



Services, Jobs, and Economic Development in Africa

Bernard Hoekman

European University Institute and CEPR

World Bank, February 1, 2023

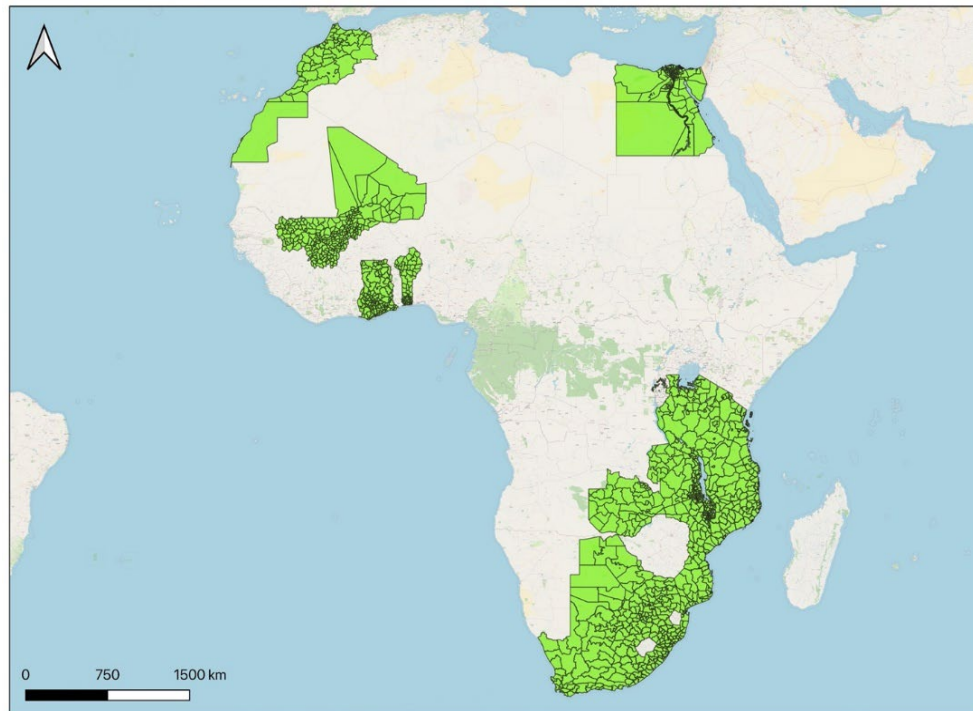
Speak to two papers

- Services, Jobs, and Economic Development in Africa, joint with Leo Baccini, Matteo Fiorini and Marco Sanfilippo (*World Bank Research Observer*, 2023)
- Foreign Direct Investment and Structural Transformation in Africa, joint with Marco Sanfilippo & Margherita Tambussi (CEPR DP 17838, 2023)

