

# Services Trade and Economic Integration Agreements

Jeffrey H. Bergstrand  
University of Notre Dame  
Notre Dame, Indiana, USA

May 24, 2014

Much of this presentation is based upon research with  
Mario Larch (University of Bayreuth, Germany) and  
Yoto Yotov (Drexel University, USA).

*“Without a doubt the most novel aspect of the Single Market Programme was its focus on capital mobility.”*

Richard Baldwin and Charles Wyplosz, *The Economics of European Integration*, 2006, p. 20

Goals:

I. Motivation for Services Trade Liberalization

II. Background on Services Trade, GATS, FSA, and Economic Integration Agreements (EIAs)

III. Determinants of Services Trade Flows

IV. Data

V. Some Empirical Results for Services EIAs

VI. The European Union's "Single Market"

VII. Conclusions

# I. Motivation for Services Trade Liberalization

Services trade liberalization can raise economic growth:

## 1. *Ex ante* Computable General Equilibrium (CGE) Model Estimates

a. Walmsley and Winters (2005) use a multi-region CGE model: expanding foreign service providers' access to OECD countries by 3 percent of labor force would create global welfare gains exceeding those of full liberalization of goods trade.

b. Konan and Maskus (2006) show for Tunisia using a CGE model that the reduction in cost-inefficiencies from greater competition in services can raise welfare by 6-8 percent. The large gains are due both to the relative importance of services and their degree of protection.

# I. Motivation for Services Trade Liberalization

## 2. *Ex post* Gravity-Based Approaches for Goods Trade

### a. Frankel and Romer (“Does Trade Cause Growth?”, *AER*, 1999) or F-R

F-R wanted to estimate the effect of goods trade on per capita incomes.

However, trade influences incomes, but also incomes influence trade. To isolate the exogenous portion of trade, F-R used gravity equations (determined by distance, etc.) to predict trade flows, and then use the predicted trade flows – alongside factors such as population and land area – to explain per capita incomes.

Trade has a larger effect on per capita incomes using their approach over traditional regression.

# I. Motivation for Services Trade Liberalization

## 2. *Ex post* Gravity-Based Approach for Goods Trade

### b. Badinger (“Trade Policy and Productivity,” *EER*, 2008)

Badinger also accounted for the independent role of EIAs in influencing trade alongside geographic (gravity) variables and found that trade policy did influence the openness of countries to trade and their productivity.

## II. Background on Services Trade, GATS, FSA, and Economic Integration Agreements

A. Liberalization under General Agreement on Trade in Services (GATS), entered into force in 1995

1. GATS main considerations, in principle:

a. Positive-list approach, implying sectors must be included for market access and national treatment (unless specific measures are exempted).

b. Countries have freedom to restrict market access or national treatment (by writing “unbound”).

2. Hoekman (“Liberalizing Trade in Services: A Survey,” 2006):  
“... coverage of sector-specific commitments on national treatment and market access is limited, and that the GATS effectively was limited to partial ‘locking-in’ of policies that had already been implemented by members on a unilateral basis. That is, the Uruguay Round did not deliver any actual liberalization.” (pp. 33).



## II. Background on Services Trade, GATS, FSA, and Economic Integration Agreements

B. The WTO's Financial Services Agreement (FSA), entered into force in 1999

1. FSA main considerations, in principle:

a. Freer cross-border trade in financial services.

b. Fuller market access.

c. Greater capital account liberalization of capital flows.

2. Dobson and Jacquet (“Financial Services Liberalization in the WTO,” 1998): “For the most part, the FSA simply formalizes the status quo. Commitments made by countries that are members of the OECD do little to further open the market.... With a few important exceptions, the significant emerging-market economies offer little new access to their often-underdeveloped banking sectors....” (p. 2).

## II. Background on Services Trade, GATS, FSA, and Economic Integration Agreements

### C. Economic Integration Agreements and Services Trade

#### 1. Differences of EIAs versus GATS

- a. In many EIAs, market access and national treatment are general obligations, which is not so in GATS.
- b. EIAs tend to use a negative list approach, while GATS uses a positive list approach.

