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Title

An empirical study of graduate student mobility underpinning research universities / Takao Furukawa ; Nobuyuki Shirakawa ; Kumi Okuwada

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Abstract

The issue of international student mobility has had a profound effect on policy decision-making in the higher education system of essentially every country; however, the statistical data on this subject are insufficient, especially for graduate students. The purposes of this study are to substantiate the state of international mobility among talented graduate students in the sciences and engineering who will publish scholarly research in their future career and to present the mechanism of their moves between institutions. This paper quantitatively analyzes the trajectories of more than 7,000 scientists and engineers beginning at graduate school, obtained from the biographical notes attached to journal articles for authors in the fields of computer vision, robotics, and electron devices. The results suggest that mobility in various engineering fields at world-class research universities is subject to varied pull and push factors. In the fields of computer vision and robotics, a high world university ranking is a significant pull factor in the global mobility of graduate students, which may promote a US-dominated stratification between institutions of higher education, since the institutions at the top

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end of these rankings are generally in the United States. In contrast, in the field of electron devices, employment for highly skilled workers in domestic industries seems to act as an alternative pull factor for talented graduate students. This article also sheds light on the status of the universities that underpin first-tier research universities by providing undergraduate students to them, an important role that tends to be concealed in the world university rankings. Furthermore, this article suggests the existence of complementary relationships between the globally top-ranked research universities and the exporting top national research universities in various countries, a relationship that is key to the shape of the current global higher education system. (HRK / Abstract übernommen) Furukawa, Takao, E-Mail: furukawa@nistep.go.jp