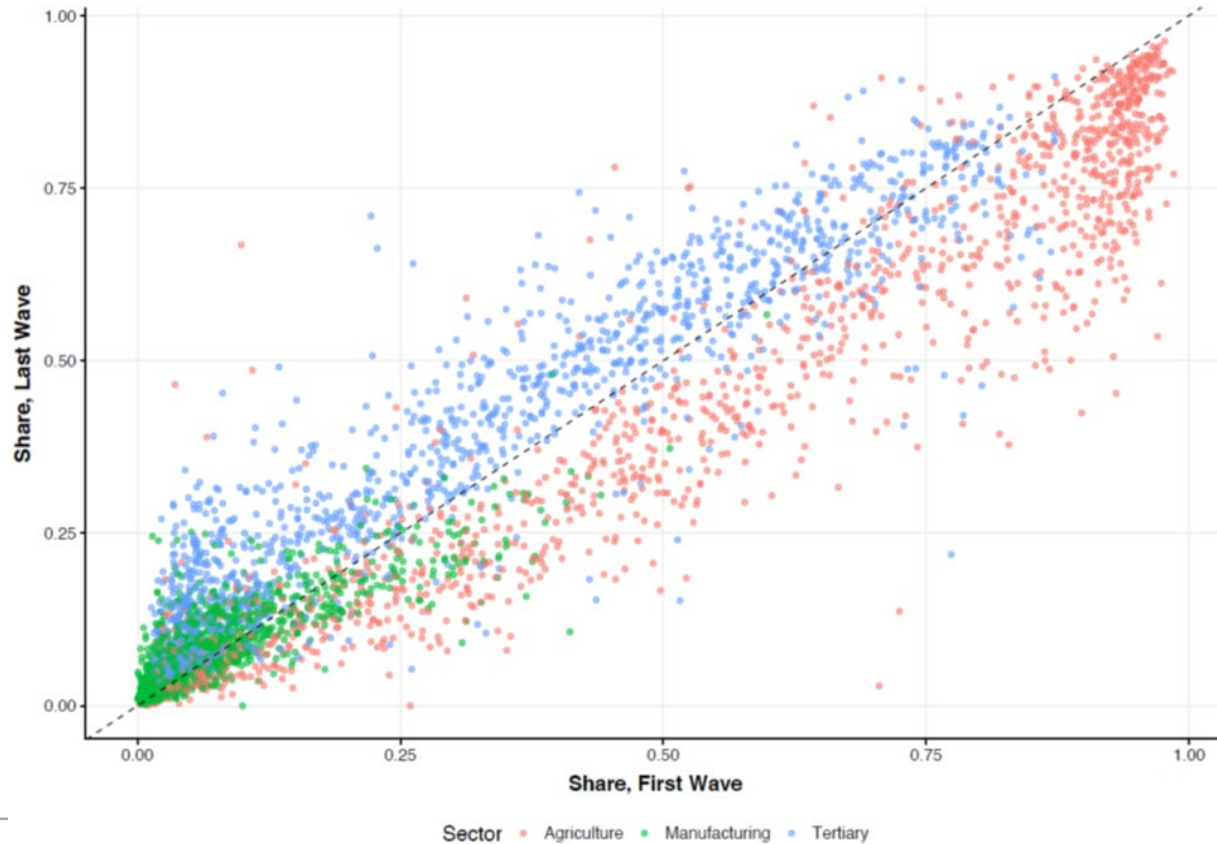
Census data on employment in services

- Use data from IPUMS International, for all African countries for which at least two consecutive censuses that include industry classification of employment:
 - Benin, Botswana, Egypt, Ghana, Malawi, Mali, Mauritius, Morocco, Mozambique, Rwanda, South Africa, Tanzania and Zambia
- 1,546 unique administrative units
- 3,846 observations covering about 60 million individuals from 1982-2013
- Sample account for 31.1% and 44.1% of Africa's population and GDP