## II. Background on Services Trade, GATS, FSA, and Economic Integration Agreements

### 2. Conclusions of Several Surveys of Services EIAs Coverage

a. Hoekman and Sauve (1994) surveyed the coverage of early services EIAs and concluded that there was not much evidence that EIAs – outside of the EU – went significantly beyond what was negotiated in the GATS in the early 1990s.

b. Roy, Marchetti and Lim (2006) surveyed the coverage of more recent services EIAs and concluded that more recent EIAs tend to have greater sector coverage than that in the GATS.

c. Stephenson (2002) surveyed the coverage of more recent services EIAs and concluded that more recent ones provide more market access for partners' service providers.


In the end, it is an empirical question.

### III. Determinants of Services Trade Flows

Arkolokis, Costinot and Rodriguez-Clare (2012) show, for instance, that the Melitz model yields a theoretical gravity equation of the form:

$$X_{ijt}^m = N_{it}^m Y_{jt}^m \left( \frac{(a_{Lit}^m)^{-\gamma^m} w_{it}^{-\gamma^m} \tau_{ijt}^{-\gamma^m} f_{ijt}^{-[\gamma^m/(\sigma^m-1)-1]}}{\sum_{k=1}^K N_{kt}^m (a_{Lkt}^m)^{-\gamma^m} w_{kt}^{-\gamma^m} \tau_{kjt}^{-\gamma^m} f_{kjt}^{-[\gamma^m/(\sigma^m-1)-1]}} \right) \quad (1)$$

where  $X_{ijt}^m$  is the trade flow from exporter  $i$  to importer  $j$  in year  $t$  in industry  $m$ ,  $N_{it}^m$  is the number of firms in  $i$  (exporting and non-exporting) that produce (differentiated) products in good  $m$ ,  $Y_{jt}^m$  is the expenditure in  $j$  on good  $m$ ,  $a_{Lit}^m$  is the (inverse of the) lower bound of the Pareto distribution of productivities in  $m$  in  $i$ ,  $\gamma^m$  is an index of productivity heterogeneity among firms in good  $m$ ,  $w_{it}$  is the wage rate in  $i$ ,  $\tau_{ijt}$  is variable trade costs of country  $i$ 's products into  $j$ ,  $f_{ijt}$  is fixed export costs from  $i$  to  $j$ ,  $\sigma^m$  is the elasticity of substitution in consumption, and  $\gamma^m > \sigma^m - 1$ .<sup>1</sup>

<sup>1</sup>We assume the case where fixed export costs are paid by importers. 

### III. Determinants of Services Trade Flows

Note that the term in large parentheses is a standard representation of relative prices in the gravity equation, but now also reflecting productivity heterogeneity (through  $\gamma^m$ ) and fixed exporting costs ( $f_{ijt}$ ).

In the context of these models, variable trade costs,  $\tau_{ijt}$ , affect  $X_{ij,t}^m$  via both the intensive and extensive margins, but fixed export costs,  $f_{ijt}$ , affect trade via the extensive margin only.

As Chaney (2008) demonstrates in one Melitz-type model,  $\gamma^m = (\sigma^m - 1) + [\gamma^m - (\sigma^m - 1)]$ , where  $\sigma^m - 1$  represents the intensive-margin elasticity of variable trade costs whereas  $\gamma^m - (\sigma^m - 1)$  is the extensive-margin elasticity of variable trade costs.

### III. Determinants of Services Trade Flows

Because we are interested in the influence of  $\tau_{ijt}$  and  $f_{ijt}$  on trade flows, ignoring zero trade flows (henceforth, “zeros” for short) a useful log-linear version of equation (1) is:

$$X_{ijt} = \beta_0 + \beta_1 \ln \tau_{ijt} + \beta_2 \ln f_{ijt} + \eta_{it} + \theta_{jt} + \varepsilon_{ijt}, \quad (2)$$

where  $\eta_{it}$  and  $\theta_{jt}$  are exporter-year and importer-year fixed effects, respectively, and  $\varepsilon_{ijt}$  is a log-normally distributed error term.

