



# After Florida: Towards an economics of diversity

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## Abstract

In recent years, most European countries have experienced substantial demographic changes and rising cultural diversity. Understanding the social and economic impacts of these shifts is a major challenge for policymakers. Richard Florida's ideas have provided a popular – and pervasive – framework for doing so. This paper assess Florida's legacy and sets out a 'post-Florida' framework for 'technology, talent and tolerance' research. The paper first traces the development of Florida's ideas. 'Florida 1.0', encapsulated by the Three Ts framework, has performed badly in practice. There are problems in bringing causality to the fundamental relationships, and in consistently replicating the results in other countries. 'Florida 2.0', though suggests that Creative Class metrics have value as alternative measures of human capital. This create space for a post-Florida agenda based on economic micro-foundations. I argue that the growing body of 'economics of diversity' research meets these conditions, and review theory and empirics. Urban 'diversity shocks' shift the size and composition of populations and workforces, with impacts operating via labour markets, and through wider production and consumption networks. While short-term labour market effects are small, over time low-value industrial sectors may become migrant-dependent. Diversity may help raise productivity and wages through innovation, entrepreneurship, market access and trade channels. Bigger, more diverse cities help generate hybridised goods and services, but may also raise local costs through crowding. All of this presents new challenges for policymakers, who need to manage diversity's net effects, and address both economic costs and benefits.

## Keywords

Creative class, diversity, economic development, immigration, innovation

## Introduction

Most European countries have a long history of cultural diversity and multiculturalism (Sassen, 2004). In recent decades, many have become dramatically more diverse, whether measured by ethnicity, birth country, religions or languages (Putnam, 2007). A familiar feature of this growing diversity is that it is largely *urbanised*; European cities have always had, and still have, the biggest numbers of migrant and minority groups (Landry and Wood, 2008). Less familiar is the 'diversification of diversity': as globalisation brings new migration and mobility patterns,

some urban communities are experiencing shifts from an established demographic mix towards a new 'super-diversity' (Vertovec, 2007).

Understanding the social and economic effects of these changes is critically important for political

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leaders and policymakers (Goldin et al., 2011). At national and European levels, there are ongoing debates about the desirability of more diverse communities. Sceptics suggest ethnic and religious change is a threat to existing social identities (Caldwell, 2009; Goodhart, 2004, 2010). Others argue strongly for the benefits of multiculturalism and hybridity (Gilroy, 2004; Legrain, 2006; Putnam, 2007; Fanshawe and Srisikandarajah, 2010).

At the urban level, 'diversity and multiculturalism present one of the strongest tests for contemporary urban governance' (Syrett and Sepulveda, 2012: 249). As those authors note, city leaders face twin challenges: economically they need to balance potential economic benefits and costs from demographic change; and politically they need to reconcile the needs of different groups, a desire for shared citizenship and limited local control over key policy levers. While some commentators argue strongly for 'intercultural' or 'mongrel city' approaches (Sandercock, 2003; Landry and Wood, 2008), others highlight persistent issues of segregation and discrimination, and tensions in managing difference (Phillips, 1998; Keith, 2005; Ettliger, 2009).

Given these complexities, an appealing response to changing urban demographics might be to frame diversity as a source of straightforward urban competitive advantage. This is the hugely popular approach pioneered by Richard Florida. Nearly a decade has passed – at the time of writing – since Florida published his best-known work, *The Rise of the Creative Class* (2002b). For academics, urbanists and urban policymakers, Florida's work has had profound ramifications. 'Creative class' and 'tolerant city' tropes are now standard features of the public conversation about cities. A number of real-world city leaders – in Berlin, Liverpool, Detroit and Philadelphia, to name a few – have used Florida's ideas to shape strategy, and a small industry of 'creative class studies' has emerged, with increasing numbers of both supporters and detractors. Florida's rapid policy translation – characterised by Jamie Peck as 'fast policy' – has itself become the subject of debate (Peck, 2002, 2005).

Now is a good time to look back and assess Richard Florida's work on diversity, cities and

urban economies: first, because Florida himself has developed important new fields of work, building on his early ideas and reacting to their reception; and, second, because a number of other researchers have been exploring new ideas linking 'technology, talent and tolerance' in an urban context. Importantly, these ideas represent both an alternative framework and one that arguably has a stronger conceptual and empirical base. This paper lays out a post-Florida framework, drawing on the growing, inter-disciplinary research field I dub 'the economics of diversity'.

To get there, the paper proceeds in three stages. Building on previous work by this author (Nathan, 2007, 2008), the next section locates Florida in larger frameworks of thinking about urban economies, in particular the traditions of urban economics and new economic geography (NEG). These concepts help us understand real-world processes of urban development; they also form the basis for an alternative nexus of 'technology, talent and tolerance' proposed later.

