activities and cultural diversity were ascertained to be conducive for technologically oriented start-ups. Furthermore, Bouncken (2004) identified four productivity-related factors that facilitate this culture–entrepreneurship relation in Germany: creativity, procedure of communication, structure of tasks, and support of external contacts.

The United Kingdom

Levie (2007) investigated the economic impacts of cultural diversity in the UK based on several divisions: life-long residents, in-migrants, immigrants, and ethnic minority and majority. Such divisions are deemed important and helpful to understand the propensity of entrepreneurial activities, particularly to inform development policies at both local and international levels. Across regions, life-long residents were found to have lower business rates than in-migrants and immigrants. Exceptions were indicated for some regions. For example, such differences in business rates were not found in Northern Ireland while smaller differences were shown in England. However, immigrants were not found as active as in-migrant in new business activities.

Complementary evidence is shown by Nathan and Lee (2013), where cultural diversity is distinguished between ethnically diverse and immigrant diverse at the firm level in a case study in the City of London. Firms that had an ethnically diverse workforce showed stronger probability of developing new products, innovation in knowledge-based sectors, and sales in locally large and diverse markets. Different results were identified from immigrant-diverse workforce, where significant contributions were identified in process innovation, innovation in knowledge-based sectors, and sales in international markets.

Russia

A case study in Russia revealed approximately 180 nationalities comprising 20% of the Russian population, the rest (i.e., 80%) are Russians (Limonov and Nesena 2016). Accordingly, the index of population diversity (immigrants only) for 2000 is 0.766 out of 1, suggesting a quite high level of birthplace diversity (Alesina et al. 2013, 2016). Despite this high level of cultural diversity, Limonov and Nesena noted significant differences in ethnic and birthplace diversity across the Russian regions. These differences were associated with certain population characteristics and economic activities. Specifically, in regions with higher population density, cultural diversity by in-migrants and immigrants were each negatively associated with regional productivity. In line with this, findings of a negative relationship between ethnic diversity and public spending on education in some regions were also reported.

From the current paper's perspective, one possible interpretation to these findings is that there could be lacking of institutional support for cultural diversity in those regions, which caused lower productivity from immigrants. In regions with weaker economic activity, however, Limonov and Nesena identified that diversity of both in-migrants and immigrants contributed positively to consumption externality. The current paper interprets this finding as the dependence of consumption externality on the elasticity of labor supply (e.g., Liu and Turnovsky 2005; Turnovsky and Monteiro 2007), suggesting that diversity of in-migrants and immigrants could have made labor supply more elastic in regions with weaker economic activities.

Switzerland

Although xenophobic seems to be a common attitude in the population of Switzerland, this country has one the highest percentage of immigrants in the world. Freitag and Rapp (2013) assert that an anti-immigration attitude is prevalent in the Swiss society; immigrants are perceived to be a serious economic and cultural threat. One potential way to moderate such intolerant perception is postulated to be intercultural interactions to build social ties with the immigrants. Immigration policy that favor skill immigrants are largely not supported in Switzerland (Riaño and Baghdadi 2007).⁵ Riaño and Baghdadi's interviews with 57 female immigrants from various continents equipped with skills and sociocultural capital, revealed the difficulty facing these immigrant workers to "climb the ladder" in the Swiss labor market. In addition to the integration barrier, gender discrimination against women for certain positions was also suspected. However, for career positions where gender and ethnicity are essential selection criteria, female immigrants were also asserted to be appreciated as valuable human resources. This Switzerland case study seems to highlight the importance of social structure with cultural diversity.

The Netherlands

Dutch history with respect to immigration seems in opposition to the German case. After the Second World War, while West Germany (e.g., the Green Party) aimed for a multicultural society, the Dutch government refused to be called an immigration

⁵The literature review above does not indicate that anti-immigration sentiment does not exist in the other European countries; this paper arbitrarily selects Denmark, Finland, and Switzerland to elaborate this issue in relation to cultural diversity.

country and van Amersfoort and van Niekerk (2006) also noted that overpopulation was recognized by the Dutch government, thereby emigration was particularly encouraged (e.g., emigration to Canada and Australia). Another contradiction to the German case elaborated by van Amersfoort and van Niekerk is that immigrants were recognized with special names, such as repatriates, which are symbolic measures used by the government to defend against the public accusation of being called an immigration country. They highlight two interrelated mechanisms from which post-colonial immigrants (from Indonesia, the Caribbean, Suriname, the Netherlands Antilles), were integrated into the Dutch society, namely citizenship and social mobility. However, ethnic entrepreneurship, particularly from small groups of Chinese and Italian minorities in the Netherlands, around the two world wars period did exhibit some social status for incorporation into the Dutch society. Italian immigrants, particularly, exhibited a unique trail of immigration to the Netherlands in the form artistic entrepreneurship. Four types of artistic entrepreneurship are elaborated by Bovenkerk and Ruland (1992), namely chimney sweeps (spazzacamini), ice-cream makers and vendors (gelatieri), makers of plaster statuettes (figurinisti), and mosaic and pavemakers (terrazzieri). These artisans were considered skilled laborers and craftsmen in Europe when urban centers were developed since the late Middle Ages toward the twentieth century. In more recent times, Bangladeshi and Egyptian communities were particularly known for their entrepreneurial activities in the country (van Meeteren et al. 2013). However, following van Meeteren et al.'s assertion, due to tax burden and strict control over illegal employment, Bangladeshi entrepreneurs left the country for Belgium and the UK, while Egyptian entrepreneurs pursued business opportunities in more diverse sectors.

The benefits of cultural diversity in the Netherlands were assessed by Bakens et al. (2013) for the 1998–2008 period. Cultural diversity was found to enhance the diversity of consumption goods and hence benefited consumers across the Dutch cities. However, this positive effect was counteracted by the adverse effect of cultural diversity on neighborhood quality (e.g., unfavorable impact on housing prices). Distinctive effects of the share of foreign employees and the cultural composition of foreign employees are shown by Ozgen et al. (2013), based on data from over 4000 firms in the Netherlands. In general, the study indicates that the larger the share of foreign employees, the more adverse effect on firms' innovativeness was observed. The opposite effect was determined for the birthplace diversity among foreign workers, particularly on product innovation (the effect on process innovation was less robust). Ozgen et al.'s findings may be reexamined using the diversity formula of Alesina et al. (2013, 2016), which includes both diversity-between and diversity-within components, as previously discussed.