<https://international.ipums.org/international/>

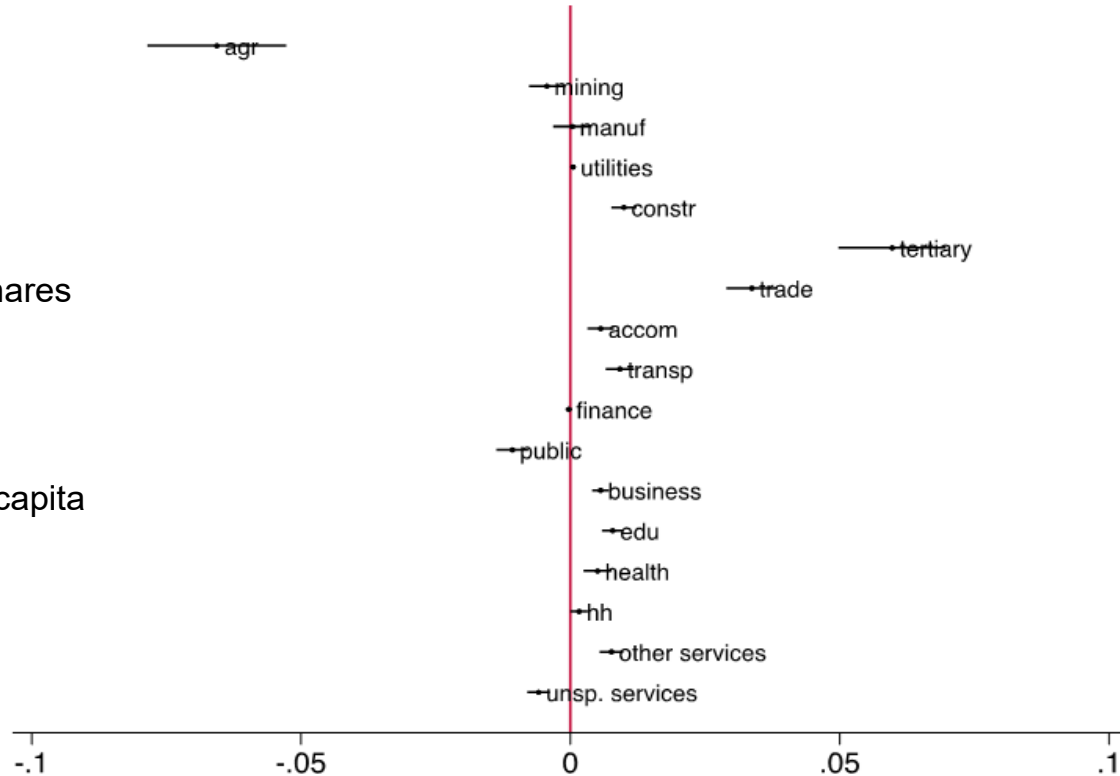


Change in employment shares by sector

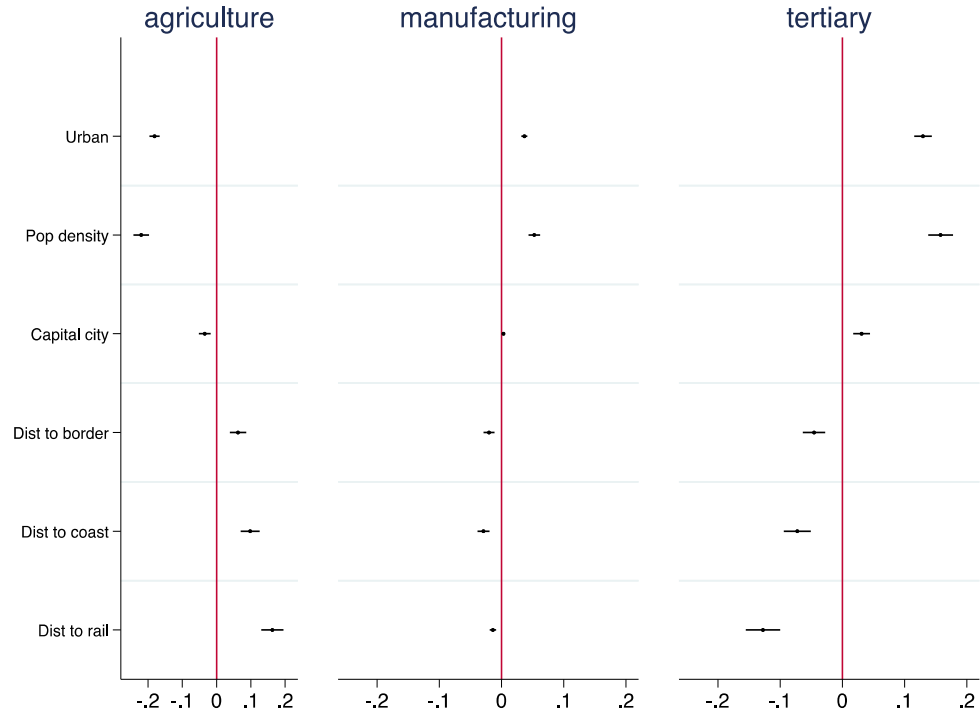


Post 2000 time trends across sectors

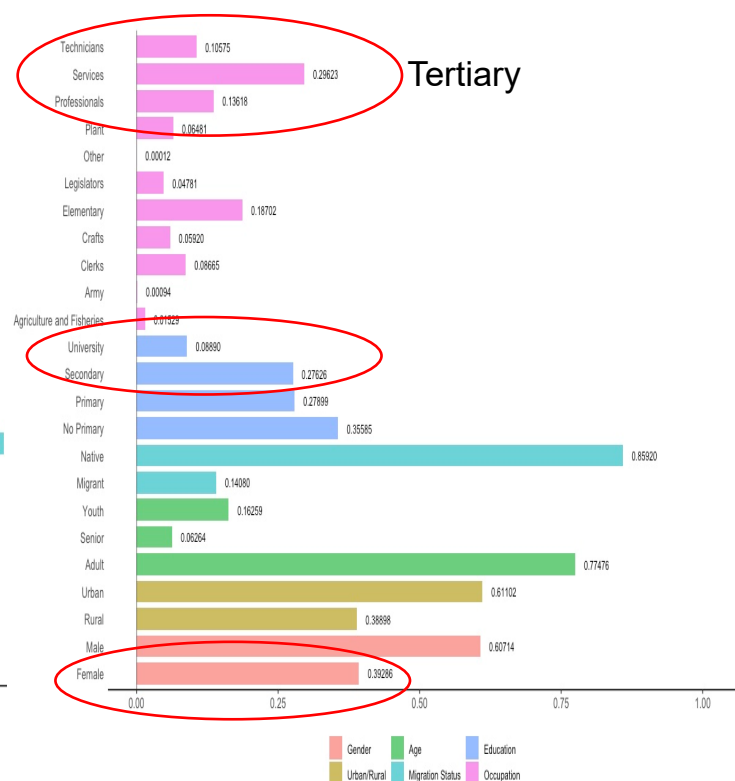
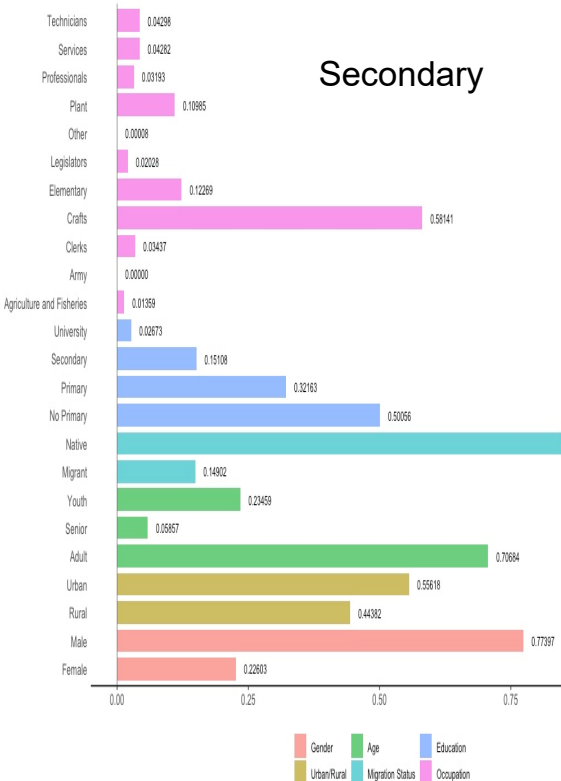
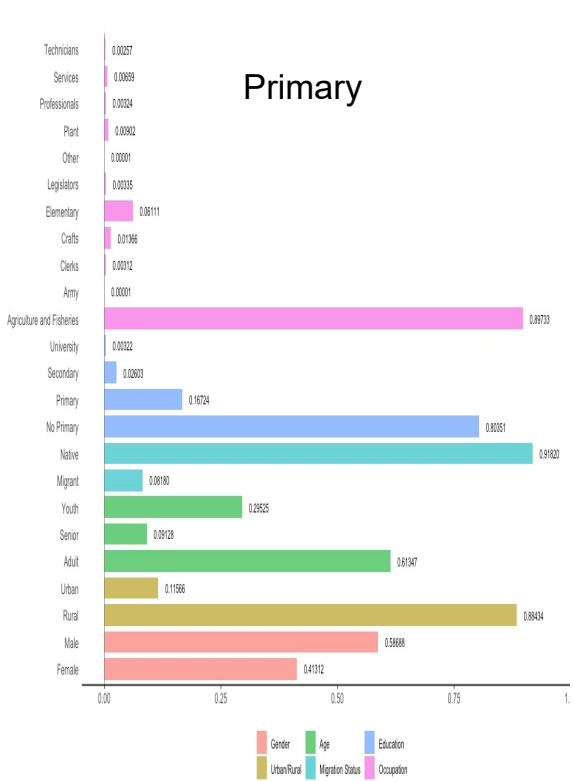
- Link employment shares to a time trend (before/after 2000)
- Controlling for administrative units, population and per capita nightlight (and their squares)