The third section briefly traces the development of Florida's thinking, from the innovative Three Ts framework to the more familiar focus on human capital and economic geography in his recent work. I then use this material to assess the performance of Florida's oeuvre. 'Florida 1.0', encapsulated by the Three Ts framework, has performed badly in practice: there are problems in bringing causality to the fundamental relationships, and in consistently replicating the results. The verdict on 'Florida 2.0' is mixed. Creative Class metrics have value as alternative measures of human capital. However, recent works deliver very different messages from Florida 1.0, bringing political blowback from city leaders who bought the original ideas.

From these foundations, the succeeding sections develop the 'post-Florida' framework. The nexus of technology, talent and tolerance turns out to be important to cities' success, but in different and more complex ways. Drawing on urban economics and NEG, I set out key ideas and findings from the emerging economics of diversity field. Four points stand out. First, 'diversity shocks' to cities shift the size and composition of urban populations and

workforces. This means that diversity effects operate both through labour markets and through wider production and consumption networks. Second, the diversity that immigrants and minority groups bring to cities seems to help raise average wages and productivity, through a series of production complementarities (affecting innovation, entrepreneurship and trade, for example). Third, bigger, more diverse cities may increase demand for hybridised goods and services, but may also raise local living costs through crowding effects. Fourth, over time, low-quality employers may also become dependent on migrant labour, so that low-skilled natives can become locked out from employment opportunities.

These findings are challenging for policymakers, who need to focus on the *net* economic effects of urban demographic change, rather than casting diversity as a straightforward ‘gain’. This requires finer-grained economic policies that both tackle costs to particular groups and seek to maximise economic gains. Critically, policymakers also need to link diversity and economic development strategies to more fundamental reform of economic and institutional structures. These economic efforts should, in turn, strengthen political strategies to manage urban diversity.

## Placing Florida

To fully understand Richard Florida’s contribution to these debates, we need to place his work in wider context. It emerges from a resurgence of interest in urban and regional issues. As Florida points out, ‘the world is spiky’: despite predictions of the ‘death of distance’, large urban centres remain of great demographic, social and economic importance (Florida, 2005; McCann, 2008). Importantly, Florida’s work draws heavily on urban economics and NEG frameworks. These develop out of Marshall’s ideas on agglomeration economies: cities offer thick labour markets, multiple input-sharing, and knowledge spillovers that raise firms’ productivity (Marshall, 1918). Jane Jacobs (1969) highlights the importance of knowledge spillovers across sectors, so that economic diversity helps the cross-pollination of ideas.

Urban economics and NEG models have different starting points, the former focusing on single urban systems (Alonso, 1964; Mills, 1967; Henderson, 1974; Combes et al., 2005), the latter on firms’ location decisions under globalisation (Krugman, 1991). Both suggest that the balance of ‘centrifugal’ and ‘centripetal’ forces determines the distribution of economic activity (Krugman and Venables, 1995; Fujita et al., 1999). Feedback loops in the clustering process often give existing areas first mover advantage (Krugman and Obsfeldt, 2003). However, social or technological change – ‘shocks’ – can trigger production jumps from higher- to lower-cost regions (Venables, 2006).

Traditionally, researchers have tested how agglomeration shapes the decisions of firms. However, as Storper and Manville (2006) point out, a recent current of work explores ‘the preferences of people’. If cities offer economies of production to firms, they also offer economies of consumption to residents: put most simply, access to a critical mass and variety of goods, services and experiences in a small area. Glaeser and Gottlieb (2006) notably model cities as gigantic ‘romantic markets’ for future partners. In the UK and US, recent centre-city repopulation suggests a growing appetite – at least among the young and single – for such ‘city living’ experiences (Nathan and Urwin, 2006; Unsworth and Nathan, 2006).

Storper and Scott (2009) identify various strands of this agenda. The ‘amenities and human capital’ approach of Ed Glaeser and co-authors tries to identify the ‘right kind of people’ to contribute to urban growth, establishing robust links between skilled populations and urban economic performance (Glaeser, 2011). Terry Clark’s work on the ‘city as entertainment machine’ (Clark, 2004) concentrates on the changing role of urban cores under post-industrialism and the rise of consumer culture. Florida’s work is best seen as bridging these two approaches, and he acknowledges both strands in his own writing (Florida, 2002a, 2002b). His distinctive twist is to treat ‘bohemia’, subcultures and ethnic/lifestyle diversities as forms of urban amenity that accelerates cities’ growth.

## Testing Florida

Florida's best-known ideas – 'Florida 1.0' – are set out in 'Bohemia and Economic Geography' (Florida, 2002a). Florida famously suggests that 'the presence and concentration of bohemians in an area creates a ... milieu that attracts other types of talented or high human capital individuals. The presence of such human capital in turn attracts and generates innovative, technology-based industries' (p.55). In *The Rise of the Creative Class*, Florida (2002b) locates these findings in the big shifts explored in the previous section. With urbanising, post-industrial economies increasingly driven by 'creativity', bohemians and high-skill individuals have become the 'Creative Class', which is liberally minded, seeking out cosmopolitan urban environments. As before, Creative Class presence attracts high-tech employers. 'Technology, talent and tolerance' represent a social-economic 'production jump' that potentially every city can exploit by improving urban amenities and quality of life.