However, are  $\tau_{ijt}$  and  $f_{ijt}$  *measurable*?

# III. Determinants of Services Trade Flows

## Empirical Specifications

Since measures of  $\tau_{ijt}$  are poor and measures of  $f_{ijt}$  are non-existent for large numbers of country-pairs, researchers have typically estimated:

$$X_{ij,t} = \beta_0 + \beta_1 EIA_{ijt} + \beta_2 \ln DIST_{ij} + \beta_3 BRDR_{ij} + \beta_4 LANG_{ij} + \beta_5 CLNY_{ij} + \eta_{it} + \theta_{jt} + \varepsilon_{ijt}, \quad (3)$$

where  $EIA_{ijt}$  is an indicator variable that takes a value of one if at time  $t$  if countries  $i$  and  $j$  are members of the same economic integration agreement (EIA) and zero otherwise,  $DIST_{ij}$  is the logarithm of bilateral distance between trading partners  $i$  and  $j$ ,  $BRDR_{ij}$  takes a value of one when two countries share a common border and zero otherwise, and  $LANG_{ij}$  and  $CLNY_{ij}$  are dummy variables capturing common language and colonial ties, respectively.

### III. Determinants of Services Trade Flows

Given the problems associated with accounting for endogeneity of EIAs using instrumental variables and cross-section data, Baier and Bergstrand (*JIE*, 2007), or BB, argued that a better approach to eliminate endogeneity bias of EIAs is to use panel techniques. In the context of the theory and endogenous self-selection of country pairs into EIAs, BB argued that one method to obtain consistent estimates of the partial effect of EIAs is by fixed effects estimation of:

$$\ln X_{ijt} = \beta_0 + \beta_1 EIA_{ijt} + \psi_{ij} + \eta_{it} + \theta_{jt} + \varepsilon_{ijt}, \quad (4)$$

where  $\psi_{ij}$  is a country-pair fixed effect to capture all time-invariant unobservable bilateral factors influencing nominal trade flows and  $\eta_{it}$  and  $\theta_{jt}$  are the exporter-time and importer-time fixed effects, respectively. We refer to this as the fixed-effects (FE) specification.



# IV. Data

## 1. Services Trade Flows

Joe Francois and Olga Pindyuk, Trade in Services Database (TSD) version 8.8 (May 2013) (Described in “Consolidated Data on International Trade in Services v8.8,” May 2013).

Annual data in millions of US dollars from 1981-2009. We use every 3 years from 1985-2009.

248 reporting countries and partners, but extensive number of “zero” trade flows. For now, zero trade flows are ignored; working on PQML.

This data covers Modes 1 and 2 of services trade:

Mode 1 – Cross-border: services supplied from one territory to another with no movement of producer or consumer.

Mode 2 – Consumption abroad: consumer travels from one territory to another to consume.

11 disaggregated categories.

## 2. Economic Integration Agreement (EIA) database

Data on services trade agreements, goods trade agreements, and agreements on goods and services was collected from the World Trade Organization (WTO) website and dummy variables constructed.

## 3. Other Data

We used the *CEPII* database to collect data on bilateral distances and dummy variables for common language, adjacency, and common colonial history.

Table : Services Industries

ID	EBOPS	DESCRIPTION	LABEL
1	205	Transportation	TRNSP
2	236	Travel	TRAVL
3	245	Communications services	CMNCN
4	249	Construction services	CNSTR
5	253	Insurance services	INSRC
6	260	Financial services	FNNCE
7	262	Computer and information services	CMPTR
8	266	Royalties and license fees	LCNCE
9	268	Other business services	OTHER
10	287	Personal, cultural, and recreational services	PRSNL
11	291	Government services, n.i.e.	GOVMT

