Postdoctoral Trainees as Contingent Workers: A Shift-Share and Decomposition Analysis

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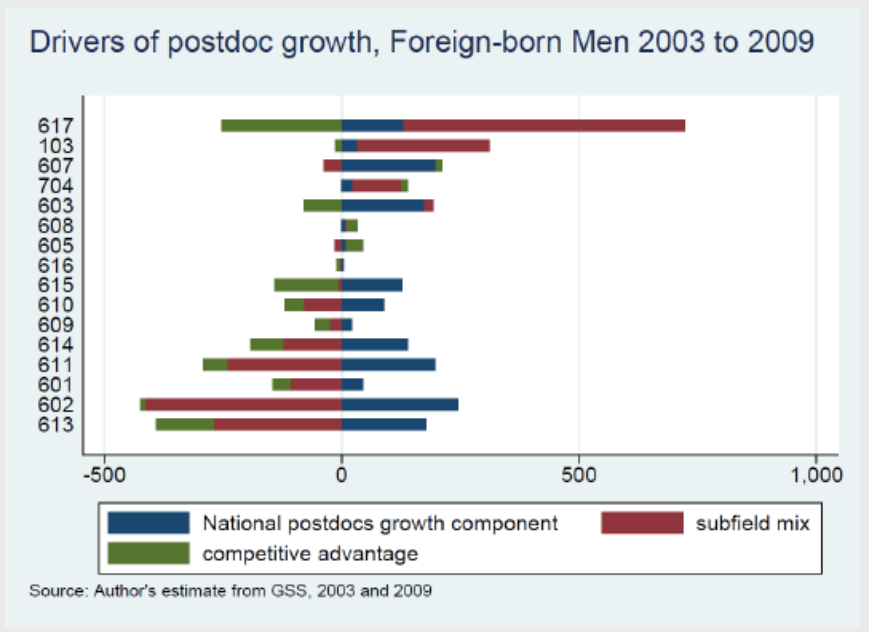
No segment of the workforce has escaped the expansion of the contingent employment. A larger share of jobs are more contingent on employer demand. The employment contracts associated with these jobs include no long-term commitment of the employer to the employee or of the employee to the employer. Academic employment in STEM fields is no exception. Academic employers face global interdependence and the need for a business structure able to adjust to changing economic conditions. Using data from GSS and SDR surveys, this paper examines the contingent employment hypothesis using shift-share and Kitagawa decomposition methods to assess changes in employment of biomedical postdoctoral trainees before, during, and after the period in which NIH funding doubled. We find limited support for the hypothesis that postdoctoral employment expands and contracts with NIH funding, but do find support for effects of globalization on the academic workforce.

Shift-share analysis divides biomedical employment growth into the amount accounted for by national growth trends, the subpopulation's distribution across biomedical subfields, and a residual (interpreted here as a competitive advantage). Comparison of competitive advantage estimates in a given period provides a means of assessing the displacement of citizens by non-citizens.


Drivers of postdoc growth, Foreign-born Men 2003 to 2009
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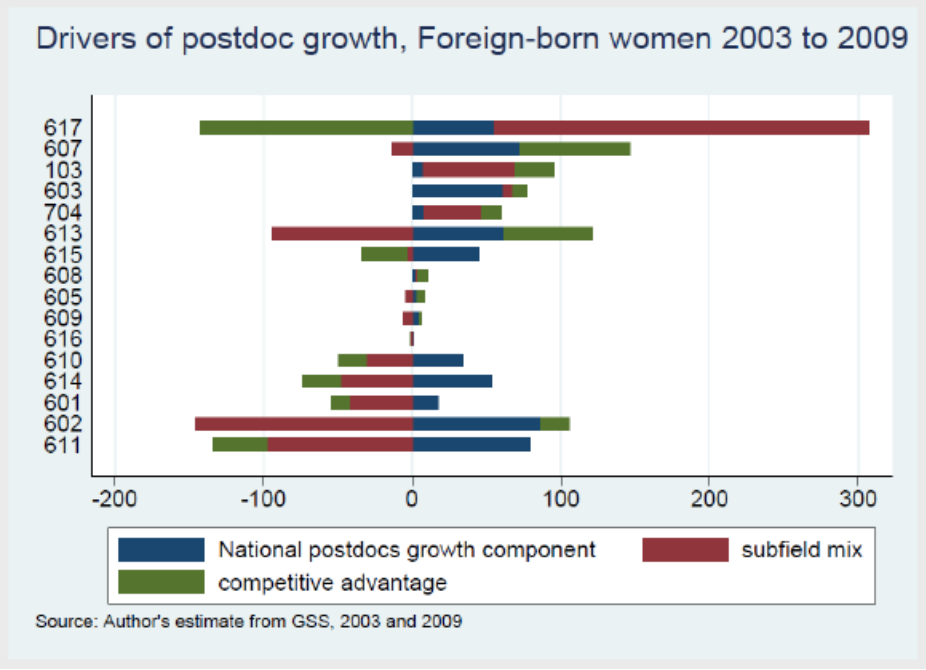
National postdocs growth component
subfield mix
competitive advantage
Source: Author's estimate from GSS, 2003 and 2009