By contrast, 'Florida 2.0' has two distinct components. First, Florida refines the Creative Class concept: *The Flight of the Creative Class* (2004) and *Who's Your City* (2008) respectively focus on the global 'war for talent' and life-stage choices of skilled mobile workers. In parallel, Florida and co-authors develop detailed Creative Class metrics (Mellander and Florida, 2006; Florida et al., 2008b) and link urban beauty, social capital and community satisfaction (Florida et al., 2011). Second, Florida has made a return towards conventional economic geography. 'The Rise of the Mega-Region' uses satellite imaging to explore global urbanisation (Florida et al., 2008a). *The Great Reset* explores the geography of America's Great Recession, echoing Jane Jacobs in arguing that large, economically diverse cities have been best placed to withstand the crash and its repercussions (Florida, 2010). In contrast to earlier work, Florida now emphasises first-mover advantage, and is now notably pessimistic about prospects for rust-belt cities.

How have these ideas performed in practice? In the years since Florida first found fame, a small army of academic and policy authors have variously debated, endorsed, reproduced or attempted to demolish his ideas. We can identify three themes in this 'creative class studies' literature.

## Links to urban economic performance

Florida 1.0 suggests that tolerant, cool cities will attract skilled human capital, and high-value jobs will follow (Florida, 2002b). This logic chain depends on the presence of causal links between the Three Ts. Successful cities are *a priori* likely to have lots of skilled workers, high-value activities and amenities. However, it does not follow that the three are causally connected.

Florida does not try to show causality, instead relying on cross-sectional associations and narratives from focus groups and interviews. Follow-up studies (for example, Florida et al., 2008b) test links more formally, but still do not establish causal linkages. A number of other analyses attempt to reproduce Florida's results (in Europe see Gibbon, 2005; Mellander and Florida, 2006; Marlet and Van Woerkens, 2007; Clifton, 2008; Boschma and Fritsch, 2009; Andersen et al., 2010; in the US see Rausch and Negrey, 2006; Hoyman and Faricy, 2009). While most find positive connections between some of technology businesses, human capital, tolerance and urban growth, few can reproduce the Three Ts framework. Findings also vary by country, suggesting that national specificities may condition any Floridian channels. Critically, the only research to identify causal links does so on a sample of fewer than 40 observations, not enough to be confident about statistical inference (Boschma and Fritsch, 2009). To date, then, the Creative Class model has not been proven to have *any* reliable causal effect on urban economic outcomes.

## Creative Class metrics

Many of Florida's US critics dispute the notion of a single, liberal, highly urbanised Creative Class (Kotkin, 2005; Markusen, 2006; Storper and Scott, 2009). UK research reveals a similar diversity of middle-class interests and attitudes to cities (Jarvis et al., 2001; Butler, 2004; Champion and Fisher, 2004). Florida's later work, especially *Who's Your City*, both addresses these concerns and implicitly concedes the attacks.

Florida 2.0 also argues that Creative Class variables are more powerful predictors of urban growth than traditional human capital measures, such as a

city's share of graduates (Mellander and Florida, 2006; Florida et al., 2008b). Sceptics, notably Ed Glaeser, suggest Creative Class variables have no additional explanatory power (Glaeser, 2005a). Agnostics, such as Boschma and Fritsch (2009), accept that the two measures are overlapping, but suggest that both have some explanatory power.

In Florida's favour, the Creative Class is defined in terms of both qualifications and occupational characteristics, such as levels of autonomy at work. Formal qualifications imperfectly measure skills, so richer measures should add value (Donkin, 2002). Florida 2.0 has probably been wise to refocus the Three Ts framework on talent and its components. However, little now remains of his original arguments.

### *Florida's new economic geography*

Having moved away from Creative Class models of urban development, Florida has returned to conventional urban economics and NEG frameworks. *The Great Reset* explores the spatial dimensions of the 2008 financial crisis across the US, arguing that large, skilled, economically diverse cities will help a more stable, sectorally rebalanced US economy to emerge. In a notable shift from 'Florida 1.0', the book explicitly suggests that US policymakers seek to foster recovery in a few key urban centres, and encourage internal migration from struggling cities towards growth poles.

In doing so, Florida not only reverses his prior position but moves strikingly close to urban economists such as Ed Glaeser, who (notoriously) suggested that federal aid to New Orleans after Hurricane Katrina would be best spent encouraging people to move out (Glaeser, 2005b). In making this intellectual shift, Florida has also exposed himself to some of the risks of 'fast policy'; specifically, angry reactions from city leaders who bought into Florida 1.0, only to find Florida 2.0 adopting a different operating system altogether (MacGillis, 2010).