Denmark

Denmark is one of the two countries in Scandinavia hosting the Progress Party (the other is Norway) in addition to the Danish People's Party, which are both known as anti-immigration parties (Bjørklund and Andersen 2002, 107). The xenophobic attitude in Denmark, such as in Finland and Switzerland, could have strengthened the right-wing parties and improved their electoral results, although not necessarily a tolerable government. Nevertheless, this country also highly values cultural diversity for economic prosperity. For instance, in an investigation for NewPhadk in Denmark, one of

the largest Danish companies that emphasizes diversity management, Luring (2009) highlights three perspectives from which knowledge may be shared among culturally diverse workforce in organisations. One is information and decision-making processes, where the communities of practice are deemed an important medium. Social categorization is another perspective. Luring's assertion is that lacking intergroup interaction is a barrier to knowledge-sharing in the organization. Inequality and power relations are the other perspective, implying that inequality of power distribution could translate into political relations that inhibit the benefits of cultural diversity.

Finland

In Finland, anti-immigration behavior is characterized by Mäkinen (2017) as a development of right-wing politics and activism in the country. The issue within the neoliberal citizenship regime renders anti-immigration activism to provoke thoughts of injustice and resentment against the "underclass/surplus people" (disposable people) that also includes immigrants from some countries. Such developments exaggerate the problem of class struggle with its tendency toward nationalism and racism. The ideal citizen is defined to have certain characteristics, namely activity, adaptability, autonomy, and flexibility. Such characteristics are considered essential attributes of entrepreneurship, particularly ideal for citizenship.

Furthermore, Sabour (2011) explains that strong social and economic capital are essential for foreign entrepreneurs. On the one hand, Finland is characterized as a highly developed and knowledge-based country. On the other, there are Finland-specific challenges facing culturally diverse immigrants: limited employment opportunities for low-skilled and less literate laborers, a spatially large but scattered small population, and social structures and particularities that are unfavorable to immigrants. The last point mirrors the issue of social structure articulated by Mäkinen.

Other European countries

In terms of the index of population diversity (immigrants only) (Alesina et al. 2013, 2016), the 28 countries of the EU show an average of 0.804 (out of 1) for the year 2000, an increase from 0.789 for the 1990. The average diversity within skill immigrants for each year was slightly higher. In January 2012, the EU was estimated to have approximately 20.7 million non-EU foreigners in addition to 13.6 million EU citizens living in another EU country (Dohse and Gold 2014).

Dohse and Gold's findings show that densely populated regions have a stronger positive effect of cultural diversity on output per capita. Densely populated regions were articulated to offer immigrants with more economic opportunities such as entrepreneurship and employment. Put it in another way, following the theory of Florida (2002), a diverse urban environment motivates the inflow of knowledge workers with creative capital. Consistent with this is the case study of Bellini et al. (2013) for NUTS 3 regions across 12 European countries. From Eurostat's regional terminology, the Nomenclature of Territorial Units for Statistics (NUTS) 3 regions are defined to be small regions in contrast to the NUTS 1 (major socioeconomic regions) and NUTS 2 (basic regions for regional policies). Bellini et al.'s argument is that cultural diversity promotes economic performance through consumption and production externalities, although only the amenities for production

externality were ascertained. In this case, the current paper's comment is that the consumption externality is not found to be the dominant effect probably suggests inelasticity of labor supply in those regions (Liu and Turnovsky 2005; Turnovsky and Monteiro 2007).

From the European case studies elaborated above, contribution of cultural diversity in the form of entrepreneurship, production externality, and consumption diversity and externality are observed. In particular, the importance of cultural diversity is rooted in the fact that there is, in principle, a free mobility of human capital other than trade and capital investment among the EU member states. Nevertheless, the following issues are also observed: institutions and politics, market size, concentration of population, and social structure. One limitation is that the conclusion here is based on national averages to elaborate the situation of cultural diversity in Europe, wherein the current study acknowledges that the geographical concentration of immigrants could be mostly in metropolitan areas.

In the next section, a culture–economy framework is proposed and elaborated based on the literature review in the previous two sections.