Correlates of services employment



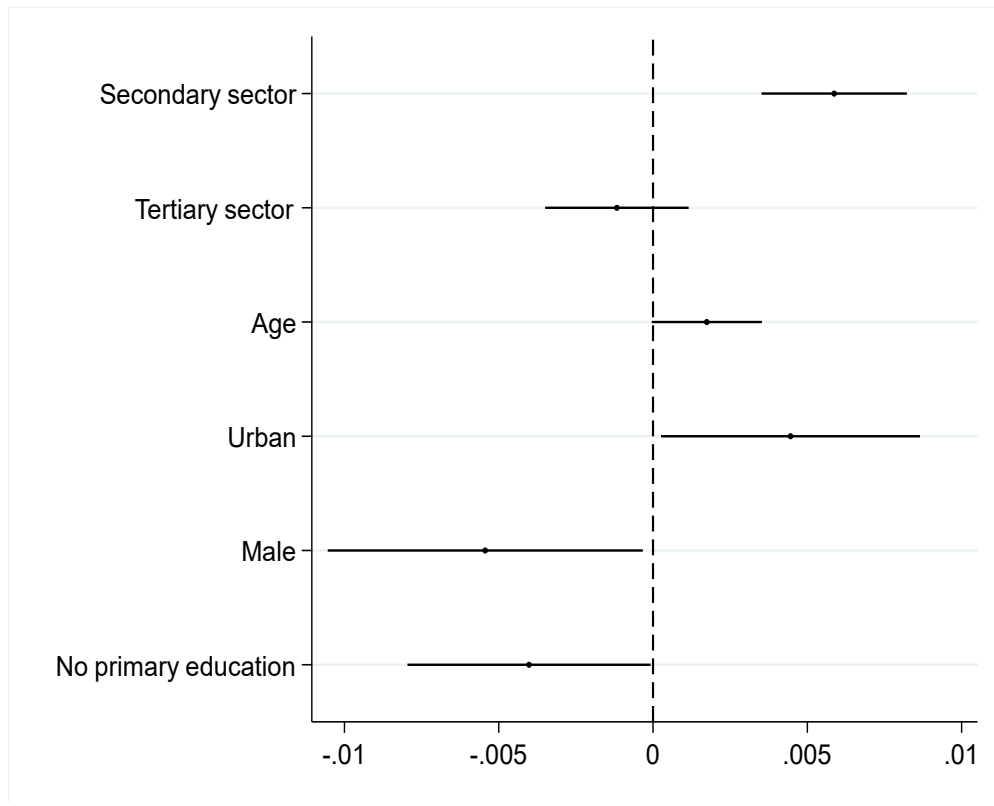
Who works in services? Gender; urban/rural residence; age cohorts; migration status; education and occupation



Services and economic development

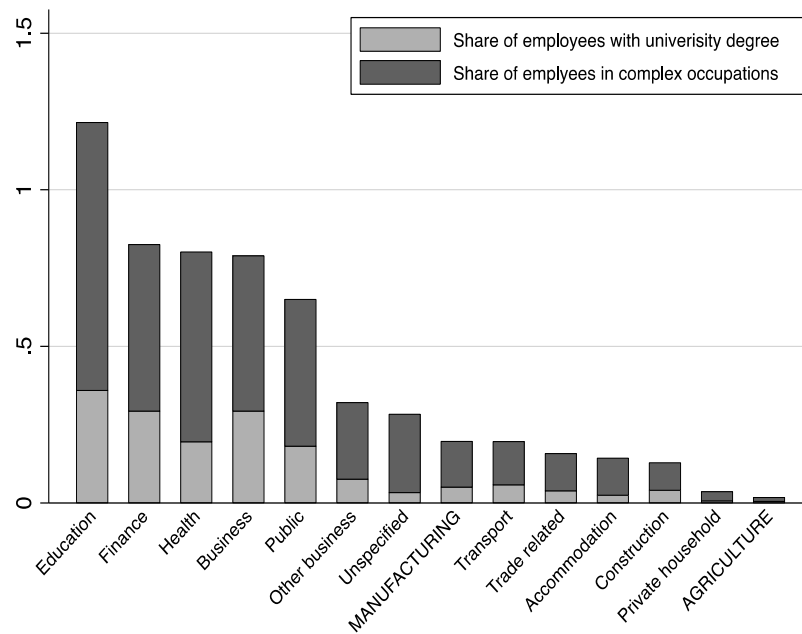
Estimate correlation between nightlight per capita (proxy for economic development) and share of people employed in industry or services in an administrative unit

- Positive relationship with employment in secondary sector
- No association between services employment and development (nightlights per capita/Admin unit)