### **Post-Florida: towards an 'economics of diversity'**

Overall, Richard Florida's ideas have had limited success in explaining the role of culturally diverse

communities in urban growth. However, Floridian thinking has mass appeal, not least because it suggests that liberal, tolerant and diverse urban environments can act as engines for high-value economic development. Is there any way in which this could be true?

One of the most profound criticisms of Florida, as articulated by Storper and Scott (2009), is that his work 'is devoid of any consistent analytical description of the factors underlying the origins of urban centres' (p.153). While we can site Florida's early work in urban economics and NEG approaches – see above – there is no consistent link to these frameworks: Florida 1.0 overlooks first-nature and historical specificities that inform urban differences. And as Storper (2011) and Krugman (2011) argue, micro-foundations are an essential part of any narrative for urban growth and change. Economics provides geographers with a powerful basis for such foundation-building, as it uses formal modelling and rigorous empirical testing (Overman, 2004; Duranton and Rodríguez-Pose, 2005; Rodríguez-Pose, 2011). A post-Florida agenda thus needs rich frameworks with solid base layer, which identify clear mechanisms between 'technology, talent and tolerance' and economic outcomes, and which have causal effects revealed by evidence. In the rest of this paper, I set out an emerging 'economics of diversity' that I suggest meets these three criteria.

A first step is to clearly define 'cultural diversity'. This is not straightforward, as it first depends on a notion of cultural identity. Identity is a multifaceted concept, partly self-ascribed, and can evolve over time (Michalopoulos, 2008; Aspinall, 2009; Ahlerup and Olsson, 2012). In practice, most researchers use stable 'identity proxies' such as country of birth, language or official ethnic groupings to capture salient features of identity, rather than the thing-in-itself (Ottaviano et al., 2007). For quantitative researchers, diversity is then defined very simply as a mix of identity groups and quantified using population shares, fractionalisation or other indices (ibid); qualitative researchers are able to use richer definitions. (In practice the field of economics of diversity features strong empirical contributions from both traditions: qualitative studies are able to identify and explore channels that quantitative research then systematically tests.)

The economics of diversity has three further starting points, each of which suggests ways in which migrant/minority individuals, communities and diverse urban environments can affect economic outcomes.

First, theories of long-term economic development identify important roles for human capital, innovation and entrepreneurship. Endogenous growth models show how new ideas advance the technological frontier, and feed into productivity gains (Lucas, 1988; Romer, 1990). Schumpeter similarly identifies innovation as a source of growth, and flags the entrepreneur as a key figure in taking forward and diffusing ideas (Schumpeter, 1962). In practice, of course, access to knowledge and ideas may be highly uneven, national entrepreneurial 'capacity' may vary, and features of innovation ecosystems may constrain ideas diffusion (Acs et al., 2004; Agrawal et al., 2008). This opens up space for skilled/entrepreneurial individuals to contribute to growth, and for international networks to help diffuse innovations across space.

Second, the internationalisation of economic activity has reshaped the way in which ideas and goods production are organised. Globalisation is leading to complex production chains requiring careful co-ordination, and implying high search, transaction and management costs (Mudambi, 2008; McCann and Acs, 2011). These conditions increasingly apply to research and development activities, as the 'globalisation of innovation' has begun to shift some high-value activities out of the Global North (Mowery, 2001; Archibugi and Iammarino, 2002; Cantwell, 2005; Yeung, 2009). These developments open up spaces for intermediary actors to help firms access new markets and to co-ordinate complex business activities (Saxenian and Sabel, 2008).

Third, and as noted earlier, city areas remain key sites of production and consumption. Urban economics and NEG frameworks highlight cities' productivity-enhancing functions, as well the benefits they offer consumers. Knowledge-intensive service activities are location-sensitive and tend to cluster in urban cores (Melo et al., 2009). Cultural diversity is also urbanised, suggesting that any diversity-growth production-side channels may be 'amplified' in urban environments. At the same time, cosmopolitan urban populations may open up new home market opportunities.

So there are multiple channels by which population diversity might affect urban economic development. These go beyond economists' traditional focus on the labour market impacts of immigration, and researchers' attention is now shifting to these wider issues (Kerr and Kerr, 2011). Importantly, it turns out that the effects of diversity on urban economic outcomes are *ambiguous*, with theory and evidence suggesting costs and benefits.

The easiest way to illustrate this is with a worked example. Many European countries and the US have experienced repeated 'diversity shocks' over the past few decades: in the UK, for instance, net migration rose from under 60,000 people per year in 1994 to over 200,000 in 2007. Any single 'shock' will have two immediate effects: it will increase the size of the city's labour force and population, and it will change their composition. In theory, migration could be temporary and all of those who arrive may leave at some future point. In practice, at least some migrants are likely to stay in the 'host' country and, as new families and communities form, it will become 'home' (Goldin et al., 2011).