# V. Empirical Results

Table : 2A, Gravity

	(1)	(2)	(3)	(4)	(5)	(6)
	TRNSP	TRAVL	CMNCN	CNSRT	INSRC	FNNCE
DIST	-1.306 (0.071)**	-1.361 (0.064)**	-1.297 (0.063)**	-0.997 (0.090)**	-0.989 (0.088)**	-1.100 (0.090)**
BRDR	0.569 (0.178)**	0.825 (0.165)**	0.667 (0.151)**	0.742 (0.201)**	0.419 (0.165)*	0.351 (0.192)+
LANG	-0.040 (0.166)	0.468 (0.153)**	-0.187 (0.162)	-0.347 (0.211)+	0.633 (0.185)**	0.273 (0.177)
CLNY	0.522 (0.164)**	0.516 (0.165)**	0.315 (0.158)*	0.184 (0.195)	0.236 (0.169)	0.162 (0.203)
Constant	10.980 (1.036)**	11.846 (1.175)**	11.899 (0.539)**	6.859 (0.970)**	6.650 (0.841)**	5.615 (1.090)**
<i>N</i>	6219	6026	4390	3758	3676	3980
R2	0.790	0.849	0.778	0.634	0.731	0.732
LL	-9463.403	-8238.126	-6161.339	-6359.959	-5672.123	-6539.417

Standard errors in parentheses

+  $p < 0.10$ , \*  $p < .05$ , \*\*  $p < .01$

# V. Empirical Results

Table : 2B, Gravity

	(1)	(2)	(3)	(4)	(5)
	CMPTR	LCNCE	OTHER	PRSNL	GOVMT
DIST	-0.973 (0.073)**	-0.745 (0.080)**	-1.240 (0.064)**	-0.871 (0.068)**	-0.688 (0.062)**
BRDR	0.503 (0.152)**	0.432 (0.171)*	0.265 (0.162)	0.484 (0.174)**	-0.001 (0.123)
LANG	0.128 (0.154)	0.125 (0.181)	0.033 (0.141)	0.611 (0.158)**	0.096 (0.171)
CLNY	0.174 (0.194)	0.368 (0.151)*	0.338 (0.162)*	0.238 (0.161)	0.298 (0.167)+
Constant	10.203 (0.996)**	7.589 (0.877)**	11.727 (0.712)**	8.716 (0.615)**	0.569 (0.880)
<i>N</i>	4183	3592	6101	4121	4055
R2	0.762	0.770	0.802	0.703	0.711
LL	-6340.796	-5761.897	-9347.022	-6413.927	-5642.321

Standard errors in parentheses

+  $p < 0.10$ , \*  $p < .05$ , \*\*  $p < .01$

# V. Empirical Results

Table : 3A, All Services EIAs

	(1)	(2)	(3)	(4)	(5)	(6)
	TRNSP	TRAVL	CMNCN	CNSRT	INSRC	FNNCE
ALL_SERVS_EIAS	-0.199 (0.117)+	0.005 (0.119)	-0.038 (0.134)	-0.043 (0.184)	0.013 (0.181)	-0.326 (0.154)*
DIST	-1.351 (0.076)**	-1.360 (0.072)**	-1.307 (0.075)**	-1.007 (0.098)**	-0.985 (0.102)**	-1.186 (0.104)**
BRDR	0.532 (0.178)**	0.826 (0.168)**	0.659 (0.151)**	0.734 (0.198)**	0.421 (0.171)*	0.284 (0.194)
LANG	-0.016 (0.168)	0.467 (0.155)**	-0.183 (0.163)	-0.340 (0.211)	0.632 (0.188)**	0.300 (0.178)+
CLNY	0.496 (0.163)**	0.517 (0.165)**	0.312 (0.160)+	0.179 (0.196)	0.237 (0.172)	0.119 (0.202)
Constant	11.222 (1.014)**	11.839 (1.189)**	11.962 (0.606)**	6.959 (1.021)**	6.622 (0.948)**	6.115 (1.093)**
<i>N</i>	6219	6026	4390	3758	3676	3980
R2	0.790	0.849	0.778	0.634	0.731	0.732
LL	-9458.960	-8238.122	-6161.208	-6359.878	-5672.114	-6534.148