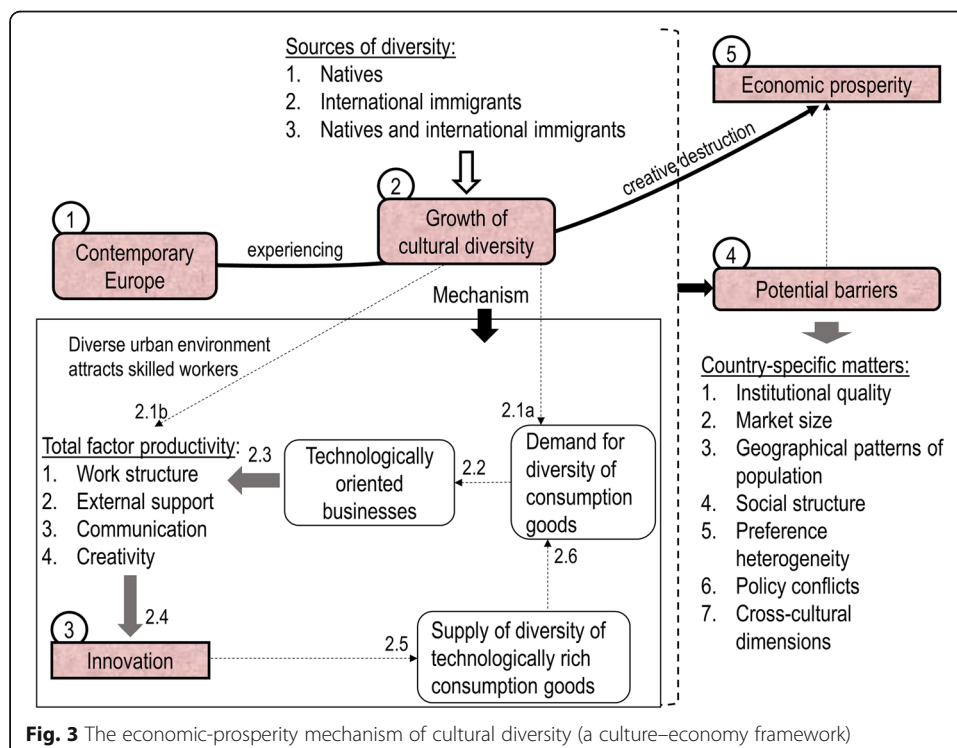
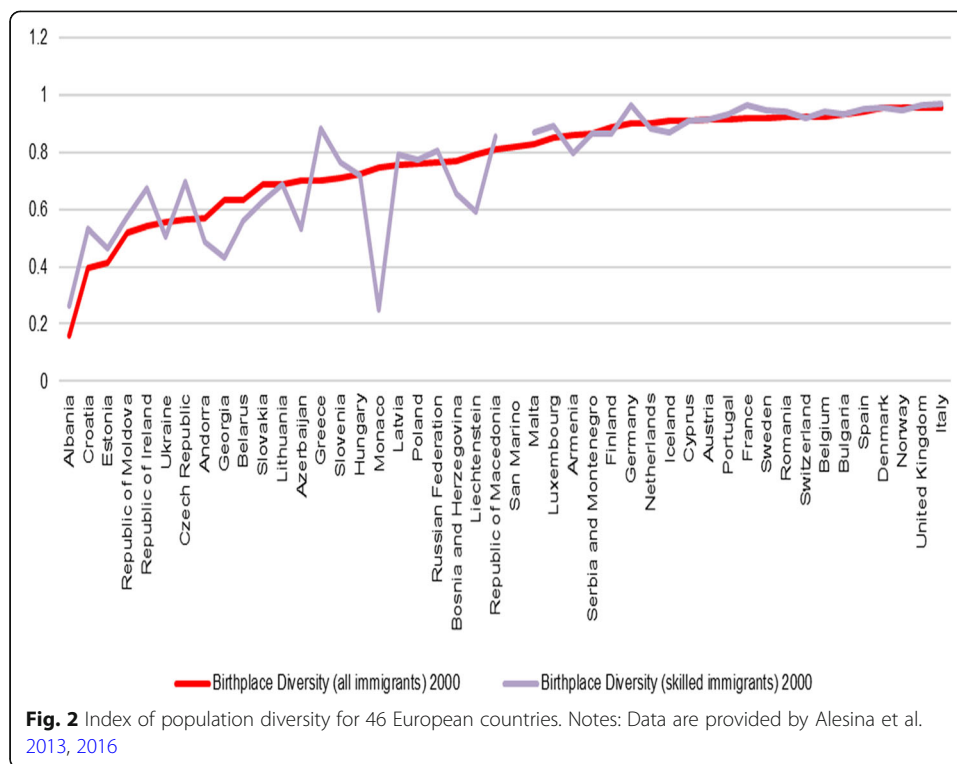
The culture–economy framework based on European case studies

How will cultural diversity contribute optimally to economic prosperity in Europe and what obstacles could there be to achieving it? The elaboration of the culture–economy framework here is focused on the growth of birthplace diversity from the first-generation international immigrants across European countries. For 46 European countries according to World Atlas (2019),⁶ on average, the year-2000 index of population diversity (immigrants only) reported by Alesina et al. (2013, 2016) is 0.772. They also report that above 90% of the 46 European countries surveyed have an index above 0.5 (Fig. 2).

Labels 1 to 5 in Fig. 3 depict the causal direction from cultural diversity to economic prosperity. The indication from label 1 to label 2 suggests an increase in birthplace diversity across European countries. From evidence calculated using the data reported by Alesina et al. (2013, 2016) for 46 European countries, there was approximately 5.6% average growth of immigrant diversity and 5.2% average growth of skilled immigrant diversity from 1990 to 2000. From label 2 to label 5, mechanisms that link cultural diversity to economic prosperity are underpinned by the forces under labels 3 and 4. The proposition of this framework follows Schumpeter's (1947, 149) articulation, "As a rule, no factor acts in a uniquely determined way and, whenever it does not, the necessity arises of going into the details of its *modus operandi*, into the mechanisms through which it acts."

The effect of cultural diversity is explained by the economic cycle labelled 2.1 to 2.6, in which the objective is to achieve innovation (label 3). Innovation is used here as a universal term to refer to creativity-related development, such as R&D, new products, entrepreneurship, new firms, and university–industry technology transfer, among others that are essential to economic growth (e.g., Freel and Robson 2004; Grossman and Helpman 1991a; Jones 1995, 2002; Link and Siegel 2005; Romer 1990).

⁶The 46 European countries are based on the World Atlas countries by continent (World Atlas 2019), excluding the Vatican City due to data limitation.



The starting point (label 2.1) is people's demand for goods and services. This conjecture is grounded on the demand-pull innovation hypothesis proposed by Schmookler (1966) in contrast to the supply-driven hypothesis. Following Jovanovic and Rob (1987), the key argument of this hypothesis is that firms garner essential ideas and information from consumers to improve current products and/or to introduce new products. As cultural diversity is theorized to be associated with preference heterogeneity (Alesina et al. 2005), this may also indicate preference heterogeneity in consumption among culturally diverse consumers, such as in the Netherlands case discussed above (Bakens et al. 2013). Alternatively, this may be related to consumption externality, such as the Russian regional case study (Limonov and Nesena 2016). Other evidence is a case study in Switzerland, showing that French, Italian, and Romansh-speaking populations favor social insurance more than the German natives (Eugster et al. 2011).

The flow from label 2.1a to label 2.2 suggests that consumption diversity for goods and services motivates entry of technology-oriented start-ups, while it also encourages incumbent firms to pursue innovative activities because of competition from the new entries, as justified by the demand-pull innovation hypothesis above and theory of innovation of Aghion et al. (2009). On the other hand, as shown by label 2.1b, cultural diversity also complements productivity with skills, according to the pro-productivity hypothesis (Alesina and La Ferrara 2005); alternatively, this is also known as a production externality of cultural diversity. Following this hypothesis, this paper attributes this advantage to the total factor productivity explained in the accounting concept of economic growth by Solow (1957).