We can then pick out three sites of economic change: the city's labour markets, producer markets and consumer markets. As noted above, the net effect of the diversity shock across these three sites is ambiguous, and there are multiple channels of change, both short- and longer-term. Successive waves of immigration will generate further, complex economic and social dynamics – such as competition between new and established migrant groups – which I also cover below.

## Labour market effects

Labour market analysis of the local impacts of immigration uses conventional economic frameworks and neoclassical assumptions (Borjas and Doran, 2012). In small open economies – such as cities – average wages of 'natives' are temporarily bid down as immigration increases the labour supply. If wages are sticky, native employment may fall in the short term. Over time, however, natives' wages and employment rates should readjust to their pre-shock levels through international capital flows and the expansion of labour-intensive sectors (Card, 2005).

Within this, there may be further distributional effects. Initially, immigrants typically ‘cluster’ in entry-level occupations, so that low-skilled native workers may experience short-term wage losses and high-skilled natives short-term gains (Dustmann et al., 2008). If migrants are imperfect substitutes for natives, they may cluster in jobs at the very bottom of urban labour markets (Manacorda et al., 2012). This view suggests that competition with natives is minimal, and successive migrant groups primarily compete for work with each other.

However, immigration’s structural effects might also be less favourable for low-skilled natives. Cities facing a *series* of diversity shocks effectively experience a permanent rise in migrants’ share of the entry-level workforce. Employers in labour-intensive sectors may then respond to long-term migrant inflows by permanently adjusting production functions to take advantage (Lewis, 2005). Low value-added firms, such as low-cost retail, routine manufacturing or food processing, may become reliant on migrant workers. Low-skilled natives might be ‘bumped up’ the occupational hierarchy, if they can retrain and if employers raise demand for skilled labour; alternatively, they may be ‘locked out’ from employment opportunities (Stenning et al., 2006). If firms permanently raise labour intensity and lower capital investment, migration may contribute to ‘low skills equilibrium’ in some urban areas (Finegold and Soskice, 1988).

## Evidence

There are now a number of European quantitative studies of immigration’s local labour market effects (for recent reviews see Dustmann et al., 2008; Kerr and Kerr, 2011). These generally confirm theoretical predictions, finding little or no effects on average native wages or employment. However, most cover single shocks and do not explore dynamic impacts. In many cases, studies also model effects across administrative geographies, rather than actual local labour markets.

Analysis of immigration’s deeper, structural effects on labour markets has been largely led by qualitative researchers. In the UK, as in many other Western countries, technological and institutional changes since the 1970s have contributed to wage inequality

and job polarisation, with growing strata of high-skilled ‘lovely jobs’ and low-skilled ‘lousy jobs’ (Goos and Manning, 2007). Sectors such as retail, leisure, agribusiness and routine manufacturing have seen a growing casualisation of entry-level work, an increasing use of sub-contracting and the growing dependence of many employers in these sectors on migrant employment (Green, 2007, 2008; Dawley and Stenning, 2008; Wills et al., 2010).

For example, Wills and colleagues suggest that in some sectors of the London economy, such as cleaning or social care, migrants may account for two-thirds of all employees. Many of these ‘migrant-intensive’ employers operate low-quality, low-cost production models, and depend heavily on temporary employment agencies and/or networks of migrant labour (MacKenzie and Forde, 2009; Cook et al., 2011). UK-born workers may lack access to these employment networks, or they may be unwilling to take low-quality jobs (Samuels, 2008).

Drawing on this strand of work, Nathan (2011b) develops new panel data to explore the dynamic effects of immigration on the UK’s urban economic areas. Echoing work by Dustmann (Dustmann et al., 2005), he finds significant evidence of migrant occupational clustering in ‘low-end’ positions, and in many cities which experienced de-industrialisation during the 1970s and 1980s. He finds that more migrant-intensive economies may have a lockout effect on some lower-skilled natives. The employment results are partly explained by the long-term legacy of de-industrialisation in some cities; controlling for this significantly reduces the immigration effect.

## Production-side effects

A labour market analysis of a diversity shock is fundamentally limited because it ignores wider channels of economic change, particularly on the production side. Once we allow for production externalities, the picture changes significantly.

First, an established literature links migrant and minority communities to self-employment, entrepreneurial activity and small business formation. This partly reflects structural conditions facing some of these communities: exclusion from mainstream

economic institutions may force groups into developing new businesses, products and services (Kloosterman and Rath, 2001). Alternatively, community members' characteristics and attitudes may drive entrepreneurship. For example, 'middleman minority' status may help individuals create business opportunities between social groups (Bonacich, 1973), and immigration may also bring highly skilled and/or entrepreneurial 'stars' into the urban economy (Borjas, 1987). Under globalisation, such 'trans-national entrepreneurs' may be disproportionately likely to set up new enterprises and develop new ideas (Kloosterman and Rath, 2003; Honig et al., 2010; Goldin et al., 2011). In both cases, the empirical challenge is to distinguish migrant/minority status from other human capital endowments and structural conditions.

