OFFICE OF ECONOMICS RESEARCH NOTE

U.S. INTERNATIONAL TRADE COMMISSION

EU-US Economic Linkages:
The Role of Multinationals and Intra-Firm Trade

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November 2013

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ABSTRACT

EU-US economic relations go beyond that of traditional trade ties. Multinational companies and their affiliates abroad do not only represent vital elements of each other's domestic economy but are also major determinants of the movement of goods and capital across borders. In the light of the ongoing Transatlantic Trade and Investment Partnership (TTIP) negotiations it becomes increasingly important to consider the impact of a given trade policy change on traditionally over-looked economic variables such as foreign affiliate output, value added and intra-firm trade.

The goal of this paper is two-fold. First, we provide a comparative overview of multinational companies on the two sides of the Atlantic exploring data on production, value added, employment and intra-firm trade. Second, we consider the determinants of arm's length versus related party EU-US trade. Our findings suggest that EU-US arm's length trade is found to be relatively more supply driven (GDP of the exporter matters more) while conversely related party trade is relatively more demand driven (GDP of the importer matters more). Surprisingly, our results also show that related party trade is more sensitive to changes in tariffs than arm's length trade.

EXECUTIVE SUMMARY

- US affiliates in the EU account for about 13% of EU GDP (sales of $2.1 trillion) while EU affiliates in the US represent 11% of US GDP (sales of $1.6 trillion).

- Trade between affiliates on the two sides of the Atlantic accounted for 47% ($172 billion) of total EU-US merchandise trade in 2002 and increased to 50% ($307 billion) by 2012.

- The pressure of intra-firm imports on US trade deficit with the EU increased overtime accounting for 93% of total deficit in 2002 and 114% in 2012.

- Related party trade is found to be more sensitive to tariffs than arm's length trade: given a 1% decrease in tariffs between the US and EU, related party imports will increase 4.8% more than arm's length imports.

- EU-US arm's length trade[2] is found to be relatively more supply driven (GDP of the exporter matters more) while conversely related party trade is relatively more demand driven (GDP of the importer matters more).

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- US-EU related party trade is relatively more intensive in intermediates and capital goods than arm's length trade, after controlling for other factors.

FOREIGN AFFILIATES IN THE TRANSATLANTIC ECONOMIES

Affiliates of EU and US companies abroad are essential components of the transatlantic economy. On the one hand, US affiliates in the EU accounted for about 13% of EU GDP (sales of $2.1 trillion), employing 3.8 million people with compensations of $5,364/month/employee in 2010. On the other hand, EU affiliates located in the US represented approximately 11% of US GDP (sales of $1.6 trillion), employing 3.1 million people with compensations of $6,292/month/employee in 2010.

EU FDI stocks in the US amounted to $1.5 trillion in 2010 accounting for 64% of total US inward FDI while US FDI stocks in the EU were $1.8 trillion adding up to 46% of total extra-EU inward FDI.

**Table 1: Foreign affiliates in the EU and US (2010, $ billion)**

	US affiliates in EU	EU affiliates in the US
FDI stocks	1835	1458
Total assets	10547	7065
Sales	2107	1620
Exports	n.a.	119
to the parent group	52	63
Imports	n.a.	216
from the parent group	43	140
Total value added	503	377
Compensation of employees	242	237
Gross property, plant, and equipment	351	833
R&D expenditures	23	22
Number of employees ('000s)	3761	3144
Net income	511	63

Source: BEA Majority Owned Affiliates (bank and non-bank) data

Overall, EU affiliates in the US tend to be more labour intensive (62% of total value added) and also spend more on R&D relative to sales compared to US affiliates located in the EU. Interestingly, we find that the value added to sales ratio is on average relatively low, around 23%, for both US affiliates and EU affiliates. The net income to sales ratio is significantly higher for US affiliates in the EU, 24%, compared to only 3% for EU affiliates in the US. Finally, the low exports to sales ratio indicates that transatlantic affiliates are horizontally organized: exports to the parent group accounted for 2.5% and 3.9% of total

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[2] Arm's length trade is defined as trade between unrelated parties. The concepts of intra-firm and related party trade are used interchangeably in this paper. Related party trade data is collected by the US Census Bureau based on customs declarations and intra-firm trade data is collected by the Bureau of Economic Analysis based on surveys of multinational companies. Overall, the Census definition of related party trade is broader than the BEA's intra-firm trade as it captures not only transactions between companies but affiliates persons as well (Ruhl, 2013).

Figure 1: US-EU Related Party Merchandise Trade (% of total)
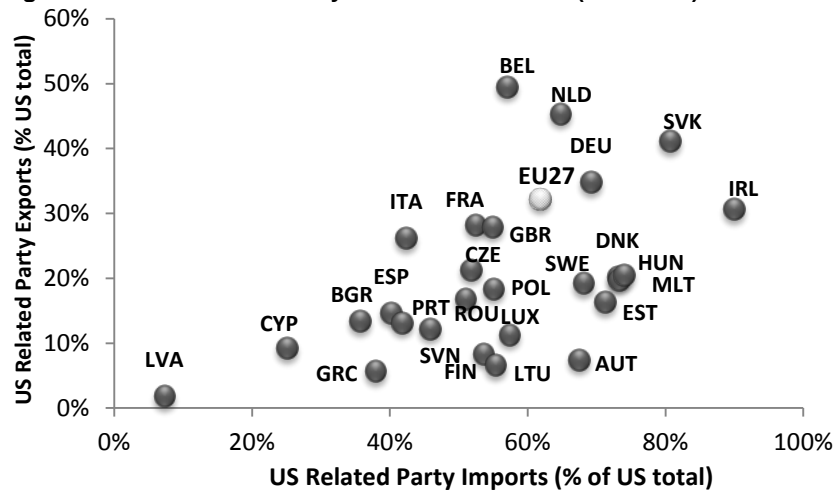
Source: US Census Bureau, Related-Party Trade Database