Cultural diversity in some European societies is identified to have this pro-productivity benefit, particularly the German regional case (Audretsch et al. 2010) and London city case (Nathan and Lee 2013) among others. Assuming this is a diverse urban environment (e.g., London and Berlin), such environments are an attraction for educated and skilled immigrants to move into, as observed from the case study involving 27 EU countries (Dohse and Gold 2014). In Solow's growth model, the total factor productivity is defined as unobservable changes in production technology (Snowdon and Vane 2005, 612). Many economic studies show that productivity is determined by knowledge (Aghion and Howitt 1992; Grossman and Helpman 1991a, 1991b, 1991c; Romer 1990). From Bouncken's (2004) findings for the German case, such knowledge may include work structure, support of external contacts, communication, and creativity. Thus, the flow from label 2.3 to label 2.4 indicates that the improvement to the total factor productivity due to cultural diversity is essential to achieve innovation. The flow from label 2.5 to label 2.6 completes the demand and supply cycle.

Because cultural diversity is an amenity for innovation, it acts as the process of creative destruction, suggesting that old processes are replaced by new ones. However, this paper argues that this amenity may not be optimized, due to some barriers to creative destruction, as discussed below with the obstacles listed under label 4 in the figure.

Institutional quality

One major issue of cultural diversity given poor institutional conditions is ethnic conflicts, such as the adverse effect that leads to poor economic growth in Africa (Easterly

and Levine 1997). In contrast, how do good institutions suppress the negative consequences due to ethnic conflicts? Easterly (2001) gives the following explanation:

Institutions that give legal protection to minorities, guarantee freedom from expropriation, grant freedom from repudiation of contracts, and facilitate cooperation for public services would constrain the amount of damage that one ethnic group could do to another. Such pro-business rules may prevent one ethnic group from expropriating business owners of a different ethnic group. Good institutions would thus plausibly make a given amount of ethnic fractionalization less damaging for development. (Easterly 2001, 690)

Previous studies also reveal that institutional constraints could somehow link to certain cultural dimensions particular to a society. Hofstede (1980, 1993, 1994, 1999, 2001) and Hofstede et al. (2010) elaborate several cultural dimensions typical to a country. One dimension that will be discussed in this paper is the degree of power distance. Power distance is defined as the extent to which members of a society are willing to accept the norm of unequal distribution of power in organizations. This paper quotes four selected characteristics of a society under a power-distance culture from Hofstede (1980, 46): “Hierarchy means existential inequality,” “Latent conflict exists between the powerful and the powerless,” “Power is a basic fact of society that antedates good or evil. Its legitimacy is irrelevant,” and “Power-holders are entitled to privileges.”

This cultural dimension is also found to adversely affect institutional quality in a cross-country investigation by Klasing (2013). According to Klasing’s explanation, a society supporting a power-distance culture has low inclination toward good institutions, and thereby is prone to have low protection from abusive treatment of governmental and bureaucratic power. However, why does a society resist good institutions that could prevent economic backwardness? One possible explanation is that a transformation of institutional quality can reduce the political power of some people in a hierarchical society (Acemoglu and Robinson 2000, 2003, 2006). Although power distance is generally lower in Europe than Asia (Hofstede 2001; Hofstede et al. 2010; Hofstede Insights 2018), its effect on institutional practices should not be underestimated.

Market size

Immigrant entrepreneurs and their diversity of ideas can increase innovation rates; however, small market size can obstruct such prosperity. Finland, for example, a small and scattered population inhibits immigrants from obtaining a full potential for business development (Sabour 2011). A scattered population is also common among the Nordic countries (Eide 1992; Kallenborn et al. 2008; Søholt et al. 2018). Take the pharmaceutical industry for example, where immigrant entrepreneurs from other countries intend to enter the market in Europe. Based on a case study in the US by Acemoglu and Linn (2004) on the drug and pharmaceutical market, market size is asserted to be driven by demographic changes. They reckoned the implied market size using changes in aggregate demographic and income according to age profiles of drug users by drug category. Among the three age categories of pharmaceutical users (young, middle age, and baby boomer), the markets from the young users and baby boomers were found to have decreased in opposition to the market from middle-age users. The impacts on the entry of new firms

were found to be opposite between the decreased and increased market sizes; particularly, entry rate of new firms was found to have increased for the middle-age user market. This finding may be generalized to the European countries. As in the Finland case (Sabour 2011), scattered populations may be common to some Northern European countries, suggesting similar barrier to new entry of business by immigrants.

A related question is that how does market size matter for innovation growth? A larger market size encourages competition and makes adoption of new technologies more feasible (Desmet and Parente 2010). The mechanism according to Desmet and Parente is the price elasticity of demand. Specifically, firm size grows as the firm increases its supply in order to break even, when the price elasticity of demand is high in a large market. Larger firms gain advantages from innovation by amortizing the fixed cost of R&D. Nevertheless, there is also a debate on the relationship between firm size and R&D. For instance, Link and Rees (1990) conclude that larger firms incur diseconomies of scale due to bureaucratic inefficiencies; in contrast, this bureaucratic problem is not present in smaller firms and therefore smaller businesses are asserted to be better in pursuing and bringing innovative output to the market. As also discussed above in the subsection of institutional quality, the current paper submits that both small and large firms could face poor institutional quality that inhibit innovative activity. When institutions are conducive, innovation led by large market size is legitimate (e.g., Acemoglu and Linn 2004; Desmet and Parente 2010).

Geographical patterns of population

In relation to the problem of scattered populations stated by Sabour (2011), such population distribution patterns might also prevent sourcing of pro-productivity experience, knowledge, and ideas from cultural diversity. Determining the geographical concentration of a knowledge source is important because distances from the source can inhibit knowledge diffusion (Audretsch and Feldman 1996). Audretsch and Feldman's study calls R&D and skilled workers to be the new economic knowledge. Innovation was found to cluster geographically at a location where the new economic knowledge is important and prevalent.

In the context of the current paper, the implication is that firms prefer to operate in area where there is cultural diversity, particularly for garnering new economic knowledge from the population of skilled immigrants and immigrant entrepreneurs. As Guellec and Cervantes (2001) noted in a study of international mobility among skilled immigrants, entry of immigrants helps to increase the pool of scientific and technological knowledge to meet the demand for skills. A prominent example is the cluster of skilled and professional people in Silicon Valley in California. According to Saxenian (2002), immigrants in the region not only have high talents for entrepreneurship, they are also dominant in terms of networking ability for establishing international business relationships such as trade and investment with their original countries. Importantly, Saxenian also points out that skilled immigrants also engage actively in ethnic-level networking; shared culture, shared language, and common experience in their educational and professional lives. Such networks are asserted to have enhanced the successful rate of entrepreneurship among the skilled immigrants in the dynamic region, particularly by facilitating the mobility of capital, information, know-how, and skills through networking.