Standard errors in parentheses

+  $p < 0.10$ , \*  $p < .05$ , \*\*  $p < .01$

# V. Empirical Results

Table : 3B, All Services EIAS

	(1)	(2)	(3)	(4)	(5)
	CMPTR	LCNCE	OTHER	PRSNL	GOVMT
ALL_SERVS_EIAS	-0.022 (0.131)	-0.195 (0.164)	-0.277 (0.116)*	0.022 (0.131)	-0.050 (0.134)
DIST	-0.979 (0.083)**	-0.798 (0.091)**	-1.310 (0.071)**	-0.865 (0.082)**	-0.701 (0.061)**
BRDR	0.499 (0.153)**	0.389 (0.169)*	0.208 (0.162)	0.489 (0.175)**	-0.011 (0.124)
LANG	0.131 (0.155)	0.155 (0.185)	0.057 (0.143)	0.608 (0.159)**	0.101 (0.173)
CLNY	0.172 (0.195)	0.339 (0.154)*	0.302 (0.162)+	0.241 (0.164)	0.293 (0.168)+
Constant	10.248 (1.022)**	7.744 (0.864)**	12.393 (0.746)**	8.663 (0.740)**	2.249 (0.944)*
<i>N</i>	4183	3592	6101	4121	4055
R2	0.762	0.771	0.802	0.703	0.711
LL	-6340.759	-5760.165	-9338.171	-6413.895	-5642.125

Standard errors in parentheses

+  $p < 0.10$ , \*  $p < .05$ , \*\*  $p < .01$

# V. Empirical Results

Table : 4A, All Services EIAs

	(1)	(2)	(3)	(4)	(5)	(6)
	TRNSP	TRAVL	CMNCN	CNSRT	INSRC	FNNCE
ALL_SERVS_EIAS	-0.188 (0.091)*	0.085 (0.081)	0.008 (0.117)	0.175 (0.193)	0.256 (0.158)	0.306 (0.151)*
Constant	2.274 (0.071)**	2.633 (0.108)**	0.788 (0.191)**	0.915 (0.371)*	0.629 (0.111)**	0.648 (0.173)**
<i>N</i>	6219	6026	4390	3758	3676	3980
R2	0.414	0.517	0.465	0.311	0.371	0.375
LL	-5455.500	-4005.506	-3652.933	-4457.652	-3705.320	-4360.622

Standard errors in parentheses

+  $p < 0.10$ , \*  $p < .05$ , \*\*  $p < .01$



# V. Empirical Results

Table : 4B, All Services EIAs

	(1)	(2)	(3)	(4)	(5)
	CMPTR	LCNCE	OTHER	PRSNL	GOVMT
ALL_SERVS_EIAS	-0.045 (0.123)	0.286 (0.166)+	-0.188 (0.094)*	0.108 (0.144)	-0.011 (0.149)
Constant	-0.235 (0.231)	0.551 (0.148)**	2.579 (0.083)**	-0.651 (0.164)**	-0.489 (0.236)*
<i>N</i>	4183	3592	6101	4121	4055
R2	0.516	0.395	0.506	0.326	0.343
LL	-3998.793	-3739.278	-6068.841	-4201.772	-3693.627

Standard errors in parentheses

+  $p < 0.10$ , \*  $p < .05$ , \*\*  $p < .01$

# VI. The EU's Single Market

Table : 5A, EU

	(1)	(2)	(3)	(4)	(5)	(6)
	TRNSP	TRAVL	CMNCN	CNSRT	INSRC	FNNCE
EU	0.289 (0.078)**	0.415 (0.072)**	0.296 (0.094)**	0.286 (0.194)	-0.096 (0.156)	0.478 (0.140)**
Constant	2.531 (0.075)**	2.544 (0.092)**	0.360 (0.279)	1.963 (0.401)**	1.024 (0.108)**	0.614 (0.118)**
<i>N</i>	6219	6026	4390	3758	3676	3980
R2	0.415	0.522	0.467	0.312	0.370	0.377
LL	-5448.401	-3973.011	-3644.656	-4455.950	-3707.364	-4354.355