Second, the diversity migrants bring may trigger production complementarities for firms and workers, leading to higher rates of innovation and productivity. Theoretical and experimental studies suggest that the diversity of economic agents in a group may accelerate the group's creation of knowledge, or improve the quality of ideas (Page, 2007; Berliant and Fujita, 2009). These dynamics appear particularly important in knowledge-intensive work environments such as science labs, technology, creative industries or business services (Fujita and Weber, 2003).

However, group-level cultural diversity may have a negative effect if it leads to lower trust and poor communication between individuals. Spillovers (and co-operation) will be limited, leading to fewer, lower-quality solutions (Alesina and La Ferrara, 2005). Cultural diversity is thus good for firm performance if its on-going benefits outweigh initial disadvantages (Lazear, 1998).

Third, diasporic networks and internationally mobile individuals in those networks may help the diffusion of knowledge and assist the city's firms to access international markets (Docquier and Rapoport, 2012). Social networks offer their members higher social capital and levels of trust, lowering transaction costs and risk (Rodríguez-Pose and Storper, 2006; Kaiser et al., 2011). Under globalisation, co-ethnic networks such as diasporas may be an important channel for improving awareness of

new technologies and passing on tacit knowledge (Kapur and McHale, 2005; Kerr, 2010). Firms employing diaspora members may benefit from improved international market access, as well as a wider set of potential joint venture partners (Saxenian and Sabel, 2008; Foley and Kerr, 2011).

Conversely, other social networks – such as family or kinship networks, or professional associations – might turn out to be more important in determining knowledge spillovers (Agrawal et al., 2008). Discrimination against minority groups will also limit knowledge spillovers.

### Evidence

These channels help explain some of the differences between studies of immigration's labour market effects, and the wider effects of growing diversity in urban communities. In two seminal US studies, for example, Ottaviano and Peri (Ottaviano and Peri, 2005, 2006) find that migrant diversity raises average labour productivity in US metro areas, effects replicated by Sparber (2007) in more recent work. Studies on EU regions (Bellini et al., 2008; Huber et al., 2010) and German regional wages (Südekum et al., 2009) echo some of these results. Bellini and colleagues find positive links between the cultural diversity of NUTS2 regions and wages; Südekum finds positive wage and employment effects for the size and mix of high-skilled migrants but not for lower-skilled migrant workers.

For the UK, Lee (2011) finds positive links between migrant diversity and employment growth in English cities, but is unable to establish a causal relationship. Similarly, Longhi (2011) finds positive links between ethnic diversity and wages, but results using instruments are non-significant. Most recently Nathan (2011b), studying UK urban areas, finds some causal evidence that population diversity from immigration helps drive up native productivity and wages, particularly for high-skill UK-born workers.

Many of these area-level outcomes will reflect the micro channels identified above. First, a number of studies suggest important roles of migrant 'stars' and trans-national entrepreneurs in the US, especially in science and high-tech sectors. Indo-and



Chinese-American communities make disproportionate contributions to US science and engineering, in terms of Nobel Prize counts, elections to scientific academies and patent citations (Stephan and Levin, 2001), start-ups (Anderson and Platzer, 2007) and patenting (Wadhwa et al., 2007). However, in a recent US study on patenting, Hunt and Gauthier-Loiselle (2010) suggest that, once education and industry characteristics are controlled for, effects of migrant status disappear.

Pan-European analysis suggests both that immigrants are more likely to be self-employed than similar natives (Baycan-Levent and Nijkamp, 2009), and that second and third-generation entrepreneurs are particularly well positioned to exploit 'middleman minority' status (Smallbone et al., 2010). A number of case studies highlight migrant and minority entrepreneurship in sectors such as restaurants and retail (for recent overviews see Ram and Jones, 2008; Kitching et al., 2009). Nathan and Lee (2011) find that migrant entrepreneurs in London are more likely to innovate than the average company founder. However, echoing Hunt and Gauthier-Loiselle, Nathan (2011a) finds no simple effect of migrant/minority status on UK patenting, once individual human capital is taken into account.

Qualitative studies also confirm that migrant and minority communities are not identically resourced, and help to explain why such outcomes will vary. A number of recent analyses suggest considerable variation in levels of entrepreneurship across minority communities between and within cities: class, education, skills, experience, family status and generational factors are important mediating influences on ethnicity and migrant status (Basu, 2002, 2004; Kitching et al., 2009; Nakhaie et al., 2009; Sepulveda et al., 2011).

Second, the organisational and management literature find a small but significant workplace 'diversity advantage' on measures of business performance. Negative communication and trust effects are present in the short term but progressively decline (Landry and Wood, 2008). Most recently Hart (2010) analyses 24,000 'high-impact' US firms, finding suggestive evidence that team diversity is linked to employment (used here as a rough proxy for business success).

