

The missing ingredient: Distance

Internal migration and its long term impact on economic development in the United States

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The United States is often referred to as an exceptional case of internal migration. US citizens display geographical mobility rates that nearly double that of other advanced societies (Greenwood, 1997; Molloy et al, 2011). While the average American is estimated to move 13 times within the US over the course of a lifetime, the British or the Japanese change their place of residence eight and seven times, respectively (Long and Boertlein, 1976). In 2015-2016, over 11 percent of the American population changed place of residence. This represents more than 35 million people on the move – equivalent to the entire Canadian population. Many moves are short-distance moves: 7 percent of the American population moved within the same county; while 2.4 percent moved within the borders of a state. Yet, a large number of Americans make long distance moves: 1.5 percent or nearly 5 million Americans crossed state lines, often covering distances of 500 miles or more (US Census Bureau, 2016). Today almost one in three Americans does not live in the same state they were born in, placing American-born internal migrants among the most peripatetic in the world (Molloy et al., 2011).

High recent internal migration is not new in US history. Already throughout the 19th century, almost 60% of the male US population above the age of 30 moved across county- or state-lines at least once in their lifetime. At the time the American population was “a restless one, continually uprooting and moving to a new location [...] ‘every day was moving day’” (Atack and Passell, 1994:237). At the time the majority of internal migrants also relocated to neighbouring or nearby counties, remaining within the same state boundaries. Yet, over 30% of adult Americans covered distances of more than 100 miles crossing state lines (Ferrie, 2005). By 1850, the share of the native-born population living outside their state of birth was nearing 25% of the total (Haines, 2000). Thus, while the distance covered by internal migrants has increased over time, mainly due to rapid progress in transportation, the extent of internal migration remains comparable.

Over the past decades, internal migration has received significantly less attention in scientific research than the international one, even though the bulk of global geographical mobility takes place within and between regions of the country of birth. From the late 1970s to the present, the analysis of international migration has dominated not only social sciences, but also the vast majority of policy discussions (i.e. Skeldon, 2006; Ellis, 2012). Studies on “population movements involving changes of residence within countries remain poorly developed” (Bell et al., 2015:33).

Much of the limited internal migration research in social sciences focuses on movements from rural to urban areas or vice versa, evaluating the social costs, brain drain and integration issues of internal migrants in urban or rural structures (i.e. Harris and Todaro, 1970; Price and Sikes, 1975; Long, 1988; Huning and Huetl, 2012; Lerch, 2014; Eliasson et al., 2015; Rupasingha et al., 2015). Some research has revolved around the analysis of the determinants of migration decisions, such as place and individual specific pull– and push factors. Individual characteristics, such as age, education, marital status, health and a number of life-cycle considerations, including job tenure, poverty or employment status, have been analysed mainly in the context of individual utility maximization models (i.e. Vergoossen, 1990; Plane, 1993, Greenwood, 1997; Jung et al., 2004; Mohanty et al., 2016). The internal migrant is generally regarded as someone changing places “in pursuit of increased utility resulting from better employment opportunities, higher wages, [or] a preferred bundle of amenities [...]” (Greenwood, 1997:651). Additional focus has been put on place-specific features, internal migration patterns and policy design (i.e. Delisle and Shearmur, 2010; Shen, 2013; Aking and Dokmeci, 2015). The consequences of internal migration as, for example, the impact of internal migrants on the sending and receiving regions is – to the best of our knowledge – an almost virgin area in scientific research. Despite the fact that internal migration constitutes “a major mechanism through which labour resources are redistributed geographically” (Greenwood, 1997:648), studies on the macroeconomic impact of these population flows are rather limited (Greenwood, 1997).

If we assume the impact of internal migrants on economic development to mirror those of international migrants, the inflow of migrants will have growth enhancing effects (i.e. Borjas, 1994; Card, 2005). Transmission channels can be similar to those identified for international migrants: increasing returns to scale (i.e. Borjas, 1995); adjustments in the local market skill and labour composition (Lundborg and Segerström, 2002); increases in wages (Ottaviano and Peri, 2006); and stimulating productivity by means of innovation (i.e. Gordon and McCann, 2005; Partridge and Furtan, 2008).

