

## **Immigrant Communities and Knowledge Spillovers: Danish-Americans and the Development of the Dairy Industry in the United States**

CEPR Discussion Paper no. 13757

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Along with the rise of populist movements, there has been increasing adoption or encouragement of various measures to combat immigration. One popular suggestion is so-called ‘point systems’, whereby potential immigrants are assessed based on a number of criteria, including for example age, educational attainment, language, etc. Such systems have already been adopted in Australia and Canada, and have been proposed by for example both US and UK politicians.<sup>1</sup> Another popular bone of contention has been so-called ‘chain migration’, i.e. immigrants coming to a country due to family connections, which in the US constitute a far larger proportion of total immigration than those entering on green cards. The empirical literature on the impact of immigration is rather mixed, although a number of recent studies have argued that high-skilled immigrants can promote knowledge and technology transfer (Hornung, 2014), improve human capital (e.g. Moser et al., 2014; Rocha et al., 2017), and impact on growth more generally through patenting (Akcigit et al., 2017a).

To a certain extent, the fact that elite migrants foster development is not a surprise, and might even suggest support for policies which discriminate according to skills. The era of mass migration to the United States, however, allows us to consider another side to this debate. Immigrants were arriving from different countries at different points in time, where some of these countries were initially rather poor, but by the end of the nineteenth century had become rather rich. This suggests an important potential implication: groups of migrants who might initially seem rather undesirable (and would thus score fewer ‘points’), such as poor, rural migrants or refugees from less developed countries, might later turn out to be desirable, if their home country develops – perhaps even overtaking the host country in some respects – and they foster connections with their country of origin, thus facilitating the adoption of new technology or attracting future ‘desirable’ migrants. No previous study has considered this possibility, and we consider an example well-suited to illustrate this point, taken from the history of Danish migration to the United States.

In this paper, we demonstrate how the small Danish settlements established in the United States before 1880 came to play an important role for spreading information on subsequent radical changes that were taking place in Danish agriculture, and dairying in particular. Our hypothesis is that these Danish communities facilitated the spread of information on the revolutionary changes in dairying that were taking place at home. Danish agriculture developed rapidly from the 1880s with the emergence of a modern dairy industry. The invention of the automatic cream separator, which allowed for centralization of production

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<sup>1</sup> See for example ‘How to earn “points” to come to the US under Trump’s immigration plan’, CNN (<https://edition.cnn.com/2017/08/02/politics/cotton-perdue-trump-bill-point-system-merit-based/index.html>, retrieved March 23, 2018).

under a new institution, the cooperative creamery, is especially relevant in this context. The first of these was founded in 1882, followed by hundreds of others around the whole country within a decade. We hypothesize that Danish immigrants in the U.S. spread knowledge about these newly invented technologies by keeping close ties to their home country. In order to identify the effect of Danish communities in the U.S. on the local dairy industry we implement a difference-in-differences analysis, hypothesizing that we would see an effect only after 1880 – after the invention of the automatic cream separator. We compare the development of the dairy industry in counties that received many Danes with those that received none or only few Danes and find that the areas ‘treated’ with more Danes are associated with both a greater specialization in dairying, and the use of more advanced technologies before the First World War. In fact, the association between these areas (largely in the Midwest) and dairying can even be detected after the Second World War.

Our findings have important implications for the current debate on immigration, especially as it has often taken a rather negative stance recently. Our results show that it is difficult to determine which immigrants are ‘desirable’ *ex ante* and that the host country may benefit from immigration even decades after the first arrival.

## References

Akcigit, U., J. Grigsby, and T. Nicholas (2017). Immigration and the rise of American ingenuity. *American Economic Review: Papers and Proceedings* 107 (5), 327–331.

Hornung, E. (2014). Immigration and the diffusion of technology: The Huguenot diaspora in Prussia. *American Economic Review* 104 (1), 84–122.

Moser, P., A. Voena, and F. Waldinger (2014). German Jewish emigres and US invention. *American Economic Review* 104 (10), 3222–55.

Rocha, R., C. Ferraz, and R. Soares (2017). Human capital persistence and development. *American Economic Journal: Applied Economics* 9 (4), 105–136.