Several European studies also link firm-level cultural diversity and ideas generation. Parrotta et al. (2011) find positive effects of workforce cognitive and cultural diversity on Danish firms' patenting rates. Studying London firms, Nathan and Lee (2011) find that management and workforce diversity help raise product and process innovation. However, Ozgen et al. (2011b) find weaker links between cultural diversity and product/process innovation in 'white-collar' Dutch firms.

A number of area-level analyses also suggest links between urban diversity and innovative activity. Peri (2007) finds that US states' share of foreign-born PhDs is positively associated with levels of patenting. Hunt and Gauthier-Loiselle (2010) find that immigrant population shares raise state-level patenting, and that these effects are greater than individual-level effects, suggesting that urban, group and individual-level dynamics are all in play. Ozgen et al. (2011a), studying EU NUTS2 regions, find positive connections between migration, immigrant diversity and regional patenting. Niebuhr (2010) finds a positive link between the diversity of German regions and regional innovation, especially for highly skilled employees.

Third, a number of studies suggest that diasporic networks are important influences on knowledge flows (Bresnahan and Gambardella, 2004; Saxenian, 2006; Docquier and Rapoport, 2012). Jaffe and Trajtenberg (1999) find that countries with a common language have larger research and development spillovers and international patent citation rates. Kerr (2008), studying co-ethnic inventors, finds that co-ethnic communities in 'host' countries positively influence industrial performance in 'home' countries. Patenting growth in US cities is also faster for technologies that depend heavily on communities of immigrant inventors (Kerr, 2010). By contrast, Agrawal et al. (2008, 2011) compare co-ethnic and co-location effects on patent citations, finding that physical location is up to four times more important.

In the first European study of its kind, Nathan (2011a) finds a positive effect of South Asian and Southern European co-ethnic group membership on individual inventor productivity in the UK; however, effects are rather smaller than detected in US studies, and East Asian group membership has a negative

effect. This probably reflects socio-economic and historical specificities – a point returned to in the conclusions.

On market access, Saxenian's classic study of Silicon Valley details multiple diasporic links from Bay Area firms to upstream and downstream partners in South and East Asia, helping domestic firms access growing markets (Saxenian, 2006). Similarly, Bresnahan and Gambardella (2004) detail the role of 'brain circulation' between Ireland and the US in developing the former's technology industry. Fairlie et al. (2009) find some support for co-ethnicity effects on British-Indian business performance. Looking at London firms, Nathan and Lee (2011) find that migrant-headed businesses in the capital are significantly more oriented towards international sales than UK-headed companies; conversely, ethnic minority-headed businesses sell heavily into the capital's home markets (see below). Both findings provide suggestive evidence of links between migrant/co-ethnic groups and market access.

### Consumption-side effects

Urban diversity 'shocks' change the size and composition of the city's population, as well as its workforce. Again, this can have multiple effects. First, larger urban populations can induce 'home market' effects in cities, raising demand for non-tradable goods and services. If shocks are continuous over a long period, or are accompanied by productivity gains for firms, as above, they may influence underlying agglomeration economies in a city, leading to further inward migration.

Second, however, greater competition for space in growing cities may raise the local cost of living (Saiz, 2003; Ottaviano and Peri, 2006). At the extreme, the city's original population may respond to new arrivals by leaving the area: because they are displaced in the labour market, because of more expensive housing or because they dislike diversity (Borjas, 1994). Third, over time, more diverse urban populations may also raise demand for new/hybridised goods and services. If some residents have a taste for diversity – along the lines of Florida's Creative

Class – this will also shift patterns of consumer demand. In cosmopolitan cities, cultural diversity may help generate economic diversity, triggering Jacobian knowledge spillovers across sectors (Mazzolari and Neumark, 2012).

### Evidence

Empirical research is still thin in this area. US evidence on migration, diversity and the urban cost of living suggests that growing urban diversity is linked to both productivity and house price gains in US cities; production-side benefits are accompanied by increased crowding, raising the local cost of living (Saiz, 2003; Ottaviano and Peri, 2006). Three UK studies cover regional prices of goods and services (Frattini, 2008) and house prices (Nathan, 2011b; Sá, 2011). Controlling for causality, Sá finds negative effects of immigrants on house prices at local authority level in England and Wales, but no effect at regional level. Nathan also finds that net migration appears to have no effect on average house prices at the travel-to-work area level. Both of these studies are limited by the fact that house prices are an incomplete measure of the local cost of living. Using much richer data, Frattini finds some positive relationships between immigrant population shares and local prices.

Recent reviews of the international literature suggest there is still no consensus on the extent of native outflows (Card, 2007; Dustmann et al., 2008). Card (2005) and Borjas (2003) respectively find no evidence and substantial evidence; more recently Molloy et al. (2011) record declining internal mobility in the United States. In the UK, Hatton and Tani (2005) suggest outflows are quite large at regional level, especially in the greater south east. By contrast, Lemos and Portes (2008) find no effect of migrants' arrival on UK native 'netflows'. Most recently Sá (2011) finds evidence of native inflows and outflows, with the latter outweighing the former. However, both these studies use administrative geographies, and so may actually capture movements within local housing markets, rather than genuine 'exit' from an area.