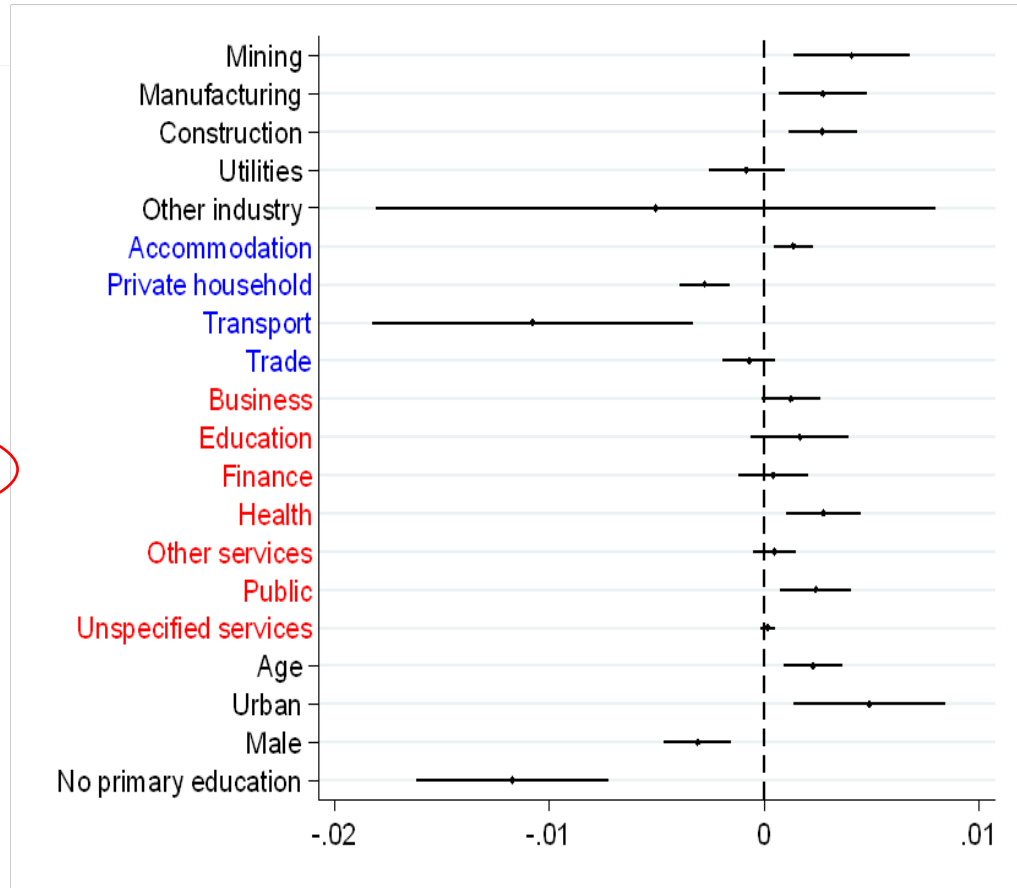
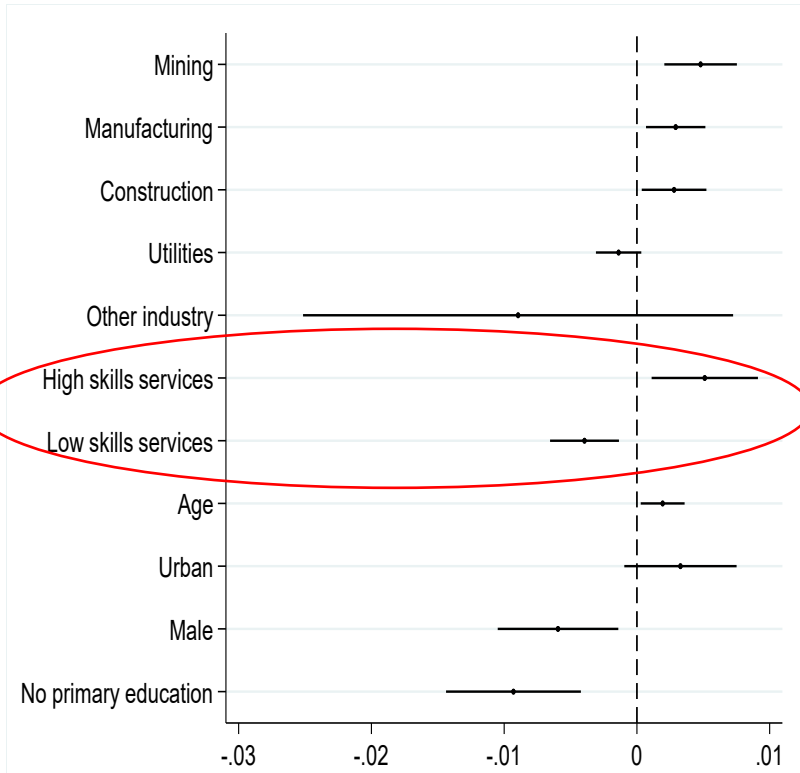


Look at differences between types of services

- Cluster services on the basis of 2 criteria:
 1. intensity in use of high skilled-labor – share of employed workers with a university degree in a sector; and
 2. intensity of more complex occupations (share of managers, professionals and technicians employed in a sector)
- Use manufacturing as benchmark to distinguish high- from low-skilled activities.