With respect to the scattered population distribution in some European countries such as the Nordics (Eide 1992; Kallenborn et al. 2008; Søholt et al. 2018), this might not lead to the establishment of pro-productivity cultural diversity to the level as seen in Silicon Valley, implying an obstacle to achieve optimal contribution of cultural diversity to economic prosperity.

Social structure

This paper previously identified social structure as a barrier to optimization of the benefits of cultural diversity, from the case studies for Denmark (Lauring 2009) and Finland (Sabour 2011). Social structure is generally recognized as a network of people structured by rankings of power, status, and wealth (Lin and Dumin 1986). Specifically, immigrant status and ethnicity are also important components of social structure, as shown by findings in the Switzerland case (Riaño and Baghdadi 2007).⁷

How is social structure recognized as a barrier of cultural diversity to economic prosperity? One answer from Portes (2010, 1540) is “Culture is the realm of values, cognitive frameworks, and accumulated knowledge. Social structure is the realm of interests, individual and collective, backed by different amounts of power.” The definition implies a conflict between “what ought to be” and “what actually is” in different social contexts (Merton 1968; Portes 2010). The current paper supplements Portes’s elaboration with four core principles pinpointed by Granovetter (2005).

One core principle is the norm and network density within cultural diversity. Granovetter defines norms as people’s behaviors that are grounded in shared ideas. Ideas are shared among individuals and influence people’s decisions to act. However, this is dependent on the degree of network density. Network density is high when the number and diversity of connection nodes among people are high. The higher the network density, the higher the probability that an idea and its behavioral influences will be enforced in the mind of people. Nevertheless, Granovetter clarifies that this does not mean that the larger the group of people the denser the social network in spreading norms. The reason is that larger groups start to exceed people’s limits in terms of cognition, emotion, space, and time, in sustaining that many social ties. Granovetter’s explanation implies that when density of social network is low, members of a social group are less committed to internalize norms and trust each other. Consequently, such weak social network result in poor collective action, particularly for overcoming free-rider problems.

The relative strength of weak ties is another core principle of social structure, as proposed by Granovetter (1973, 1983). Based on the explanation in Granovette (2005), weak ties mean social relationships among people are low. Weak ties are deemed more important to spread novel information than strong ties, however. Information is believed to be highly shared among people who are closely related and within the same social circle (strong ties). By connecting people in other social circles (weak ties), people expose themselves to new ideas or novel information, such as opportunities to pursue a new profession. Granovette’s (1983) study suggests that weak ties favor the diffusion of scientific knowledge. The implication is

⁷Favell (2003) provides elaboration about possible barriers of social structure for immigrants to transfer social capital to the host countries in Europe. Social structure is a supplementary discussion to the networking barrier in the previous subsection.

that cultural diversity that comprises a loosely knit social structure is source of new economic knowledge. However, a tightly knit social structure is actually a barrier to sourcing new ideas and information needed for entrepreneurial and innovative activities. Granovetter's explanation is consistent with the positive effect of individualism (a loosely knit social framework) on economic prosperity (e.g., Gorodnichenko and Roland 2017; Williams and McGuire 2010; Yong 2019).

The next core principle supplements the second with the concept of structural holes, as elaborated by Burt (1992) to be a gap between two parties who own complementary information or resources. What risk do people face by refusing to venture into the social structural holes? Burt's (2004) hypothesis suggests that there is a high risk of missing good ideas. The current paper interprets "structural holes" in Burt's theory as potential network of new ideas between groups of people. The theory asserts that ideas and experience are largely homogenous among people who are tightly connected with one another (in one group), whereas venturing outside the group allows one to connect with other groups making finding novel ideas more possible.

Nevertheless, culture could also prevent cultural groups from connecting actively with one another for knowledge exchange. For example, Hofstede's (1980, 1993, 1994, 1999, 2001) cultural dimension of collectivism that emphasizes in-group loyalty (a tightly knit social framework). Thus, inter-group relationships could be perceived negatively by in-group members (e.g., immigrants from the same country). A high degree of collectivism (meaning a low degree of individualism) is known by past studies to be associated with lower economic prosperity (e.g., Gorodnichenko and Roland 2017; Williams and McGuire 2010; Yong 2019). Another barrier could be inter-cultural conflict, such as between natives and immigrants, which could relate to a public policy of immigration that put immigrant groups in a disadvantageous position in terms of inter-group competition (Berg 2013).

The fourth principle core of social structure is the interpenetration of economic and non-economic activities. Non-economic activities could affect economic activities in terms of cost and technique. This occurrence is called the social embeddedness of the economy by Granovetter (1985), meaning that economic activities are influenced by non-economic factors, particularly culture, politics, religion, and social network. For example, ethnic and religious polarization can devastate economic prosperity through adversely affecting investment, budget allocation by government, and the risk of civil war (Montalvo and Reynal-Querol 2003, 2005a, 2005b, 2010).⁸

Preference heterogeneity

Two consequences that Alesina et al. (2005) highlight with respect to preference heterogeneity among culturally diverse people in a country are failure to meet everyone's desire for public goods and failure of public policy, particularly in relation to the concept of ethnolinguistic fragmentation. Cultural diversity and public goods are elaborated in this subsection in terms of innovation and economic prosperity.

In microeconomics, goods can generally be classified into four groups, namely pure public goods, pure private goods, public goods, and private goods, determined by the

⁸An explanation of how embeddedness is associated with an organization's structural network and social ties is elaborated by Uzzi (1997)

presence of two characteristics of public goods: nonexclusive and nonrival (Wetzstein 2013). Knowledge is recognized to have the characteristic of a public good (Bernstein and Ishaq Nadiri 1983; Jaffe 1989; Romer 1986). The social structure of cultural diversity, elaborated previously, involves inter-group connection nodes from which knowledge spillovers happen. On the one hand, some groups could prefer to engage in the structural holes more than the others, suggesting that the other groups could lag behind in terms of innovation and competition due to failure to adapt to new ideas.