There is substantial anecdotal evidence that urban cultural diversity is linked to the emergence of new or hybridised local goods and services, especially

cuisines, retail and cultural production (Syrett and Sepulveda, 2011). In London, Nathan and Lee (2011) find that businesses with more than half partners from ethnic minorities sell predominantly within London, probably reflecting the capital's cosmopolitan home markets. Mazzolari and Neumark (2012) explores the composition of California's retail and restaurant sectors during the 1990s, finding that immigration is strongly associated with a greater ethnic diversity of restaurants in the state.

## Conclusions

The economic impacts of immigration and demographic change have become increasingly important issues for European policymakers and politicians. National and city leaders have looked for explanatory frameworks to understand and respond to these shifts. Over the past decade, Richard Florida's ideas on 'technology, talent and tolerance' have provided a popular and appealing explanatory system, and become part of the mainstream policy conversation about cities and urban economic development. However, as this paper shows, Florida's models are not matched by the evidence, with little support for the Three Ts model. Perhaps reflecting this, Florida has recently returned to a more conventional economic geography approach, attracting some ire from city leaders in the process.

This paper proposes a 'post-Florida' research agenda, which emerges from a growing international body of work on the economic effects of immigration, migrant/minority communities and urban demographic change. Compared with Florida's original work, this 'economics of diversity' benefits from sound economic micro-foundations, identifies a number of clear mechanisms and is amenable to rigorous empirical testing, including identifying causal effects. Overall, economics of diversity approaches provide policymakers with a rich and powerful set of analytical tools, but also throw up new challenges for managing demographic change.

A 'diversity shock' on a city is likely to have multiple impacts across urban labour markets, production systems and consumer behaviour. Florida, and others working on the 'diversity dividend' (such as

Landry and Wood (2008)), tend to emphasise only the positive effects of cultural change; by contrast, the economics of diversity suggests multiple impacts across a number of economic sites, which may be positive or negative, and that distributional impacts across firms, workers and households may thus significantly differ. The empirical evidence also suggests both considerable national variation and that other socio-economic factors and processes have important influences on the results. Economics of diversity approaches have the advantage of being able to incorporate these specificities into the research, rather than proposing a monolithic model *à la* Creative Class.

The 'economics of diversity' is still a work in progress. First, for quantitative research at least, there remains a substantial knowledge gap for European countries relative to North America, for instance on links between diversity, urban productivity and the local cost of living, or the effects of diasporic communities in European countries on innovation and trade. Such research projects need to be underpinned by better individual- and firm-level data.

Second, more analytical work needs to be done in linking the formal economic frameworks into richer socio-cultural realities. Mixed-methods studies are crucial to help make these connections, and to explore locally specific channels between migrant and minority/communities and economic outcomes in European countries and communities. For example, communities of high-skilled 'ethnic inventors' in the US partly reflect historically distinctive patterns of US migrant settlement: most notably, the recent emergence of ethnic inventor communities from Cold War science research, which have attracted very large numbers of skilled workers into a small number of locations (Saxenian, 2006). By contrast, until recently, 'calls' for migrant workers in the UK since the mid-20th century have been largely focused on less skilled occupations (Somerville, 2007). Minority ethnic communities in the UK and European countries are also likely to reflect geographical proximity to other European nations, as well as individual countries' colonial histories. Similarly, as Syrett and Sepulveda (2011) and others point out, 'ethnicity' and 'diversity' channels also need to be disentangled from a number of social and cultural complicating factors at play in specific local contexts. Studies of Jewish

and Afro-Caribbean migrant communities in New York and London (Gordon et al., 2007) also suggest that different 'host' country norms and institutions play a role, so that same-ethnicity communities in different locations may experience quite different outcomes.

For policymakers, the main lesson is that searching for a simple 'diversity dividend' is both complex and politically challenging. Political leaders need to engage actively with the multifaceted nature of diversity, including its potential challenges and dis-benefits, and how these play out in different local contexts. Specifically, this means understanding *net effects* of cultural diversity across a spatial economy, to be aware that neutral average affects may hide winners and losers, and – critically – to understand how diversity channels interact with wider causes of economic and social inequality (for example, processes of casualisation in entry-level labour markets). For some this will be an uncomfortable process, but it will help better understand and engage with much of the real-world politics of immigration and diversity in European countries. A dual response is therefore needed: first, to develop economic development policies that amplify positive affordances of diversity, while mitigating costs; second, to tackle wider causes of economic inequality and marginalisation. For example, policies to promote the innovation-enhancing effects of diversity, and attract transnational entrepreneurs, could be coupled with efforts to re-regulate entry-level labour markets by improving pay and working conditions. This double strategy should help European cities and countries better manage the economic, social and political realities of diverse urban life.

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