Figure 2: US-EU Balance of Trade ($ billion, merchandise only)
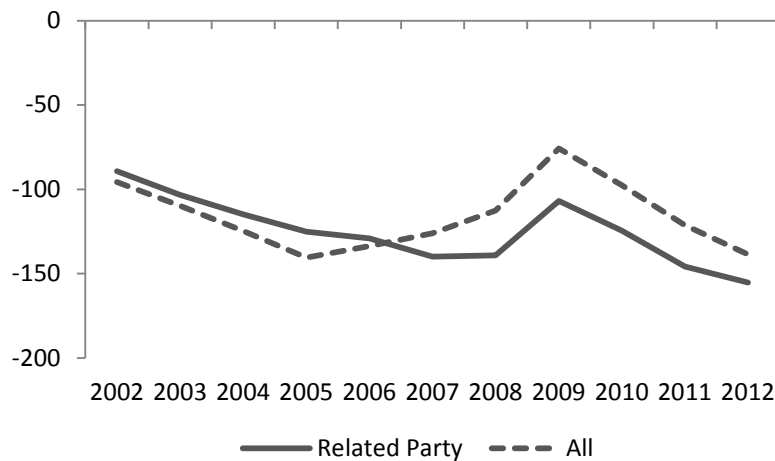
Source: US Census Bureau, Related-Party Trade Database

sales while imports of affiliates were 2% and 8.6% of total sales for US affiliates and EU affiliates, respectively.

50% ($307 billion) by 2012[3]. As highlighted in Figure 1, US related party exports represent 32% of total US exports to the EU ($76 billion) while related party imports were 62% of total US imports from the EU ($231 billion). There is significant variation at the member state level, with Ireland and Slovakia being on one extreme with the highest shares of related party trade in total trade while Latvia and Cyprus on the other extreme.

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[3] Shares here do not take into account non-reported trade.

Furthermore, we note that while the share of related party exports in total US exports remained relatively stable over the period 2002-2012 (31%), the share of related party imports increased from 57% to 62%. US related party merchandise trade deficit with the EU amounted to $155 billion, about $20 billion larger than overall merchandise trade deficit. As shown in Figure 2, the pressure of related party imports on US trade deficit with the EU increased overtime accounting for 93% of total deficit in 2002 and 114% in 2012.

US AFFILIATES IN THE EU

The EU is an important destination for US affiliates with sales of $2.1 trillion adding up to 13% of EU GDP in 2010. US affiliates in the EU represent about 41% of sales and value added of all US affiliates abroad, 57% of R&D expenditures, and 34% of employees and 49% of total FDI stocks. Among member states, the most significant destinations of FDI are the Netherlands, Great Britain and Luxembourg with 28%, 27% and 15% of US FDI stocks in the EU. As pointed out in Fukui and Lakatos (2012) however, FDI is a biased measure of the activity of foreign affiliates – accordingly, we find that in terms of sales Great Britain, Germany and Ireland account for 28%, 15% and 12% of sales of US affiliates in the EU, respectively.

A further look at the EU member state level reveals interesting patterns. US affiliates in Sweden, Netherlands and France tend to be relatively more labour intensive than in other EU member states. US affiliates in Germany, Finland and Belgium spend relatively more on R&D (compared to sales). For further details see Table 3.

An overall 24% net income to sales ratio covers a lot of heterogeneity across member states with the highest ones in Luxembourg (354%), Netherland (78%) and Denmark (51%) and the lowest one in Slovakia (1.3%) and Italy (2.5%).

While overall, exports of US affiliates to their parent companies account for only for 2.5% of their sales, we find that Ireland is an outlier with 10% and on the other extreme US affiliates in Greece export virtually none of their sales back to their parents in the US. In terms of imports from their parent companies, US affiliates in Netherland and Belgium are on the higher end with 4.4% and 3.4% of sales, respectively while US affiliates in Finland and Czech Republic are on the lower end with virtually no recorded imports from their parent companies.

US foreign affiliates in the EU are concentrated in a few sectors such are Wholesale trade, Chemicals, Finance & Insurance accounting for 21%, 10% and 9% of total sales in the EU, respectively (see Table 4).

Finally, we find that US affiliates in sectors such as Machinery and Electrical equipment tend to export relatively more to their parent companies in the US with 7.2% and 5.1% of total sales, while affiliates in Machinery and Wholesale trade imported more from their parent companies with 4.8% and 3.9% relative to sales in 2010.

EU AFFILIATES IN THE US

EU affiliates are significant part of the US economy with sales of $1.6 trillion accounting for 11% of US GDP in 2010. EU affiliates also generate 57% of value added of all foreign affiliates in the US, employ more than 3.1 million workers (58% of total) and account for 64% of FDI stocks and 59% of total assets of all foreign affiliates in the US (see Table 6).

Affiliates of British, German, French and Dutch multinationals have the most significant presence in the US market with 32%, 21%, 19% and 13% of total sales of all EU affiliates.

Affiliates of Finnish and Danish multinationals allocate more on R&D (relative to sales) than affiliates of other EU member states. While, the overall net income to sales ratio is on average 4.3% for EU affiliates in the US, we find that affiliates of Slovakian, Irish and Austrian multinationals suffered a negative net income in 2010.