Aghion et al. (2005) assert that such laggard firms have to first catch up technologically in product market competition (through imitation), where further innovation could help a firm to escape neck-and-neck competition by battling for technological leadership. However, due to preference heterogeneity, it is possible that some groups are subject to status quo rigidity. If a change in status quo is felt to involve loss of a high-value cultural tradition, maintaining the status quo would be preferred to innovation, even if the firm would lag behind in the industry. Economic studies summarize such decision-making patterns to be a status quo bias, where the loss of utility from giving up the status quo is higher than the cost to acquire it (Kahneman et al. 1991; Kahneman and Tversky 1984; Samuelson and Zeckhauser 1988; Thaler 1980). On the other hand, knowledge sharing is not exempted from the free-rider problem that is typical of public goods. As in the textbook description of Varian (2014), the free-rider problem implies that the provision of knowledge in society cannot not be optimized. When the provision of knowledge and ideas is not optimal, this could yield adverse consequences for innovation and economic prosperity.

Policy conflicts

Following Alesina et al. (2005), public policies may not satisfy the preference heterogeneity of all people in a country. Based on the theory set out in Alesina et al. (2013, 2016), this could also indicate distance of preferences between natives and immigrants (the diversity-between component in Eq. (2)).

Accordingly, the current paper interprets the conjecture of Alesina et al. (2005, 2013, 2016) in terms of efficiency-enhancing policy (e.g., trade reform), as it is directly relevant to the objective in Fig. 3. Some groups prefer to stay with the status quo, while others are keen to innovate by lobbying for policy reforms. Policy conflicts occur when a policy reform is not favored by individuals who prefer status quo (no reform). According to Fernandez and Rodrik (1991), a proposition of policy reform is likely to follow the preference of the groups that favor the status quo. The reason for this is that the status-quo groups who gain from maintaining the status quo are usually taken to be more politically influential than those who are losing from it.

This reasoning is defined to be non-neutrality in terms of the distribution of gainers and losers from a policy reform in a society. While the losers lobby for a policy reform, the reform is seen to be against the wishes of business of the status-quo gainers, hence inhibiting the policy reform. Fernandez and Rodrik's theory indicates a similar conclusion when individual gainers and losers from a policy reform are taken to be unidentified or unknown. The explanation is that a policy reform entails uncertainty in terms of gains and losses, hence support for the policy reform would be low, the opposite of

support for the status quo. The implication is that such efficiency-enhancing policy reform is biased toward the status quo and hence produces resistance against the policy reform that could bring about economic prosperity. This also responds to a question that Fernandez and Rodrik (1991, 1146) pose: “Why do governments so often fail to adopt policies that economists consider to be efficiency-enhancing?”

Cross-cultural dimensions

Do national culture and collective behaviors matter in terms of economic prosperity? If it does, its effect could be exhibited through cultural diversity. Evidence has been revealed by several studies that some of Geert Hofstede’s cultural dimensions can explain economic performance. For example, Yong (2019) found opposite effects between individualism and power distance on economic prosperity in a regional case study between Europe and Asia. Yong’s results are supported by past research that indicate members of an individualistic society have a higher tendency to hunt for social status rewards by pursuing innovative achievements (Gorodnichenko and Roland 2017; Williams and McGuire 2010). Other studies indicate the downside of power distance, particularly a higher power-distance culture is typically associated with bureaucratic abuses of power (Klasing 2013). To put it in another way, a low power-distance society is found to be well-governed (as shown by the Worldwide Governance Indicator) and this has a positive effect on the quality of human development (Gaygisiz 2013).

An investigation by Hansen (2013) shows that US second-generation immigrants whose countries of origin were more typical of an individualistic culture were found to be more economically successful. As cultural diversity among immigrants implies coming from different countries vis-à-vis different national cultures, differences in said cultural dimensions between natives and immigrants and within the immigrant population could make achieving social integration difficult.

The final outcome

Assuming that the several barriers discussed above can be coped with successfully, cultural diversity may be regarded as creative destruction. Creative destruction can arise out of friction within a team composed by diverse national cultures. Through learning to adapt to repeated intercultural conflicts among multinational teammates, a culture common to the team is developed. This process enriches the supply of background information, ideas, and views for innovative creation (Bouncken and Winkler 2010). This has also been discussed previously in terms of the Netherlands case study by Ozgen et al. (2013).

The final outcome is economic prosperity (label 5). Prosperity can come in both observed and unobserved forms. Observed prosperity in macroeconomics, for example, is usually represented by low rates of unemployment, stable prices, and high growth rates of gross domestic product, namely the major goals of economic policy (Friedman 1968). Unobserved prosperity is a period of time where people generally feel a stronger economic environment of wellbeing. This happened, for example, around 1999 in Sweden as shown by the country’s significantly lower rates of unemployment than in the previous years. This phenomenon of prosperity was observed by Berntson et al. (2006) with the term “perceived employability” that means people’s perception on the possibility to be employed. The economic prosperity is asserted by Berntson et al. as a