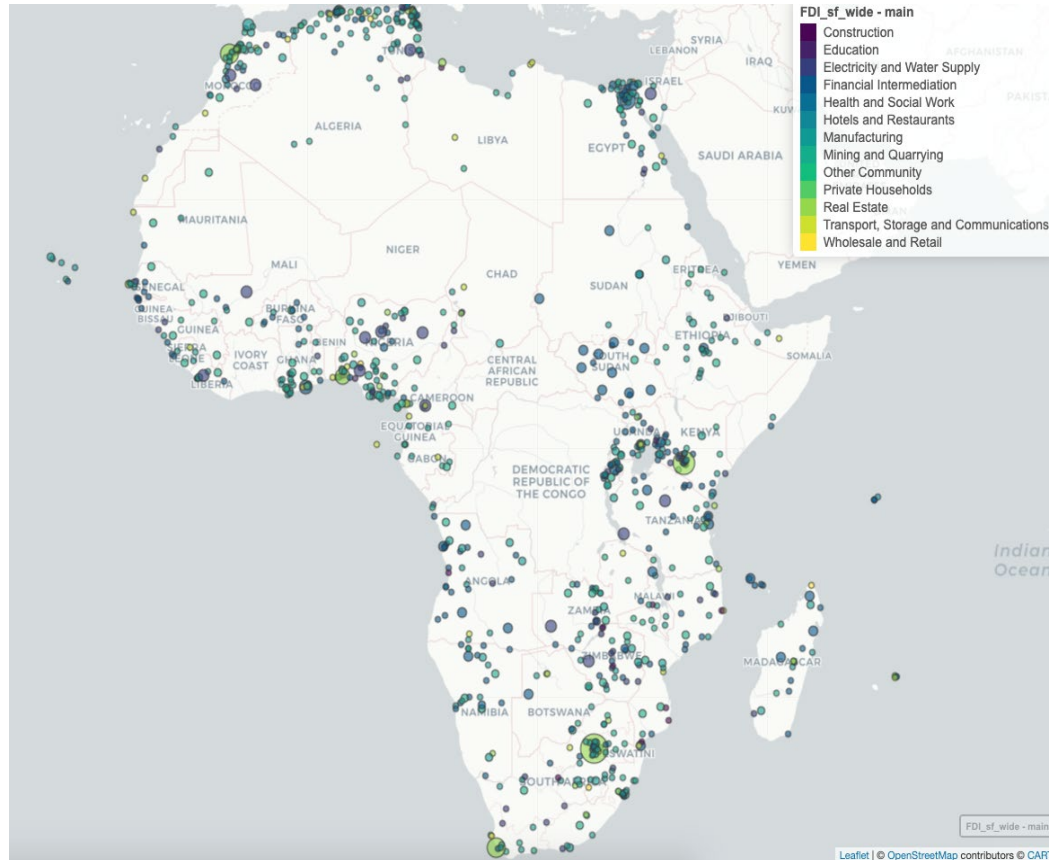
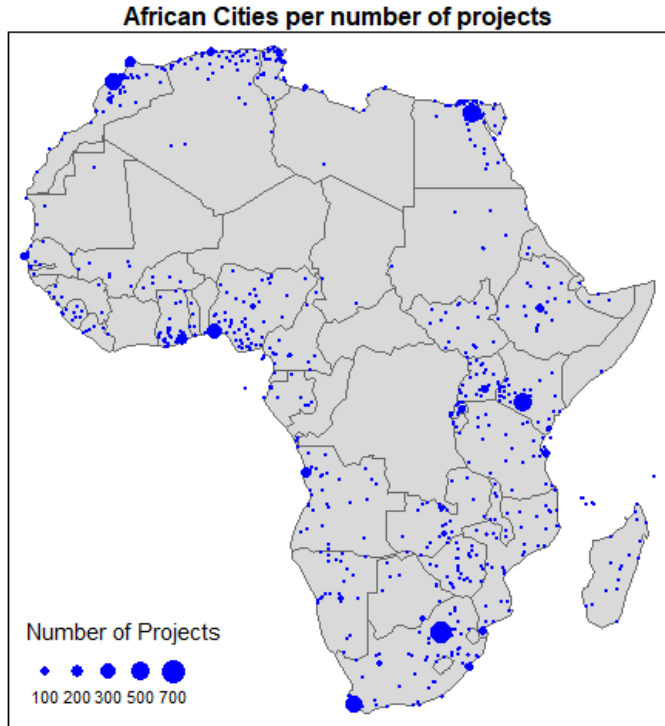
Association with nightlights: services type and sectors



Potential mechanism: FDI

- Relationship between entry of FDI and employment shifts from agriculture to non-agriculture; low- to higher-skilled occupations; informal to formal
 - Consider heterogeneity of FDI by type of activity performed (production, hi-VA services, extractive activities)
- Event study using doubly-robust D-i-D estimator (Callaway and Sant’Anna 2020)
- 1. Combine population censuses (IPUMS) with Demographic and Health Surveys (DHS) using a common administrative division identifier that is consistent over time.
 - 40,665,627 individuals over 1987-2019 in 2,567 subnational units in 24 countries
- 2. 11,478 greenfield FDI projects in 48 African countries for 2003-2020
 - Information on country of origin, sector-activity pair & project location up to city level
- 3. WBES data: firm-industry-city level data 2006-2020.

fdiMarkets: # of greenfield projects at city level and sector



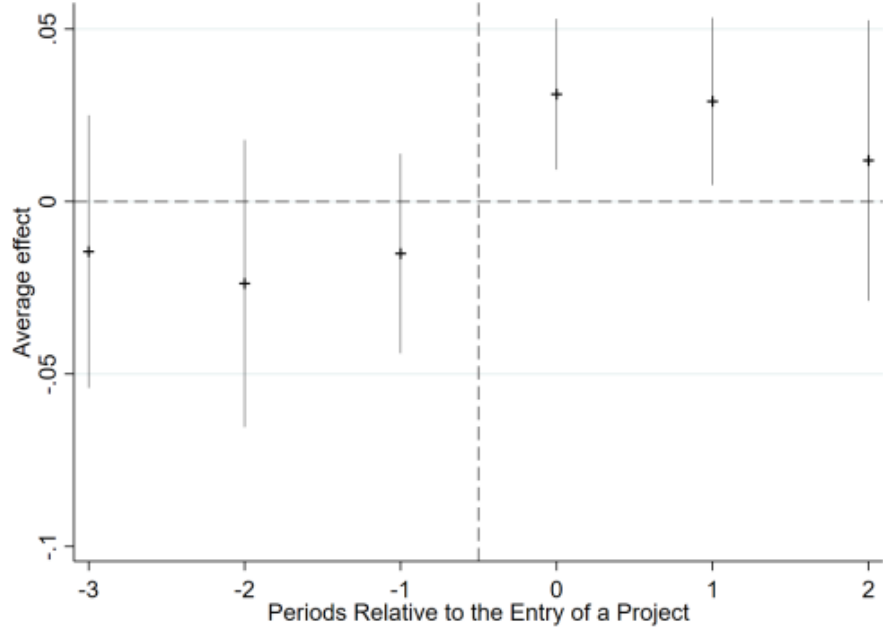
Services account for large share of greenfield investment (% of all projects)