As in the case of US affiliates in the EU, the exports to sales ratio of EU affiliates in the US is relatively low. Overall exports to sales ratio is 7.3% while exports to the parent group account for 3.7% of sales. Affiliates of Swedish and Finnish multinationals export relatively more, 12% and 10% of sales. On the other hand, EU affiliates in the US tend to import relatively more than they export as imports add up to 13% of sales, with 9% originating from their parent companies.

Regarding the sectoral distribution of EU affiliates in the US, we find that these are mostly concentrated in Other industries (21%), Finance and Insurance (17%) and Chemicals (10%) in terms of FDI stocks[4]. For more details see Table 5.

TRANSATLANTIC RELATED PARTY TRADE

Trade between related parties[5] accounted for 47% ($172 billion) of total EU-US merchandise trade in 2002 and increased to 50% ($307 billion) by 2012. US related party exports represent 32% of total US exports to the EU ($76 billion) while related party imports 62% of total US imports from the EU ($231 billion). There is however significant variation at the EU member state level. For instance, US related party imports account for 90% of imports from Ireland and 81% of imports from Slovakia but only 7% of imports from Latvia. On the other hand, the share of US related party exports is highest with countries like Belgium (50%) and the Netherlands (45%) and significantly lower with Latvia (2%), Greece (6%) and Austria (7%).

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[4] Data regarding EU affiliates by sector is more sparse as far as other indicators are concerned.

[5] The concepts of intra-firm and related party trade are used interchangeably in this paper. Related party trade data is collected by the US Census Bureau based on customs declarations and intra-firm trade data is collected by the Bureau of Economic Analysis based on surveys of multinational companies. Overall, the Census definition of related party trade is broader than the BEA's intra-firm trade as it captures not only transactions between companies but affiliates persons as well (Ruhl, 2013).

Figure 3 Decomposition of US imports from EU 27 ($ billion, merchandise only)

US related party imports from EU

US arm's lenght imports from EU

:·: Capital goods ⸜ Final goods ▦ Intermediates

:·: Capital goods ⸜ Final goods ▦ Intermediates
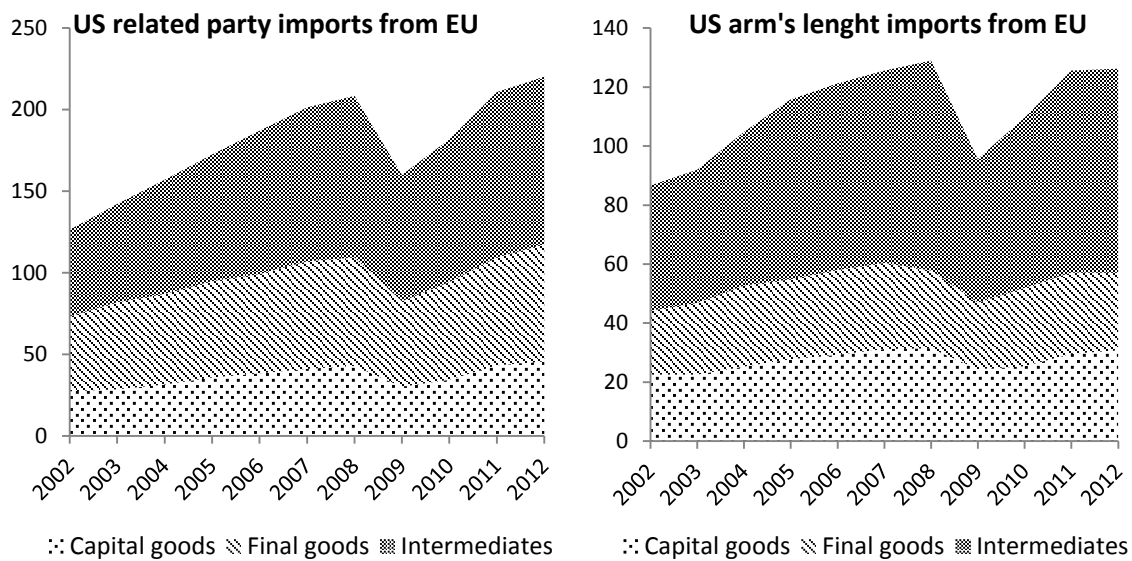
Source: US Census Bureau, Related-Party Trade Database

Figure 3 Decomposition of US exports to EU ($ billion, merchandise only)

US related party exports to EU

US arm's lenght exports to EU

:·: Capital goods ⸜ Final goods ▦ Intermediates

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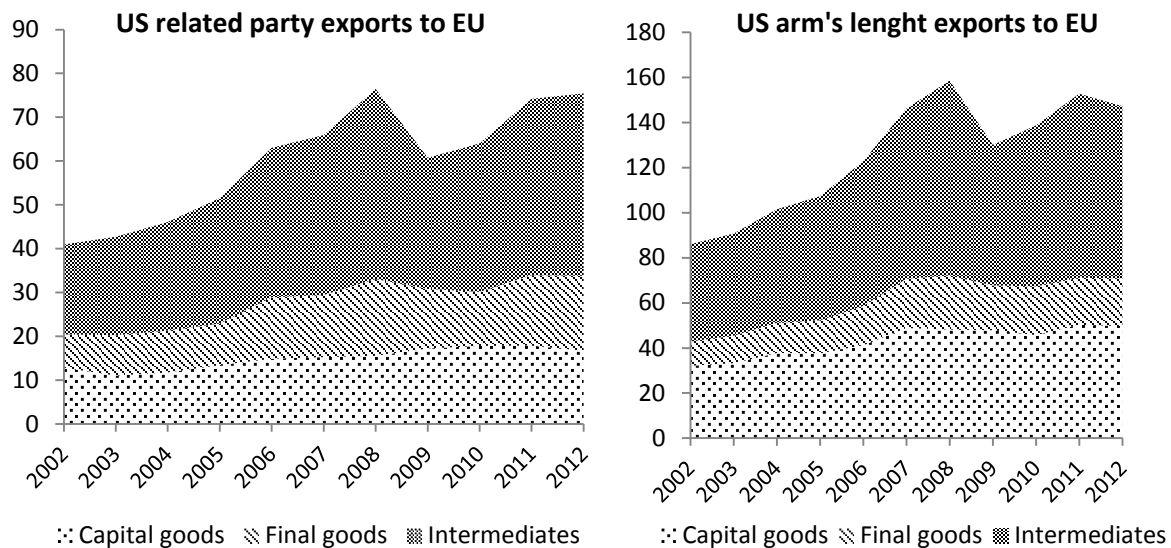
Source: US Census Bureau, Related-Party Trade Database

