

Offshoring and Labor Demand: Questions, Research Strategies and Data Sources

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Introduction

- General question: how does offshoring – i.e. FDI and international outsourcing – affect wages and employment opportunities of different groups in a setting with imperfect labor markets
- Stylized facts suggest that (i) FDI grows faster than trade in goods and non-factor services and (ii) trade in intermediate inputs grows faster than trade in final goods
- Combining expanding literature on firm heterogeneity and firm level globalisation strategies with recently available micro data sets which link firm information to information on individual labor market and human capital characteristics promises new insights

This presentation

- Reviews briefly some interesting strands in the expanding literature on FDI and outsourcing and identifies some new research questions
- Outlines a research proposal to address these questions empirically
- Discusses potential data sources for implementing this proposal

The expanding theoretical literature

- During the last two decades, most empirical research on FDI has been motivated by the 'new trade' literature which explains FDI by the 'proximity concentration trade-off' ('horizontal FDI') and/or by differences in production costs ('vertical FDI') (e.g. Brainard 1993; Markusen/Venables, 1982)
- Based on 'new new trade' models a new literature evolved which considers firm heterogeneity with respect to productivity, fixed and variable export costs and fixed investment costs since the beginning of this decade (e.g. Helpman et al. 2004, Grossman et al. 2003, Sethupathy 2009; for reviews see: Helpman 2008; Greenaway/Kneller 2007)

The expanding theoretical literature (cont.)

- Recent models of this 'new new trade' theory start to consider imperfect labor markets with unemployment and heterogeneous workers
 - Search and matching models: Helpman et al. (2008), Mitra/Ranjan (2007, 2009), Felbermayr et al. (2008)
 - Bargaining models: Sethupathy (2009), Eckel/Egger (2009)
 - Efficiency wage and fairness models: Egger/Kreickemeier (2009)

Hypotheses for empirical research

- *Comparative advantage*: Heckscher-Ohlin type comparative advantage produces also Ricardian-type of comparative advantage in case of firm heterogeneity, which implies that firm size and productivity increase in comparative advantaged industries (Helpman et al. 2004, Bernard et al. 2007)
- *Increasing dispersion within industries*: If only the most productive industries conduct FDI and outsourcing, the productivity dispersion within industries increases (Helpman et al. 2004). *But*: if less productive firms conduct cost seeking FDI and outsourcing, it may also decrease (Head/Ries 2003).

Hypotheses for empirical research (cont.)

- *Trade increases inequality in wages and employment opportunities:* Increases in rich *and* poor countries in open compared to closed economies, since trade reallocates resources from low- to high productivity firms which pay higher wages and offer more job security (Helpman et al. 2008). This relationship is however non-monotonic since higher openness may reduce inequality if low-wage firms drops out.
- *Ambiguous effects of FDI/outsourcing on labor demand:* The net effects of FDI are likely to be ambiguous, since horizontal, vertical and complex forms of FDI prevail.
- *Dispersion within industries:* FDI and outsourcing is likely to have an ambiguous impact on the dispersion of wages and employment opportunities within industries.

Hypotheses for empirical research (cont.)

- *Labor turnover*: Offshoring and trade may trigger reallocation of resources between and within industries and, hence, increase rate of labor turnover.
- *Wage bargaining*: Offshoring affects bargaining position of workers, while bargaining outcomes affect also level of offshoring.
- *Trade in tasks*: Offshoring implies that international competition occurs between workers which perform similar tasks rather than between firms and sectors which produce similar goods (Baldwin 2006; Blinder 2006, Grossman/Rossi-Hansberg 2006).

Empirical literature: FDI

- New data sources allow to link firm level information with individual level information on labor market outcomes and human capital characteristics
- Approaches
 - Regressing labor market variables against FDI variables at firm or industry level (e.g. Slaughter 2000, Konings/Murphy 2006, Desai et al. 2007)
 - Applying propensity score matching methods for comparing FDI outcomes with non-FDI counterfactual (Barba Navaretti/Castellani 2004, Becker/Muendler 2008, Egger/Pfaffermeyer 2003, Jackle 2006)

Empirical literature: FDI (cont.)