Sectors	Freq.	Activities	Freq.
Financial services	17.14%	Business Services	26.01%
Business services	10.94%	Sales, Marketing & Support	24.26%
Software & IT services	8.70%	Manufacturing	19.38%
Communications	7.77%	Logistics, Distribution & Transportation	4.53%
Food & Beverages	6.73%	Electricity	3.97%
Transportation & Warehousing	5.31%	Extraction	3.13%
Metals	4.94%	Construction	3.05%
Industrial equipment	4.45%	Headquarters	2.91%
Renewable energy	3.92%	Research & Development	2.70%
Coal, oil & gas	3.54%	ICT & Internet Infrastructure	2.50%
Real estate	2.95%	Retail	2.09%
Chemicals	2.89%	Education & Training	2.03%
Automotive OEM	2.52%	Maintenance & Servicing	1.79%
Hotels & tourism	2.05%	Customer Contact Centre	0.98%
Building materials	1.93%	Technical Support Centre	0.35%
Electronic components	1.77%	Recycling	0.24%
Textiles	1.53%	Shared Services Centre	0.08%

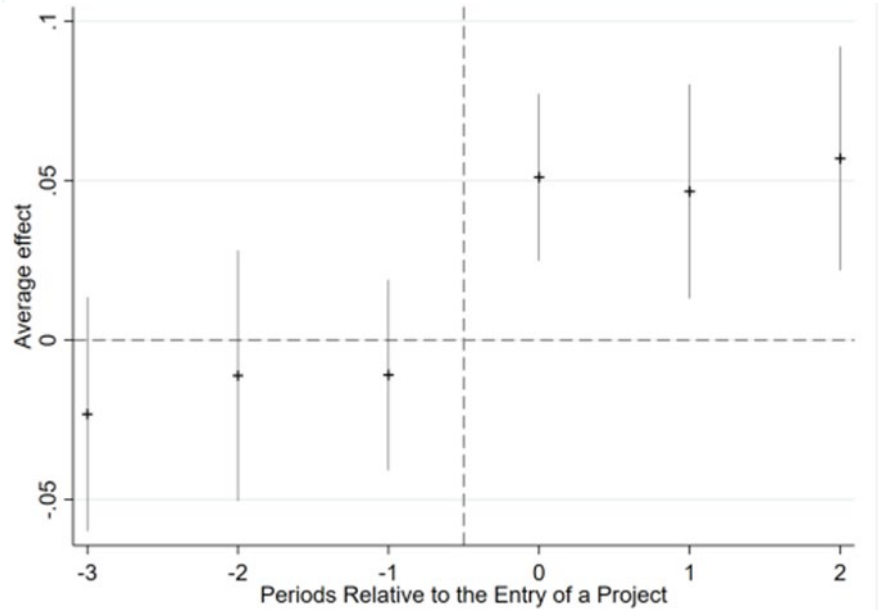
Note: authors' elaboration on fDi Markets data. The sample includes 4918 greenfield FDI