Transatlantic related party trade is concentrated in a few strategic sectors such as Chemicals, Machinery, Computer and Electronic Products and Transportation Equipment. The data also shows that between 2002-2012 sectors such as Chemicals and Petroleum and Coal Products have been gaining importance in EU-US total related party trade: US related party exports to the EU of Chemicals increased from 27% to 36%, while Petroleum and Coal Products from 0.3% to 11% of total US related party exports to the EU. Other sectors such as Computer and Electronic Products and Transport Equipment while still important have been declining: from 23% to 9% and 19% to 14%, respectively. These few sectors are the ones where the share of related party trade in total trade is the highest as well: US related party exports of

Chemicals and Petroleum and Coal Products account for 54% and 46% of US exports of these products and 82% and 40% of total imports (see Table 8).

As a next step we further decompose trade into final goods, intermediates and capital goods[6]. About half of EU-US merchandise trade (both arm's length and related party) takes place in intermediate goods (51% in 2012), followed by trade in capital goods (25%) and final goods (24%). US exports to the EU tend to be more intensive in capital goods (30%) and final goods exports account for 17% of total, while US imports are more intensive in final goods (28%).

As shown in Figure 4, intermediates account for about half of US related party exports to the EU and this share did not change significantly over the period 2002-2012 (50% in 2002 to 55% in 2012). US related party imports show a similar composition with 47% intermediates, 33% final goods and 21% capital goods in 2012 (Figure 3). Arm's length US exports to the EU tend to be more intensive in capital goods (34% in 2012) than related party exports, but the share of intermediates revolves around 50% for both exports and imports for the period under consideration.

These findings reveal interesting insights about the organization of MNCs on the two sides of the Atlantic. The relatively comparable share of intermediates in both arm's length and related party trade point towards the fact that fact that MNCs are horizontally integrated and are motivated by the need for proximity to local markets rather than by the internationalization of production stages specific to vertical multinationals.

While the aggregated data does not reveal significant differences in the relative intensity in intermediates of EU-US arm's length versus related party trade, the next section further explores this issue using more systematic econometric methods.

RELATED PARTY VERSUS ARMS-LENGTH TRADE: A GRAVITY ANALYSIS

In the light of the ongoing Transatlantic Trade and Investment Partnership (TTIP) negotiations it becomes increasingly important to consider the impact of a given change in trade policy on traditionally over-looked economic variables. Given that multinationals are significant players in the Transatlantic economies and important determinants of the movement of goods across border, one would need to consider the impact of trade liberalization on domestic firms separately from that on foreign affiliates and implicitly disentangle the impact on arm's length versus related party trade.

This section explores the determinants of EU-US arm's length versus related party trade. As to our knowledge, this paper is the first one to empirically explore this issue.

Our econometric specification follows that of the well-known gravity framework (van Wincoop and Anderson, 2003 and Baier and Bergstrand, 2009) adjusted to differentiate between related party and arm's length trade.

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[6] The grouping of products into final goods, intermediates and capital goods is done based on the Broad Economic Categories (BEC) classification.

$$\ln(\text{Trade})_{irst} = \alpha_1 + \alpha_2 \text{RPT}_{irst} + \alpha_3 \ln(\text{tariffs}_{irst}) + \alpha_4 \text{RPT}_{irst} \times \ln(\text{tariffs}_{irst}) + \beta X + \gamma(\text{RPT} \times X)$$
$$+ \varepsilon_{ijkt}$$

where subscript i refers to a 6-digit NAICS code, r is the importer, s is the exporter, and t is time.

The dependent variable, Trade_{irst} refers to a time series bilateral US-EU[7] trade data from the US Census Bureau, Related Party Database[8] covering the period 2002-2012. The dependent variable includes both related party trade observations and arm's length observations. As a result, we are able to differentiate between trade flows between related parties on the one hand and arm's length trade on the other hand.

RPT_{irst} is a dummy variable: $\text{RPT}_{irst} = 1$ for related party trade observations, $\text{RPT}_{irst} = 0$ is for arms' length trade.

Tariffs_{irst} data at the product (HS6) level originates from the MacMAP database[9] of the International Trade Centre, Geneva and was converted into NAICS classification using trade weights.

Matrix **X** includes the following set of variables, in log form: GDP of exporter, GDP of importer and distance. The GDP data originates from the World Development Indicators (World Bank, 2013). Distance_{rs} is the distance between exporter and importer capital cities[10].

Next, we organize each 6 digit NAICS code into three categories: products that are primarily aimed at final consumption, products that are generally intermediate inputs, and products that are capital goods. In the estimation results, final goods are the baseline with dummy variables set for intermediate and capital goods.