These studies have, however, overlooked two dimensions that crucially shape the returns of migration: the time- and the geographical distance-dimension. On time, past research has tended to put the emphasis on the short to medium term. Studies on the economic impact of migration rarely span beyond two decades. The focus has been on the immediate economic effects of migration waves. Once migration flows come to a halt, whether or how past migration affects regional economic performance remains almost a black box. Rodríguez-Pose and von Berlepsch (2014, 2015) provide one of the few exceptions when analysing 19th century international migrants and their impact on US economic development 100 to 130 years later. They find the effect of international

migration to be not just positive for the recipient areas, but also very long-lasting, with economic impacts which can be traced for more than a century. The question remains, however, whether internal migrants in the US have the same effect as international ones. Did internal migrants criss-crossing the US more than a century ago leave a long-lasting economic trace? Are those territories in the US, where American-born migrants settled in large numbers richer today than those largely bypassed by settlers?

On geographical distance, distance and migration have been mostly connected when evaluating 'long distance migration', again focusing primarily on international migrants (i.e. Greenwood, 1997). Research has concentrated on its determinants (i.e. Pendakur and Young, 2013), the structural conditions of long-distance migration (i.e. Coulter, 2016), its significance for migration and commuting (i.e. Newbold and Scott, 2013), and how growing distance lowers the propensity to migrate (i.e. Greenwood, 1997). Geographical distance and its effect on the economic impact of internal migration does not seem to be covered by the social science literature at all. To our knowledge, there is limited knowledge about the relevance of the distance internal migrants travel on the economic dynamism of the regions where migrants settle. Does having a large share of internal migrants from neighbouring counties impinge on local economic development differently than attracting internal migrants for far-flung places? Is a locality better off in the long-term if it attracts internal migrants from neighbouring counties or states or if, on the other hand, from distant locations?

This paper intends to cover both of the aforementioned shortcomings in the literature, by, first, evaluating the effect of US internal migration on long-term economic development. Do large shares of internal migrants leave a long-lasting trace for economic development on the territory where they settle in large numbers? Can their impact still be felt 100 to 130 years later? Secondly, the paper examines whether the covered distance of American-born migrants of the late 19th and early 20th centuries matters for the long-term economic impact of migration. Do internal migrants from a faraway county matter more for long-term economic development than those from next door?

In order to analyse these research questions, the research uses US Census lifetime migration microdata from 5,791,531 individuals, representing 10% of the total US population, in 1880 and 923,153 individuals in 1910, covering 1% of the population. The first objective is to look at the internal migrants' settlement pattern across the counties of the 48 continental states and calculate distance related population shares. Migrant settlement pattern are then weighted by distance and linked to current levels of county development proxied by per capita gross domestic product at county level in 2010. Factors influencing both the settlement decision of the internal migrant at the time as well as the level of wealth of the county today are controlled for using data sources such as

the IPUMS USA database, the Inter-University Consortium for Political and Social Research database, the US Bureau of Economic Analysis and the Current Population Survey tables of the US Bureau of Labor Statistics.

Both ordinary least squares and instrumental variable (IV) estimation techniques are used in order to regress the shares of internal migrants and the two vectors of control variables on income per capita levels in 2010. IV methods allows to control for endogeneity, as any analysis involving economic development levels and migration is prone to simultaneous causation issues: wealthy counties at the end of the 19th century may have attracted internal migrants just as well as internal migrants could have transformed a county to a become a prosperous one. Thus, in order to reveal the true underlying effect linking economic development levels and shares of internal American-born migrants, two instruments highly relevant for settlement patterns and distance covered by migrants are employed: topography and the share of waterarea.

The results underline the relevance of internal migration. Internal migrants are found to have a highly significant, positive and long lasting impact on economic development at county level over the very long-range. Counties that attracted large shares of internal migrants more than 100 years ago are more prosperous today than those that did not.

The second part of the analysis assesses the role of the distance travelled by internal migrants. Internal migrants are divided into those stemming from the same state, those from a neighbouring state, and those originating from somewhere else in the country. Results point to a strong relevance of distance travelled, with an impact inverse to the distance travelled. A large share of population stemming from a location within the same state 130 years ago is significantly and negatively linked to long-term economic dynamism; internal migrants from neighbouring states are unconnected to income per capital levels in 2010; migrants from more distant states a century ago leave a positive and long-lasting impact on the economy of the receiving county.

The analysis allows to calculate thresholds of impact of distance travelled on the economy of a county more than a century later. Beyond a threshold of 800km, the impact of internal migration in the late 19th or early 20th century has a significant impact on current levels of GDP per capita. Below that threshold the impact disappears. All of these results prove to be consistent across both years included in the analysis, 1880 and 1910, and across the IV-estimations.

Overall, the analysis stresses that while internal migrants clearly matter and they matter for a very very long time, migrants stemming from further away are responsible for the bulk of the impact. The bigger the distance travelled by internal migrants more than 100 years ago, the greater the long-term economic legacy of migration.

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