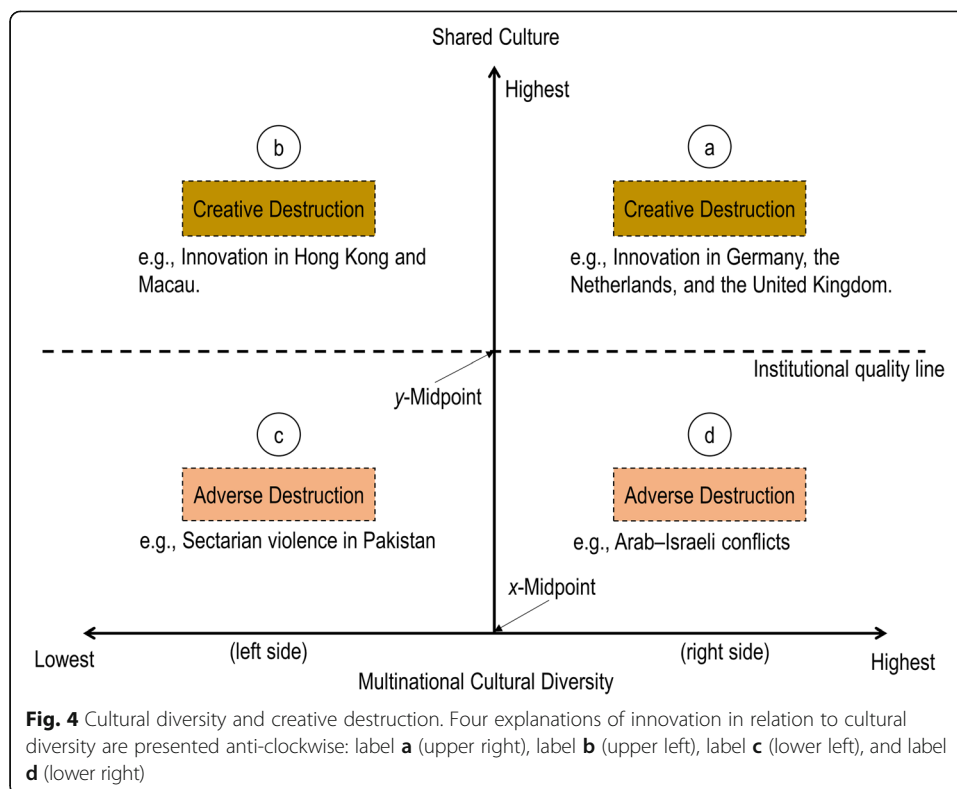
period where people feel that perceived employability is considerably higher. Unobserved prosperity can also mean a positive or content feeling (e.g., happiness and joyfulness) after achieving improved living standards or certain material desire during the period of economic prosperity.

Specifically, this prosperity could come from the fulfilment of psychological needs. For instance, the three innate psychological needs proposed by Ryan and Deci (2000): competence, autonomy, and relatedness. Particularly, relatedness is defined to be a psychological stage when one feels to be connected with others. To put this into perspective, the current study attributes this psychological need to one of the macroeconomic policy goals, namely employment. Unemployment could devastate this psychological need, as being unemployed indicates a disconnection from the workforce and/or professional objectives. Moreover, between inflation and unemployment, the investigation of Di Tella et al. (2001) demonstrates how much people would be willing to trade one or the other in order to stay happy. Their findings, from over 260 thousand people across 12 European countries and over 26 thousand people from the US, show that unemployment led to considerably more depression than does inflation. In short, the culture–economy framework suggests that cultural diversity in Europe can contribute more than merely increasing rates of economic growth (e.g., income per capita and national income); its implications involve psychosocial wellbeing such as effects on depression.

Asia and Europe: from cultural diversity to creative destruction

To supplement the discussion in Fig. 3 with respect to creative destruction, this paper illustrates four types of societies in Asia and Europe in terms of creative destruction, distinguished by four categories of cultural diversity (Fig. 4). This mini diagrammatic model is simplified from the culture–economy framework by focusing on only three variables: multinational cultural diversity, social structure (e.g., shared value), and institutions.

Figure 4 displays the role of cultural diversity in innovation, supported by substantive literature, contemporary reality, and statistics. The diagram is read anti-clockwise from upper-right section (represented by circle a) to the lower-right section (represented by circle d). The graph is separated by left and right sides for the degree of multinational cultural diversity in a country. Multinational cultural diversity means cultural diversity in terms of people's cultural values and behaviors typical of countries of origin. Thus, countries determined by the x -axis in the figure are based on the index of population diversity (immigrants only) provided by Alesina et al. (2013, 2016). In this illustration, for simplicity, the x -axis midpoint is represented by an index value of 0.5, as a birth-place diversity below 0.5 is arbitrarily termed low and above 0.5 high. A shared culture across social groups and places is deemed important to encourage knowledge sharing and increase firms' innovativeness (Scott 2006), which the current paper equates the shared culture to a common culture of intellect developed within a culturally diverse workforce as explained previously in accordance with Bouncken and Winkler (2010). The range of shared values on the y -axis is hypothetical only, where the y -axis midpoint is an arbitrary center. As justified by Sobel et al. (2010), a good institution promotes the role of cultural diversity in innovation, hence the y -axis midpoint is represented in



this paper with an institutional line. This conceptualizes the situation in which good institution and shared culture usually occur simultaneously. The objective of the figure is to show which of the four circles (a, b, c, and d) is the most conducive for creative destruction. Creative destruction here is defined as a shift of a distinctive national culture to multinational cultures, garnered from the understanding that market competition across multinational cultures could enrich the menu of choice (Caplan and Cowen 2004). Furthermore, competition is a source of momentum for innovative activity (Aghion et al. 2001, 2005, 2009).

Creative destruction: (a) and (b)

For circle (a), it indicates that cultural diversity is high and is accompanied by high shared culture and institutional quality (above the dash line). Based on the literature review, a high level of shared culture and good institutions are the joint prerequisite of creative destruction. Creative destruction is feasible under this environment, where one essential channel highlighted by previous studies is the degree of multinational cultural diversity. Germany, the Netherlands, and the UK, for example, each have an enormous diversity of immigrant workers from different countries, reflecting a high degree of cultural competition. For example, according to the index of population diversity (immigrants only) for year 2000 (Alesina et al. 2013, 2016), Germany scores 0.903 (0.966 for skilled category), the Netherlands scores 0.903 (0.884 for skill category), and the UK scores 0.956 (0.965 for skilled category). Following Aghion et al. (2001, 2005, 2009), competition leads innovation.

Furthermore, this paper can assume that multinational cultural diversity is one way of competition that can bring about innovation (Caplan and Cowen 2004). As evidence, Germany, the UK, and the Netherlands were ranked the top ten in innovative performance (Global Innovation Index 2018), supporting the notion of creative destruction due to cultural diversity. In comparison with circle (b) in the upper-left section in the figure, the ability to implement creative destruction out of multinational cultural diversity in some countries, such as Hong Kong and Macau, is considered smaller, although each of the two Asian countries is strong in shared culture and institutional quality. From the index of population diversity of Alesina et al. (2013, 2016), Hong Kong scores 0.232 (0.428 for skill category) and Macau is 0.163 (0.252 for skill category). As such, complementary skills and ideas from multinational cultural diversity may be weaker than those represented by circle (a); thus the two countries represented by circle (b) are deemed to have less momentum for innovation from the perspective of cultural diversity. In short, the upper-left section implies that innovation is generally generated out of a relatively homogeneous national culture. However, this proposition does not mean that Hong Kong and Macau are not as innovative as the three European countries. According to the Global Competitiveness Report 2017–2018, for example, Hong Kong is ranked as high as the UK. The conclusion is that being more culturally homogenous may contribute less innovation, suggesting fewer opportunities for exchanging ideas from multinational cultural experiences and perspectives. The implication to Hong Kong's and Macau's economic performance is that expanding multinational workforce, particularly its cultural diversity, could increase the human capacity of innovativeness.