The results of the regression are presented Table 2 below. OLS has been used across all estimations. The main specifications are the following:

1. This is our main specification which includes all of the aforementioned gravity variables. It also includes a parallel set of gravity variables interacted with the related party trade (RPT) variable. This additional interaction permits us to determine not only whether related party trade responds differently than arm's length trade to each independent variable, but also whether that difference is statistically significant.

2. The second specification runs the above regression on the subpopulation of arm's length trade.

3. The third specification runs the above regression on the subpopulation of related party trade.

4. The final specification has dependent variable the sum of arm's length and related party trade.

All coefficients have the expected sign and most are significant. Overall, related party trade is found to be statistically significantly different and higher than arm's length trade when controlling for other factors.

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[7] The EU is broken down by member states.
[8] http://sasweb.ssd.census.gov/relatedparty/
[9] http://www.macmap.org/
[10] CEPII Gravity Dataset

The market size of the exporter matters more for arm's length trade: If we start from the assumption that GDP of the exporter is a good proxy for the origin country's productive capacity, it is somewhat surprising to find that arm's length trade is more supply driven than related party trade. All else equal, the home market effect is 24.9% less important for related party trade than for arm's length trade.

The market size of the importer matters more for related party trade: while the home market effect is found to matter more for EU-US arm's length trade, conversely we find that the host market effect matters more for related party trade. Caeteris paribus, the GDP of the importing country is 2.6% more important for related party trade than arm's length trade.

Related party trade is more sensitive to distance than arm's length trade: while at first this might seem like a surprising result, one needs to consider the fact that EU-US related party trade are mostly driven by trade between multinationals that are more concentrated in the Western parts of the EU. For instance, the data shows that 84% of the EU's related party imports from the US are accounted for by only five of the 27 EU Member States (Germany, Netherlands, Great Britain, Belgium and France) while the concentration of arm's length imports is lower (72% for the same five countries).

Related party trade is consistently more sensitive to tariffs than arm's length trade[11]: given a 1% decrease in tariffs between the US and EU, related party imports will increase 4.8% more than arm's length imports. More specifically, a 1% decrease in tariffs is estimated to produce a 27.6% increase in arm's length trade. By contrast, a 1% decrease in tariffs is estimated to produce a 30% increase in related party trade. At first glance this may be a counterintuitive result. Related party trade might be expected to be less sensitive to tariffs because firms have set up their global value chains and production facilities, and are less able to flexibly shift suppliers from one country to another when there is a change in trade policy. However, there is an inherent bias in related party trade data in that most firms with foreign affiliates are large. Larger firms may have greater resources than smaller firms and are able to shift their sourcing more easily in response to tariff changes.

Note however that estimates for the elasticity of trade to tariffs should be interpreted with caution due to the underlying economic data: given that there is not much time variation in tariffs applied in bilaterally between the US and the EU for the period under consideration, differences between arm's length and related party estimates arise due to sectoral composition.

Related party trade is relatively more intensive in capital goods than in final goods and even more intensive in intermediates than arm's length trade: while aggregate trade data (Figure 3 and Figure 4) does not reveal significant differences between the compositions of arm's length versus related party trade, controlling for other factors in the gravity estimation shows statistically significant differences. Related party trade is found to be more intensive in capital goods and even more intensive in intermediates.

Exporter, importer, year and 3 digit NAICS fixed effects control among others for bias due to omitting multilateral resistance, deflation and exchange rate effects and differences across sectors in FDI.

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[11] Note that this finding needs to be interpreted with caution as there is no significant time and importer variation in the bilateral tariff structure for EU-US trade and therefore the differences are mainly due to differences across goods.

Finally, note that the standard gravity framework used here has much better explanatory power for arm's length trade (0.41) than for related party observations (0.33), not surprisingly pointing towards the fact that the latter is determined by firm level rather than country and sector level characteristics.

CONCLUSION

The ongoing Transatlantic Trade and Investment Partnership negotiations have set an ambitious agenda not only for the bilateral liberalization of tariffs but also regarding non-tariff measures, public procurement, geographical indications, the liberalization of investment flows and regulatory harmonization. Among many other studies, CEPR (2013) estimate that concluding the TTIP could boost EU's economy by €120 billion and the US economy by €100 billion. None of the existing studies consider however the differentiated impact such an important change in trade policy could have on domestic firms versus foreign affiliates or arm's length versus related party trade.

Our econometric framework decomposes the standard gravity model into trade flows that represent arm's length versus related party transactions. Results reveal that aggregates hide significant differences regarding determinants of arm's length versus related party trade. EU-US arm's length trade is found to be relatively more supply driven (GDP of the exporter matters more) while conversely related party trade is relatively more demand driven (GDP of the importer matters more). In addition, distance is found to be a more significant deterrent to related party trade than for arm's length trade.

Finally, our results suggest that given a 1% change in EU-US tariffs, related party imports will increase 4.8% more than arm's length imports. As a result, the composition of EU-US trade flows could further change in favour of related party trade with an expected differentiated impact on domestic and multinational firms. Such differences would suggest that the aggregate economic impact of the TTIP could be even more significant than the ones estimated in existing studies.