Drivers of postdoc growth, Foreign-born women 2003 to 2009
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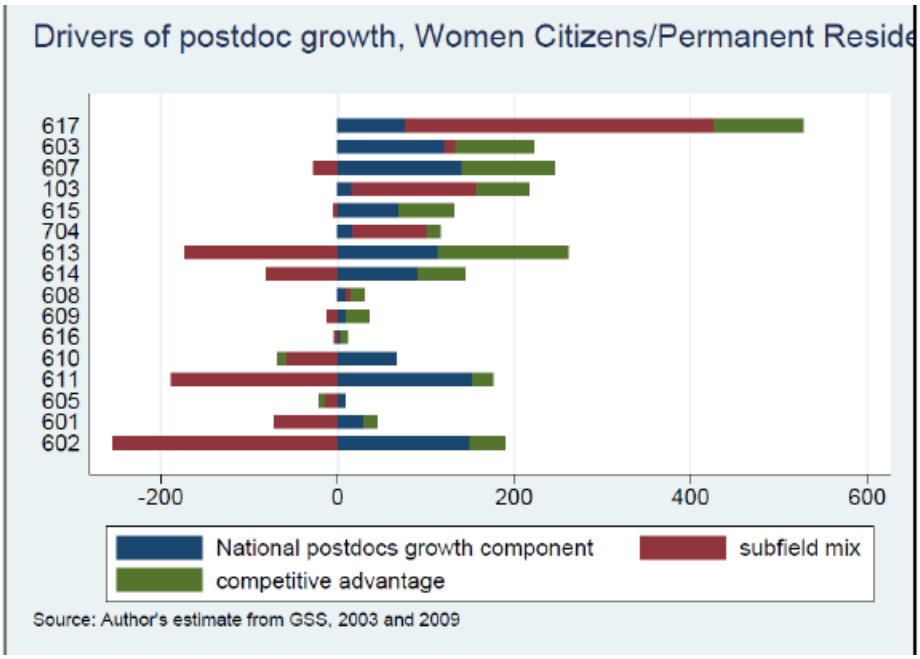
National postdocs growth component
subfield mix
competitive advantage
Source: Author's estimate from GSS, 2003 and 2009


Drivers of postdoc growth, Women Citizens/Permanent Reside
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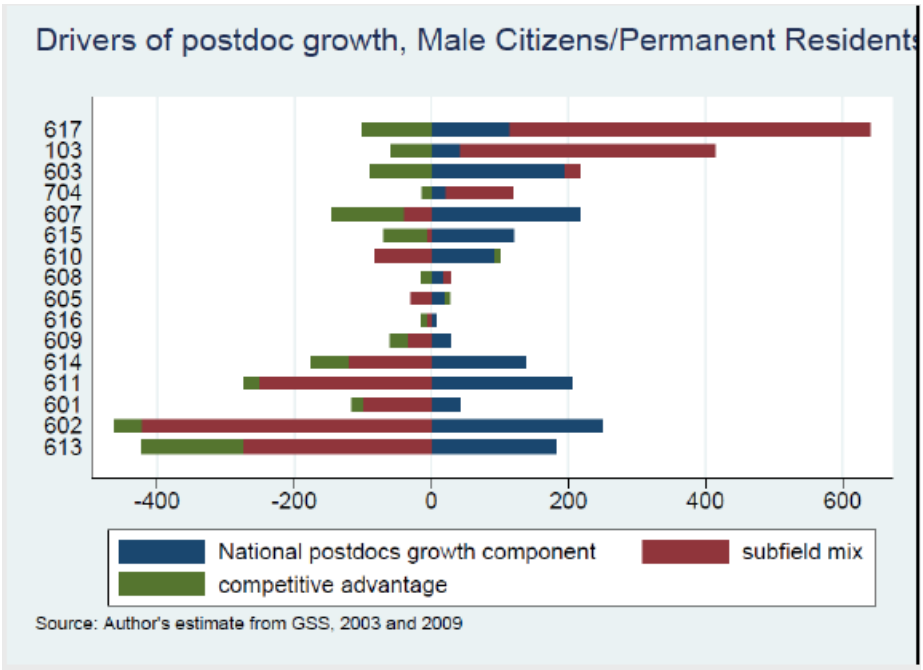
National postdocs growth component
subfield mix
competitive advantage
Source: Author's estimate from GSS, 2003 and 2009


Drivers of postdoc growth, Male Citizens/Permanent Residents
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National postdocs growth component
subfield mix
competitive advantage
Source: Author's estimate from GSS, 2003 and 2009