Adverse destruction: (c) to (d)

Below the institutional quality line is an unfavorable condition for creative destruction, as poor institutional practices are barriers to put creative ideas into practice. For instance, as articulated in a study on institutional quality and ethnic conflicts,

Institutions that give legal protection to minorities, guarantee freedom from expropriation, grant freedom from repudiation of contracts, and facilitate cooperation for public services would constrain the amount of damage that one ethnic group could do to another. (Easterly 2001, 690)

Easterly's explanation above is important in that institution is greatly needed to reduce the adverse effect when shared culture is low, such as the case represented by the lower-left section. Circle (c), for example, is exemplified by the sectarian violence in Pakistan that involves a low degree of shared culture as indicated by conflicts among religious groups, as the result of poor government that helped to stir up clashes among ethnic groups and ethnic-group opposition against the government (Haleem 2003). Sectarian violence is an adverse destruction that is a social obstacle to realizing economic prosperity.

The worst scenario is represented by circle (d) in the lower-right section. This adverse destruction involves groups of people from multiple countries. This paper attributes this scenario to be the worst because it involves destructions that can spill over from one country to another, for example, the Arab–Israeli conflict that links multiple Arab countries and Israel. Thus, the chance for creative destruction is not only

destroyed in one country, but potential for technological progress in multiple countries are adversely affected. This region of conflict involves multinational cultural values but low shared culture, suggesting that technology transfer was adversely affected. When shared culture is low, trust is adversely affected; this could lower foreign direct investment (FDI), which is also an important channel of technology transfer. Low trust can adversely affect economic relationship between countries, particularly FDI, trade, and portfolio investment (Guiso et al. 2009). Moreover, this lowers the potential for market competition and innovation because FDI is generally important for technology transfer. This explanation is also supported by empirical evidence that differences in cultural values between countries are a barrier to technology transfer (Spolaore and Wacziarg 2009).

Concluding remarks

This paper seeks to ascertain how Europe may benefit optimally from economic creativity and prosperity stemming from cultural diversity, while also showing that this potential prosperity is subject to a variety of obstacles. Europe is a popular destination for skilled and intelligent immigrants worldwide, and is becoming increasingly diverse culturally. In comparison to other attractive destinations such as North America and Australia, Europe is diversified by its official language, government, and social norms across countries, making it a unique destination to explore the relationship between cultural diversity and economic prosperity.

Knowledge garnered from European case studies provides a spectrum of information to help understand the dynamics that links cultural diversity to economic prosperity. This paper's culture–economy framework is a multi-perspective conceptualization. Cultural diversity is ascertained to be an amenity for production and consumption externality. This amenity is the basis of innovative activity and/or creative destruction, which in turn is to support economic prosperity. The essential micro-foundation of creativity that this paper synthesizes from past studies can be concluded as phenomenon driven by the cultural frame switching that helps intercultural learning and adaptation (e.g., Benet-Martínez et al. 2006; Bouncken 2004; Bouncken and Winkler 2010; Lee et al. 2012). In the review and conceptual propositions with respect to immigration, creativity and innovation are emphasized rather than labor hours and education credentials; however, that does not imply that labor and educational credentials are not important to economic development. It is important to acknowledge here that labor and education, as educated or skilled human capital, are two important factors of production. However, the current study's understanding implies that labor hours and educational credentials are part of the process toward the goal of innovation in undertaking entrepreneurship. Promising entrepreneurship requires a tremendous strength in innovation because firms need to be innovative to escape neck-and-neck competition with one another to sustain profitability, as explained with the escape-competition theory by Aghion et al. (2001, 2005, 2009). Therefore, creativity or innovation can be regarded to be an achievement consisting of the contributions of education and labor. Hence, the essence of the current study is to attribute this achievement to the role of cultural diversity because this involves individuals associated with different cultural backgrounds of educational experiences and skills.

This synthesis complements the pro-productivity hypothesis of cultural diversity introduced by Alesina and La Ferrara (2005). However, this paper also attributes this potential prosperity to a spectrum of unfavorable conditions from institutions, market size, geography of population, social structure, preference heterogeneity, policy conflicts, and cross-country cultural values. On the one hand, a potentially optimal channel from cultural diversity to economic prosperity is highlighted. On the other, this channel is believed to be structured by multidimensional forces from the social, economic, and political domains.

Based on the literature review and this conceptualization, this paper indirectly suggests several potential areas for future investigations on this topic. Specifically, the culture–economy framework is suggested to be examined theoretically and/or empirically using the research agenda that this paper derives out of the literature survey. Five research pillars in the agenda are proposed, namely public policy, methods of measurement, pro and con debate, pro-productivity hypothesis, and cross-country cultural diversity and dimensions. Other than European studies, a comparison between Europe and Asia is also suggested. This is also demonstrated in this paper in a mini diagrammatic model by distinguishing some societies in Asia and Europe for creative destruction with reference to the degree of relationship between cultural diversity and shared culture. The model is simplified from the culture–economy framework to add further evidence that provides extra support for the framework, elaborating an advantage for creative destruction when there are joint forces from multinational cultural diversity, shared culture, and conducive institutions.

Abbreviations

EU: European Union; FDI: Foreign direct investment; NUTS: Nomenclature of Territorial Units for Statistics; R&D: Research and development; RQ: Reynal-Querol; UK: United Kingdom; US: United States

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Availability of data and materials

The data that support the findings of this study are available from the World Development Indicators of the World Bank (<https://databank.worldbank.org/data/source/world-development-indicators>), the Global Innovation Index (<https://www.globalinnovationindex.org/analysis-indicator>), the Global Competitiveness Report (<https://www.weforum.org/reports/the-global-competitiveness-report-2017-2018>), and Alesina et al. (2013) (<http://federation.ens.fr/ydepot/semin/texte1213/HIL2013BIR.pdf>).

Competing interests

The author declares that he has no competing interests.

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