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Table 2 Results from regression

	(1) All trade	(2) Arm's length	(3) Related party	(4) AL+RPT
ln(GDPexp)	0.462***	0.132	0.717***	0.381***
	(0.0575)	(0.0685)	(0.100)	(0.0705)
ln(GDPimp)	0.757***	0.848***	0.538***	0.862***
	(0.0550)	(0.0622)	(0.108)	(0.0647)
ln(distance)	-0.272	-0.131	-0.692	-0.473
	(0.477)	(0.597)	(0.763)	(0.620)
ln(tariffs)	-0.266***	-0.276***	-0.300***	-0.297***
	(0.00488)	(0.00472)	(0.00655)	(0.00490)
RPT	6.633***			
	(1.134)			
RPT x ln(GDPexp)	-0.249***			
	(0.00707)			
RPT x ln(GDPimp)	0.0264***			
	(0.00721)			
RPT x ln(distance)	-0.529***			
	(0.116)			
RPT x ln(tariffs)	-0.0485***			
	(0.00705)			
Intermediates dummy	0.172***	0.246***	0.387***	0.300***
	(0.0162)	(0.0164)	(0.0246)	(0.0171)
Capital goods dummy	0.376***	0.447***	0.447***	0.478***
	(0.0206)	(0.0210)	(0.0302)	(0.0218)
RPT x Intermediates dummy	0.330***			
	(0.0222)			
RPT x Capital goods dummy	0.177***			
	(0.0269)			
Constant	-3.394	-0.636	-2.559	-1.795
	(4.833)	(5.981)	(7.937)	(6.202)
Time fixed effects	yes	yes	yes	yes
Importer fixed effects	yes	yes	yes	yes
Exporter fixed effects	yes	yes	yes	yes
3 digit NAICS fixed effects	yes	yes	yes	yes
N	267,442	161,885	105,557	164,589
R^2	0.378	0.418	0.338	0.427

Note: * $p<0.05$, ** $p<0.01$, *** $p<0.001$; Standard errors in parentheses

Table 3 US Affiliates in the EU27 (2010, $ billion)

	FDI stocks	Total assets	Sales	Net income	Value added	Empl Comp	R&D	EMPL ('000)	X to parent	M from parent
AUT	11.5	41.4	20.6	2.3	6.1	3.3	0.3	40.5	0.2	0.3
BEL	44.0	345.9	123.5	18.2	24.6	11.1	2.1	132.4	3.3	4.2
BGR	0.4	3.1	0.9	0.0	0.4	0.1	0.0	4.8	n.a.	n.a.
CYP	1.7	7.5	1.7	0.3	0.5	0.1	0.0	1.6	n.a.	n.a.
CZE	5.3	28.9	16.8	1.3	5.5	2.1	0.1	72.9	0.2	0.1
DEU	103.3	641.6	307.3	10.0	84.4	47.5	6.7	598.0	4.9	7.3
DNK	11.8	59.5	19.1	9.8	9.1	3.1	0.2	33.1	0.3	0.3
ESP	52.4	183.9	83.8	12.2	17.4	10.6	0.6	175.0	0.8	1.5
EST	n.a.	0.4	0.4	0.0	0.2	0.0	0.0	2.2	n.a.	n.a.
FIN	1.6	14.8	10.4	0.8	2.8	1.5	0.2	19.7	0.1	0.0
FRA	78.3	366.6	199.2	7.3	49.3	32.6	2.0	531.5	4.7	3.7
GBR	501.2	4607.4	599.1	87.4	152.6	77.0	5.9	1199.7	6.5	10.8
GRE	1.8	9.8	7.1	n.a.	3.0	1.1	0.0	18.0	0.0	0.1
HUN	4.2	49.8	18.1	1.8	3.9	1.6	0.1	58.6	0.4	0.1
IRL	158.9	842.5	259.8	95.6	62.5	7.2	1.4	98.5	25.9	3.3
ITA	27.1	157.0	112.4	2.8	28.0	13.6	0.6	206.6	1.4	1.0
LTU	n.a.	0.4	0.3	0.0	n.a.	0.1	0.0	1.8	n.a.	n.a.
LUX	272.2	1248.7	26.6	94.1	2.6	1.3	n.a.	15.3	n.a.	0.5
LVA	0.0	0.3	0.2	0.0	0.2	0.0	0.0	0.8	n.a.	n.a.
MLT	1.9	7.9	1.3	0.6	0.2	0.0	n.a.	1.6	n.a.	n.a.
NLD	514.7	1702.0	204.5	160.4	24.0	16.4	1.3	219.8	2.9	8.9
POL	13.2	59.5	35.6	2.1	10.5	3.8	0.1	154.1	0.2	0.3
PRT	2.6	34.0	11.6	3.4	4.4	1.3	0.1	30.0	0.1	0.1
ROU	1.5	7.1	5.6	0.3	1.8	0.7	0.1	39.7	n.a.	n.a.
SVK	n.a.	8.7	7.9	0.1	n.a.	1.0	0.0	34.6	n.a.	n.a.
SVN	n.a.	1.0	1.3	0.1	0.5	0.2	0.0	4.6	n.a.	n.a.
SWE	23.3	117.0	31.5	1.0	5.9	4.6	0.5	65.0	n.a.	0.2
EU27	1834.6	10546.7	2106.5	511.8	502.5	242.1	22.6	3760.5	52.6	43.1
Total US outward	3741.9	19624.3	5166.1	1021.2	1241.3	487.7	39.5	11070.3	245.5	203.9

Source: BEA, Majority Owned (bank and non-bank) Foreign Affiliates Abroad

Table 4 US Affiliates in the EU27 by sector (2010, $ billion)