Standard errors in parentheses

+  $p < 0.10$ , \*  $p < .05$ , \*\*  $p < .01$

# VI. The EU's Single Market

Table : 5B, EU

	(1)	(2)	(3)	(4)	(5)
	CMPTR	LCNCE	OTHER	PRSNL	GOVMT
EU	0.298 (0.118)*	0.009 (0.147)	0.159 (0.091)+	0.217 (0.130)+	0.048 (0.131)
Constant	0.030 (0.106)	1.223 (0.098)**	2.634 (0.114)**	-0.493 (0.137)**	-0.854 (0.301)**
<i>N</i>	4183	3592	6101	4121	4055
R2	0.517	0.394	0.506	0.327	0.343
LL	-3992.709	-3742.134	-6069.939	-4199.788	-3693.489

Standard errors in parentheses

+  $p < 0.10$ , \*  $p < .05$ , \*\*  $p < .01$

# VI. The EU's Single Market

Table : 6A, EU and Non-EU EIAs

	(1)	(2)	(3)	(4)	(5)	(6)
	TRNSP	TRAVL	CMNCN	CNSRT	INSRC	FNNCE
EU	0.110 (0.123)	0.537 (0.106)**	0.351 (0.156)*	0.581 (0.299)+	0.177 (0.224)	0.855 (0.198)**
ALL_Non-EU_SERVS_EIAS	-0.167 (0.091)+	0.115 (0.080)	0.050 (0.117)	0.247 (0.195)	0.248 (0.158)	0.349 (0.149)*
Constant	2.370 (0.065)**	2.432 (0.133)**	0.324 (0.215)	1.448 (0.397)**	1.254 (0.104)**	0.307 (0.210)
N	6219	6026	4390	3758	3676	3980
R2	0.416	0.522	0.467	0.312	0.371	0.378
LL	-5444.826	-3970.602	-3644.452	-4454.235	-3705.115	-4349.405

Standard errors in parentheses

+  $p < 0.10$ , \*  $p < .05$ , \*\*  $p < .01$

# VI. The EU's Single Market

Table : 6B, EU and Non-EU EIAs

	(1)	(2)	(3)	(4)	(5)
	CMPTR	LCNCE	OTHER	PRSNL	GOVMT
EU	0.288 (0.187)	0.334 (0.243)	-0.032 (0.146)	0.349 (0.192)+	0.044 (0.194)
ALL_Non-EU_SERVS_EIAS	-0.009 (0.124)	0.292 (0.168)+	-0.177 (0.096)+	0.124 (0.145)	-0.003 (0.147)
Constant	-0.434 (0.269)	1.008 (0.129)**	2.636 (0.112)**	-0.527 (0.148)**	-0.302 (0.185)
<i>N</i>	4183	3592	6101	4121	4055
R2	0.517	0.395	0.506	0.327	0.343
LL	-3992.704	-3739.206	-6066.746	-4199.101	-3693.489

Standard errors in parentheses

+  $p < 0.10$ , \*  $p < .05$ , \*\*  $p < .01$

# VII. Conclusions

## Conclusions:

1. Consistent with anecdotal observations, most EIAs have had little substantive direct effects on services trade flows among members.
2. The sector where EIAs have apparently had strong impacts on trade is Financial Services. Many of these are cross-border Mode 1 services that are readily “tradable.” Two other sectors with modest EIA impacts are Insurance Services and Royalties and License Fees.
3. By contrast, liberalization in the EU’s Single Market has had an economically significant effect on services trade in *many* sectors, notably, Travel, Communications Services, Construction Services, Financial Services, and Personal, Cultural, and Recreational Services – with the largest direct effect on Financial Services.
4. For Turkey perhaps, liberalization in Financial Services via EIAs may be a useful path for raising the country’s trade with partners and increasing standards of living.