Event study: Local employment effect of FDI

Total

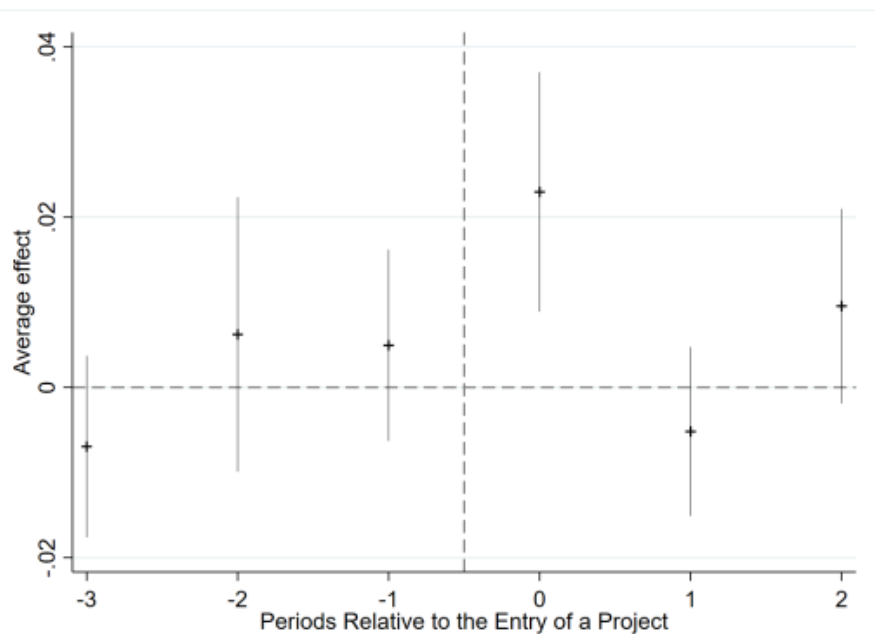


Non-agricultural employment

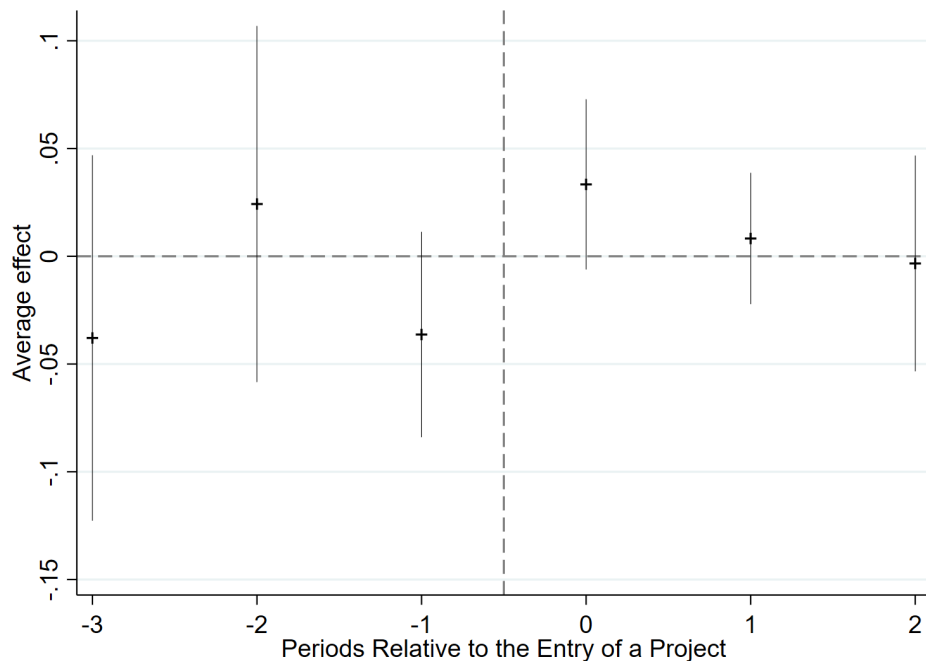


Results (2)

High skilled employment

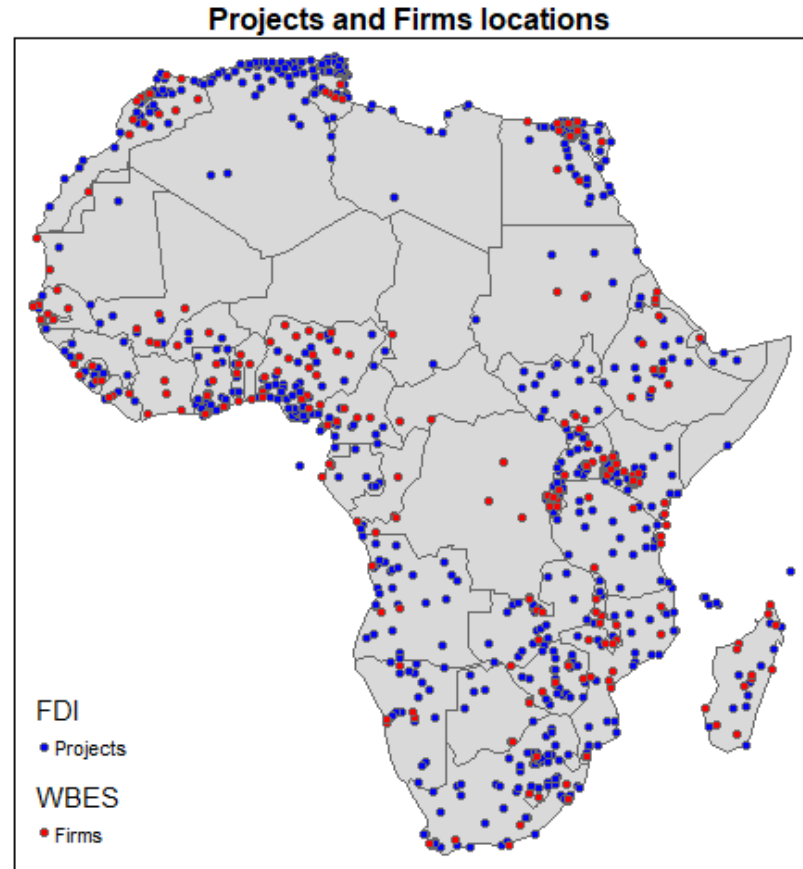


Self employment



Mechanisms: spillover effects of FDI on domestic firms

Map greenfield FDI & domestic firms in WB enterprise surveys



Identification strategy

- To deal with potential selection issues we divide domestic firms into three groups:
 1. those within 50km of an FDI project that started before a WBES wave (**active**);
 2. those within 50km from an FDI project that has **not yet** started but will start in a period following the survey year (**inactive**);
 3. those outside the cut-off distance from either an active or an inactive project (**control group**).
 - Focus on difference between estimated impact of entry of FDI for active and inactive firm locations on employment/productivity
 - Control for industry, location, time, country-year and firm characteristics (age, size)
 - Results suggest FDI is associated with higher sales and labor productivity of proximate domestic firms through backward linkages
-

Policy (research) questions – spillover/productivity channels

- Number employed as opposed to sectoral shares / types of occupations
- Measures to enhance skill levels given high skill services associated with development
- What type of services? Services input intensity, access to services and firm performance
- What type of FDI? Interdependencies between services activities and employment
- Support backward linkages:
 - Trade policy: access to imports (goods and services), exports (including indirect)
 - Manufacturing firms: FDI linkages positively related with tech transfer and innovation
 - Services firms: FDI linkages associated with certification and innovation