	FDI stocks	Total assets	Sales	Net income	Value added	Empl Comp	R&D	# EMPL ('000)	X to parent	M from parent
Mining	14.5	62.2	25.3	6.6	17.2	1.7	0.0	17.7	n.a.	0.0
Food	18	1035	73.7	5.3	15.2	6.8	0.3	108.6	0.3	n.a.
Chemicals	57.3	274.9	214.2	24.1	53.3	21.3	5.9	248.7	8.4	6.7
Primary and fabricated metal	8.5	53.6	40.6	1.5	9.5	6.1	0.2	105.5	0.6	0.7
Machinery	17.8	92.2	70.6	6.2	19.3	11.1	0.9	168.5	5.1	3.4
Computers and electronics	26	122.2	130.8	17.4	32.7	11.9	2.8	172	5.6	4.3
Electrical equip, appliances	12.1	43.1	23.5	1.9	4.9	3.2	0.4	67.1	1.2	0.4
Transportation equipment	19.1	123.2	164.5	1.7	26.4	19.5	5	353.2	3.0	2.8
Wholesale trade	56.8	359.9	446.3	16	67.7	27.5	1.1	322.4	20.1	17.3
Retail trade	n.a.	77.9	86.7	2.9	22.4	8.6	0	331.9	0.1	n.a.
Information	70.7	228.7	115.3	9.1	28.1	12.8	0.7	149.5	0.0	n.a.
Finance and insurance	319.2	4864.7	195.1	36	30.5	27.1	0.0	217.2	0.0	n.a.
Professional, scientific serv	44.7	182.6	83.3	15.3	35.8	28.2	3.6	273.8	n.a.	n.a.
Other industries	104.9	3735.7	127.9	350.1	41.6	32.1	0.1	858	0.2	0.3
All industries	1834.6	10546.7	2106.5	511.8	502.5	242.1	22.6	3760.5	52.6	43.1

Source: BEA, Majority Owned (bank and non-bank) Foreign Affiliates Abroad

Table 5 EU27 Affiliates in the US by sector (2010, $ billion)

	FDI stocks	Total assets	Sales	Value added	# EMPL ('000)
Mining	n.a.	40.5	12.1	6.7	19.4
Food	11.5	20.9	n.a.	n.a.	37.4
Chemicals	140.8	n.a.	n.a.	n.a.	n.a.
Primary and fabricated metals	30.0	58.5	52.1	10.3	104.5
Machinery	65.5	n.a.	n.a.	n.a.	n.a.
Computers and electronic products	29.0	n.a.	n.a.	n.a.	n.a.
Electrical equipment, appliances	18.2	n.a.	n.a.	n.a.	n.a.
Transportation equipment	46.4	n.a.	n.a.	21.6	n.a.
Wholesale trade	99.4	245.6	261.4	21.2	185.1
Retail trade	29.2	n.a.	n.a.	n.a.	n.a.
Information	101.7	182.6	68.4	25.1	161.9
Finance and insurance	244.3	n.a.	213.9	29.9	n.a.
Professional, scientific services	59.2	119.8	64.1	19.9	162.2
Other industries	301.2	n.a.	n.a.	n.a.	n.a.
All industries	1457.8	7064.7	1620.4	377.0	3144.1

Source: BEA, Majority Owned (bank and non-bank) Foreign Affiliates Abroad

Table 6 EU27 affiliates in the US (2010, $ billion)

	FDI stocks	Total assets	Sales	Net income	Value added	Comp. of empl	R&D	# EMPL ('000)	X to parent	M from parent
AUT	4.5	8.6	5.7	-0.1	1.3	0.8	0.0	13.0	n.a.	n.a.
BEL	69.6	186.4	51.8	2.4	17.0	6.6	0.3	153.9	1.1	2.6
BGR	0.0	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.0	n.a.	n.a.
CYP	n.a.	0.1	0.0	0.0	n.a.	0.0	0.0	n.a.	n.a.	n.a.
CZE	0.1	0.0	0.0	n.a.	0.0	n.a.	0.0	n.a.	n.a.	n.a.
DEU	203.1	1457.0	370.1	14.5	75.8	51.7	5.3	575.7	21.6	53.9
DNK	7.8	33.2	16.9	0.0	3.1	2.4	0.4	25.5	0.5	3.7
ESP	43.1	321.0	33.5	0.2	7.1	4.9	0.1	75.3	0.7	0.8
EST	0.0	n.a.	n.a.	0.0	n.a.	n.a.	0.0	n.a.	n.a.	n.a.
FIN	4.9	44.9	14.2	0.6	3.8	2.8	0.6	25.9	0.6	3.5
FRA	189.8	1341.3	248.5	13.7	60.0	40.3	5.0	521.3	7.34	13.4
GBR	400.4	2266.6	426.6	13.3	116.2	68.4	6.3	932.1	12.8	20.6
GRE	0.0	2.2	0.8	n.a.	0.1	n.a.	0.0	n.a.	n.a.	n.a.
HUN	39.3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.4	n.a.	n.a.
IRL	24.1	196.7	53.3	-1.7	20.4	15.0	1.2	160.5	1.6	2.3
ITA	20.1	127.0	43.2	1.4	9.5	5.7	0.4	82.8	2.2	4.9
LTU	0.0	0.0	n.a.	n.a.	n.a.	n.a.	0.0	n.a.	n.a.	n.a.
LUX	n.a.	29.1	11.9	0.4	3.3	1.8	0.0	38.3	n.a.	n.a.
LVA	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
MLT	0.0	0.0	n.a.	0.0	n.a.	0.0	0.0	0.1	n.a.	n.a.
NLD	234.4	943.1	293.3	17.1	44.8	26.1	1.9	356.9	10.9	27.7
POL	4.4	n.a.	n.a.	n.a.	n.a.	0.0	0.0	0.1	n.a.	n.a.
PRT	0.2	12.8	0.6	0.0	0.3	0.1	0.0	0.6	n.a.	n.a.
ROU	-0.1	n.a.	n.a.	n.a.	0.0	n.a.	0.0	n.a.	n.a.	n.a.
SVK	0.0	0.0	0.0	0.0	n.a.	n.a.	0.0	n.a.	n.a.	n.a.
SVN	n.a.	n.a.	0.0	n.a.	n.a.	n.a.	0.0	n.a.	n.a.	n.a.
SWE	38.8	93.4	49.6	1.1	14.1	10.6	0.4	179.1	3.0	5.1
EU27	1457.8	7064.7	1620.4	62.7	377.0	237.4	22.0	3144.1	62.7	139.9
Total US inward	2280.0	11966.0	3119.4	97.0	660.8	415.6	42.4	5435.4	115.7	411.9

