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Replication of Manuscript AER-2008-0062
"Margins of Multinational Labor Substitution"

The main two data sources of the paper *Margins of Multinational Labor Substitution* (AER-2008-0062) are confidential: the firm-level MiDi and Ustan databases from Deutsche Bundesbank in Frankfurt, Germany. The research center at Deutsche Bundesbank retains these confidential estimation data for immediate replication.

Beyond those two confidential data sources, we have posted all external data (in text or Stata formats), as well as data-preparation and estimation code in Stata 9.2 format, at URL *econ.ucsd.edu/muendler/replicate* to facilitate replication. The program files include a single master execution file for fly-by-night replication in a single call.

Access and Contact

The research center at Deutsche Bundesbank in Frankfurt, Germany, provides expeditious access to researchers of any nationality. All data are documented in German and English. Please contact the research director Dr. Heinz Herrmann, Wilhelm-Epstein-Str. 14, 60431 Frankfurt, Germany (Ph: +49 (69) 9566-2312, e-mail: *heinz.herrmann@bundesbank.de*).

File Extraction

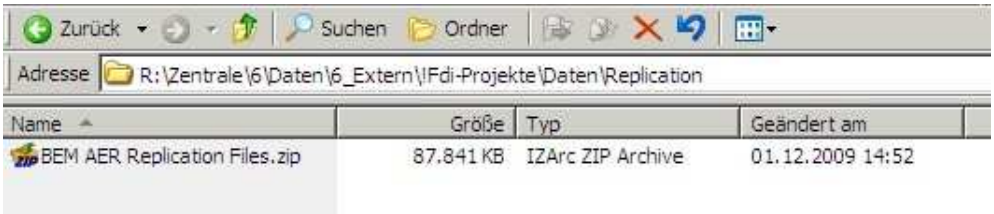
Create two directories and four subdirectories within your account:

```
/fdilabor/
/fdiselct/
/fdilabor/Xdata/
/fdilabor/Xmatch/
/fdilabor/Xustan/
/fdiselct/%stata/.
```

From the research center at Deutsche Bundesbank, ask for the archive

```
BEM AER Replication Files.zip
```

located in `R:/Zentrale/6/Daten/6_Extern/!Fdi-Projekte/Daten/Replication`.



The zip archive includes the following five confidential MiDi/Ustan files

```
./Xdata/affils-outwfdi96-01-eur-03mar2006.dta
./Xdata/undefl-outwfdi96-01-dem.dta
./Xmatch/affils-fdiall-ustan-96-01-eur-03mar2006.dta
./Xustan/ustan-compl-03mar2006.dta
./Xustan/ustan-fdi-match-wages-defl-15jun2009.dta,
```

(zipped Stata 9.2 format). Place these files in the according subdirectories

```
/fdilabor/Xdata/
/fdilabor/Xmatch/
/fdilabor/Xustan/
```

as created within your account. We constructed these five confidential MiDi/Ustan files from the pristine MiDi and Ustan databases for our paper.

Extract the Stata 9.2 program files from `fdiselct-stata.zip` to the subdirectory

```
/fdiselct/%stata/.
```

Extract the following auxiliary data files from `fdilabor-data-external.zip` (the available zip extraction program at Bundesbank should automatically create the directory structure) to

```
/fdilabor/conc/sector-conc-nace.dta
/fdilabor/conc/cntry2bemgrp.dta
/fdilabor/conc/direk-cntrylist.csv
/fdilabor/conc/fdi-iso-country.dta
/fdilabor/conc/land.do
/fdilabor/conc/nace2bem.dta
/fdilabor/conc/sec7ltr.do
/fdilabor/conc/secbem.do
/fdilabor/conc/secfix.csv
/fdilabor/conc/sector-conc-aggbem.dta
```

`/fdilabor/conc/sector-conc-bem.dta`

`/fdilabor/conc/sector-conc-nace.dta`

`/fdilabor/conc/unido-industries.csv`

`/fdilabor/countries/barro-lee-99-pwt-iso.dta`

`/fdilabor/countries/dist-deu.dta`

`/fdilabor/countries/extdata-deflated.dta`

`/fdilabor/wages/destatis-gearn-defl.dta`

`/fdilabor/wages/owwdata-country-`*yyyy*`.dta` (where *yyyy* in 1996 through 1999)

`/fdilabor/wages/swewages.dta`

`/fdilabor/wages/ubs-data-1996-2001-defl-interpolated.dta`

`/fdilabor/wages/unido-wages-defl-1996-2001.dta`

`/fdilabor/wages/union_sec_bem.dta`

`/fdilabor/trade/ger-impinp-exp-secbem-ctrygrp-2000.dta`

`/fdilabor/trade/mkt-access-impfillin-`*yyyy*`.dta` (where *yyyy* in 1996 through 2000).

Extract the Swedish auxiliary data files from `fdiselct-data-tex.zip` (the available zip extraction program at Bundesbank should automatically create the directory structure) to

`/fdiselct/tex/desc/wagediffs/swediffs-frmowwwage-1998.dta`

`/fdiselct/tex/desc/wagediffs/swediffs-frmubswage-1998.dta`

`/fdiselct/tex/desc/wagediffs/swediffs-frmunowage-1998.dta`

`/fdiselct/tex/desc/wagediffs/swediffs-frmowwwage-1998-cntrygrp.dta`

`/fdiselct/tex/desc/wagediffs/swediffs-frmubswage-1998-cntrygrp.dta`

`/fdiselct/tex/desc/wagediffs/swediffs-frmunowage-1998-cntrygrp.dta`

`/fdiselct/tex/desc/wagediffs/swediffs-frmunowage-1998-quartile-quarts.dta`

`/fdiselct/tex/desc/wagediffs/swediffs-frmunowage-1998-quarts.dta`.

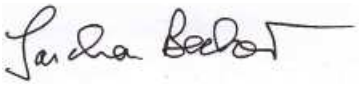
Program Execution

The master program file *%OrderOfPrograms-Selct-Germany.do* lists in the correct order all Stata 9.2 subprograms that need to be executed for complete replication. The master program file also documents, in remark lines, all input and output files that those subprograms use and create. (In addition, the master program file contains inactive program steps that optionally create background tables and graphs.)

The master program file *%OrderOfPrograms-Selct-Germany.do* is executable in Stata 9.2. It repeats the main data preparation steps for the paper, and fully replicates all statistical analysis. Run time is around 48 to 72 hours (exclusion of the cross validation programs *crossval-* and quasilikelihood information criterion programs *qic-* reduces run time by around 24 to 36 hours). We recommend the use of Stata 9.2 (also available at the research center at Deutsche Bundesbank). Stata 9.2 handles estimate posting in a way that our programs rely on.

Execute *%OrderOfPrograms-Selct-Germany.do.*

Marc-Andreas Muendler



Sascha O. Becker