- Findings: Ambiguous findings of FDI on labor demand in aggregate and individual level regression studies
 - Slaughter 2000, Desai et al. 2005, Brainard/Riker 1997, Konings/Murphy 2006, Harrison et al. 2007 on US; Braconier/Ekholm 2000, Blomström et al. 1997 on SWE, Castellani et al. 2008, Falzoni/Grassini 2005 on IT; Becker et al. 2005, Marin 2004 on DE
- Interestingly enough, propensity score matching studies suggest that FDI is either neutral or increases labor demand in investing compared to non-investing firms
 - Becker/Muendler 2008, Kleinert/Toubal 2007, Buch/Lipponer 2007 on DE, Barba Navaretti/Castellani 2004 on IT

Empirical literature: Outsourcing

- Outsourcing: General problem that reliable firm-level data on outsourcing are not available, such that most studies use industry level measures for outsourcing intensity
- These variables are either combined with aggregate (Feenstra/Hanson 1996; Hijzen et al., 2005, Geishecker, 2005) or individual level labor market data (Egger 2007, Geishecker 2007, Geishecker/Görg 2008, Geishecker et al. 2007)
- Findings: negative wage and employment effects for less skilled workers in US (Feenstra/Hanson 1996), for less skilled or even all workers in DE (Geishecker 2007, Geishecker/Görg 2007) and AT (Egger et al. 2007, Egger/Egger 2003)

Research proposal

- Addressing impact of FDI on wages and employment in a framework with firm heterogeneity and imperfect labor markets (search and matching or bargaining models)
- Analyses empirically how FDI does affect the distribution of wage differentials, employment opportunities and labor turnover (i) between firms within industries and (ii) between industries
- Consider to address also the 'trade in tasks' question by analysing the impact of FDI on wages and employment opportunities by tasks (occupations) compared to skills within firms
- Consider to cover also outsourcing (problem: data availability)

What data do we need?

- Addressing the question how FDI and outsourcing affects labor demand between firms and between industries requires firm and industry level information on FDI and outsourcing (incl. firm and industry control variables) and individual information on human capital characteristics and labor market outcomes (wage and employment spells)
- Problems: (i) linking firm-level information with individual information, (ii) accurate information on outsourcing is missing at firm level
- Addressing the question how offshoring affects trade in tasks requires appropriate classifications of occupations (Van Welsum/Vickory 2006, Mann 2005, Spitz 2004 for early attempts)

Potential data sources in Germany

- Deutsche Bundesbank collects information on FDI since 1976, scientific use file (MiDI) available since 1989 (since 1996 as panel data) includes beyond FDI information on employment, turnover, sector, etc.
- Has to be linked with other data sets which provide information on
 - non-FDI firm data sets and
 - complementary firm and individual information (e.g. ZEW Innovation Panel (Arnold/Hussinger 2006), Dafne/Bureau van Dijk (Buch/Lipponer 2007; Kleinert/Toubal 2007), "Unternehmensbilanzstatistik" of Bundesbank (Becker et al. 2005; Becker/Muendler 2006))

Potential data sources in Germany (cont.)

- Recently, Becker/Muendler (2008) generated a linked employer-employee data set by combining the FDI statistic of the Bundesbank with the quarterly employment statistic of the Federal Employment Services
- Kombi-FiD Project: Joint project of national and federal states statistical offices, Deutsche Bundesbank and IAB: Inter alia link between Bundesbank stock data on FDI (Bestandserhebung über ausländische Direktinvestitionen) with BHP ("Betriebs-Historik-Panel") of IAB, which entails detailed individual information on labor market and human capital characteristics (available \approx 2010)
- LIAB: Linked employer-employee data set based on IAB firm panel (Betriebspanel) with individual data derived from social security records