Source: BEA, Majority Owned (bank and non-bank) Foreign Affiliates in the US

Table 7 US-EU27 Related Party Merchandise Trade by EU Member States

	US Related Party Exports to EU27($mil)		US Related Party Imports from EU27($mil)		% of US Total Exports to EU27		% of US Total Imports from EU27	
	2002	2012	2002	2012	2002	2012	2002	2012
AUT	853	239	2114	5932	42%	7%	57%	67%
BEL	5202	12303	4437	9792	43%	50%	45%	57%
BGR	8	31	43	175	8%	13%	12%	36%
CYP	8	14	0	7	4%	9%	1%	25%
CZE	84	316	450	1971	15%	21%	37%	52%
DEU	8349	15236	41007	72754	34%	35%	67%	69%
DNK	213	376	1692	4979	16%	20%	52%	73%
ESP	678	1338	1610	4693	14%	15%	28%	40%
EST	5	36	45	366	7%	16%	26%	71%
FIN	189	193	2154	2714	14%	8%	63%	54%
FRA	4889	7786	12036	21533	28%	28%	43%	52%
GBR	8493	13491	21550	29901	28%	28%	53%	55%
GRC	160	44	84	374	14%	6%	16%	38%
HUN	177	254	2057	2308	31%	20%	78%	73%
IRL	2403	1869	19506	29857	38%	31%	87%	90%
ITA	1699	3914	7583	15319	18%	26%	31%	42%
LTU	4	43	106	651	4%	7%	35%	55%
LUX	81	205	182	299	17%	11%	61%	57%
LVA	8	9	14	19	9%	2%	7%	7%
MLT	144	77	260	191	70%	21%	84%	74%
NLD	7231	16297	5825	14339	43%	45%	59%	65%
POL	149	590	283	2513	22%	18%	26%	55%
PRT	101	137	588	1070	13%	13%	35%	42%
ROU	17	133	256	819	7%	17%	37%	51%
SVK	9	127	95	1423	10%	41%	38%	81%
SVN	26	35	110	254	21%	12%	36%	46%
SWE	492	934	6720	6948	17%	19%	73%	68%
EU27	41672	76027	130806	231201	31%	32%	57%	62%

Source: US Census Bureau, Related-Party Trade Database. Shares do not take into account non-reported trade.

Table 8 US-EU27 Related Party Merchandise Trade data by sector

	US Related Party Exports to EU27 ($mil)		US Related Party Imports from EU27 ($mil)		% US Total Exports to EU27		% US Total Imports from EU27	
	2002	2012	2002	2012	2002	2012	2002	2012
Agricultural Products	699	518	97	155	21%	11%	13%	20%
Livestock & Products	69	22	5	57	33%	7%	2%	13%
Forestry Products	3	6	38	78	2%	3%	45%	50%
Fish & Marine Products	66	189	4	9	13%	18%	4%	5%
Oil & Gas	4	2	368	76	29%	0%	17%	9%
Minerals & Ores	80	842	33	52	6%	11%	34%	25%
Food & Kindred Products	414	586	1314	2654	18%	15%	32%	36%
Beverages & Tobacco Products	188	142	1766	3430	21%	11%	30%	32%
Textiles & Fabrics	209	236	368	476	38%	37%	25%	34%
Textile Mill Products	44	50	209	230	23%	22%	22%	31%
Apparel & Accessories	28	69	786	1196	11%	12%	28%	49%
Leather & Allied Products	17	26	829	1775	8%	7%	29%	52%
Wood Products	46	36	429	373	6%	5%	29%	44%
Paper	534	921	1517	1959	23%	27%	60%	63%
Printed Products	147	232	311	244	17%	20%	31%	31%
Petroleum & Coal Products	128	8284	1875	9143	18%	46%	31%	40%
Chemicals	11344	27371	37594	68691	48%	54%	79%	82%
Plastics & Rubber Products	710	1173	1593	3340	34%	35%	55%	62%
Nonmetallic Mineral Products	351	714	1043	1534	31%	40%	25%	39%
Primary Metal Manufacturing	303	1123	3219	8547	11%	9%	55%	60%
Fabricated Metal Products	674	1405	2788	6281	22%	25%	46%	51%
Machinery, Except Electrical	4255	6402	13510	28502	29%	29%	55%	60%
Computer & Electronic Products	9372	7389	15151	18314	34%	32%	67%	67%
Electrical Equip & Appliances	932	1174	3208	5690	24%	23%	52%	57%
Transportation Equipment	7919	10707	33937	47272	29%	27%	70%	70%
Furniture & Fixtures	47	89	896	765	18%	21%	39%	35%
Miscellaneous Manuf. Goods	2405	5612	3671	9761	34%	42%	36%	56%
Newspapers & Books	0	25	0	7	0%	32%	0%	49%
Waste And Scrap	189	146	80	458	21%	4%	23%	32%
Used Or Second-Hand Products	49	102	393	213	7%	6%	9%	3%

Source: US Census Bureau, Related-Party Trade Database. Shares do not take into account non-reported trade.