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The Brain Drain between knowledge based Economies : the European Human Capital outflow to the US

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non-technical summary

Like secondary education and physical capital investments were crucial to the post-war West- European economy to catch-up, higher education and knowledge investment have become the major factor of growth in the knowledge society. The latter requires an ever-increasing supply of highly-educated, highly-skilled people. In this context, worries about skill shortage are frequently fueling the public debate in Europe. The Third European Report on Science and Technology indicators point out that "Europe produces a large number of university graduates, doctorate recipients and postdoctoral students. But a significant share of them finds work in an occupation outside of European R&D. It may be one of Europe's biggest obstacles in its attempt to becoming the world's most competitive knowledge-based economy [...]". Against this background, this paper assesses the magnitude and nature of European emigration to the US throughout the last three decades using the 1980, 1990, 2000 and 2006 US censuses.

The brain-drain significance depends on the magnitude of migration flows (emigration rate) and the degree of migrants' selectivity along the ladder of labor quality (emigration quality). Hence, at a first stage I document the trend in emigration stocks and flows of Europeans in the US. Results show that European emigrants represent a small share of their source country working age population. However, starting from the 1990s and following the US dot-com bubble this share is increasing. I also provide evidence of a decreasing pattern of return migration for most countries. At a second stage, I investigate changes in migrant quality over time. Firstly, I establish the degree of selectivity along observable characteristics (age, education, occupations and labor productivity). Migrants are relatively younger than stayers, but still have significant years of labor market experience at the time they enter the US. For most countries, the expatriates-stayers schooling disparities increases over time, and more so for education-scarce countries. The latter reflects a pattern of increasing selection of migrants along educational ladder. This is comforted by looking at long term trends in migrants' occupations which reveal an increasing concentration in occupations that matter the most in a knowledge economy (engineers, researchers, university instructors). As a consequence, the share of US based European researchers has increased in the 1990s. Secondly, using productivity brain-drain indices that weight years of education by their relative wages, I show that the outflow of human capital conveyed by emigrants represent 0.2% up to 0.6% of their source country human capital. After a fall in the 1980s this share has increased in the 1990s reflecting a higher selection along labor productivity ladder.

Lastly, to gain a better understanding of the nature of human capital conveyed by emigrants, their wage performance (i.e. productivity) on the US labor market is investigated. I show that expatriates earn a wage premium compared to a similarly observable US born worker. This premium is higher for the more recent cohorts of migrants. This result is either an indication that Europeans are exceptional performers in the US labor market, or that they are working in leading sectors and occupations within their group of skills, which places high values on human capital and talent. I conclude from this empirical scrutiny that, starting from the US new-economy revival, we are witnessing a surge in the

outflow, which has lasted since then, of European human capital that matters the most in knowledge economy.