Market Structure in Services and Market Access in Goods

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Background

- Flam and Nordstrom (1995), Lutz (forthcoming) EU automobiles
- Nanto (1988) -- Kodak:Fuji
- ATC quota rents, WalMart, etc
- Francois and Wooton (2001) -- shipping

This paper

- Theoretical linkages between distribution sector and trade volumes
- Numerical example
- Regression-based evidence

Theory Model

- Implicit import supply function
- Domestic distribution cartel
- Profit maximization involves tradeoff between marginal revenue and marginal cost
- Tariffs affect the distribution sector game

Basic Results

- Observation 1: International trade volumes are inversely related to the degree of concentration in the domestic trade and distribution sector, or alternatively the degree of market power exercised in the domestic sector

Basic Results

- Observation 2: With linear supply and demand, the negative impact of market power on trade volumes is greatest in a zero tariff context, and its marginal impact falls with increased levels of trade. Otherwise, this effect is actually ambiguous.

Basic Results

- Observation 3: The optimum import tariff is a decreasing function of the degree of market power exercised in the domestic trade and distribution sectors

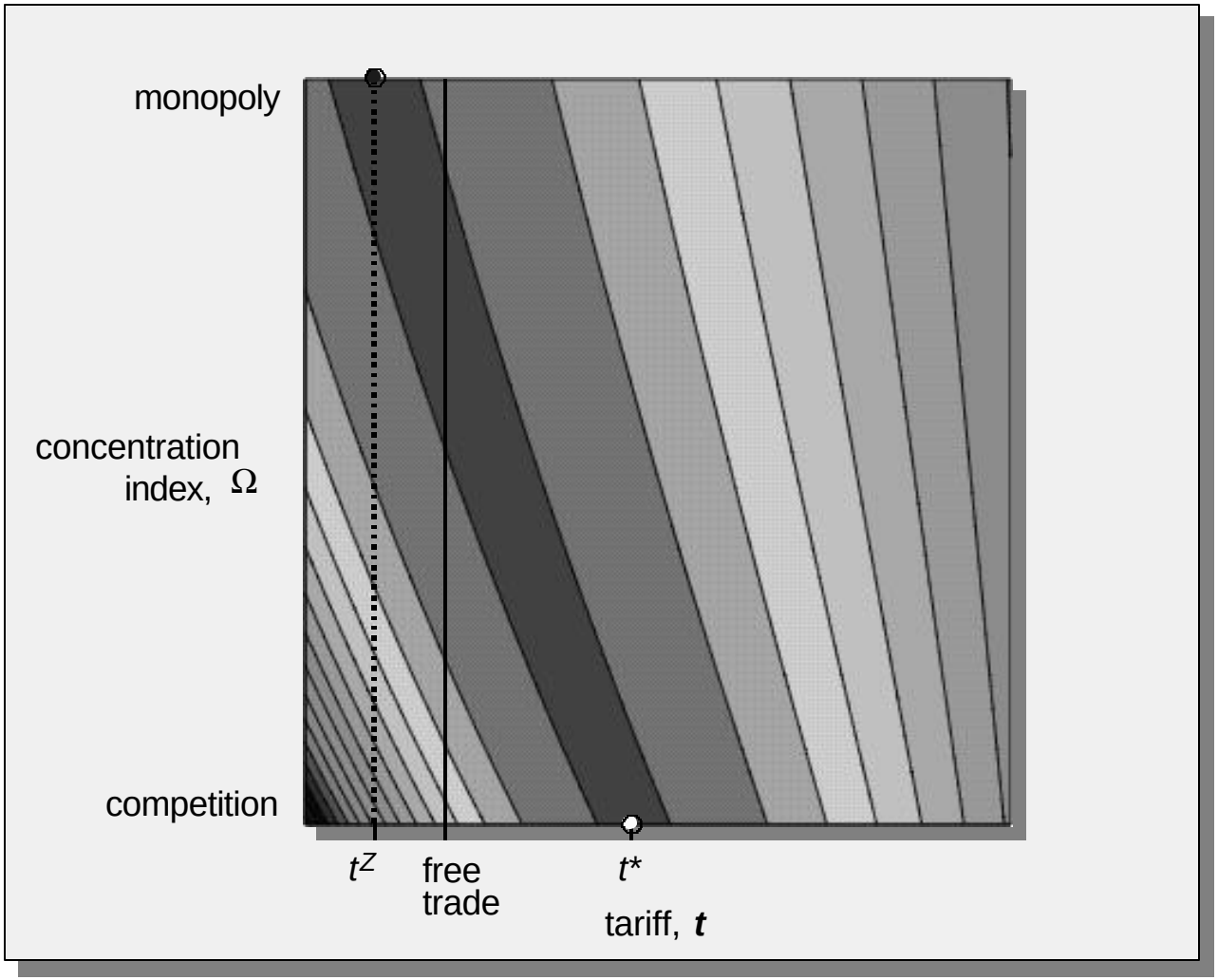
- Observation 4: The optimum markup for the domestic trade and distribution sectors is a decreasing function of the underlying import tariff.

Basic Results

- Observation 5: The market access benefits of tariff reductions in export markets are inversely related to the degree of market power exercised by the domestic trade and distribution sector in the export market.

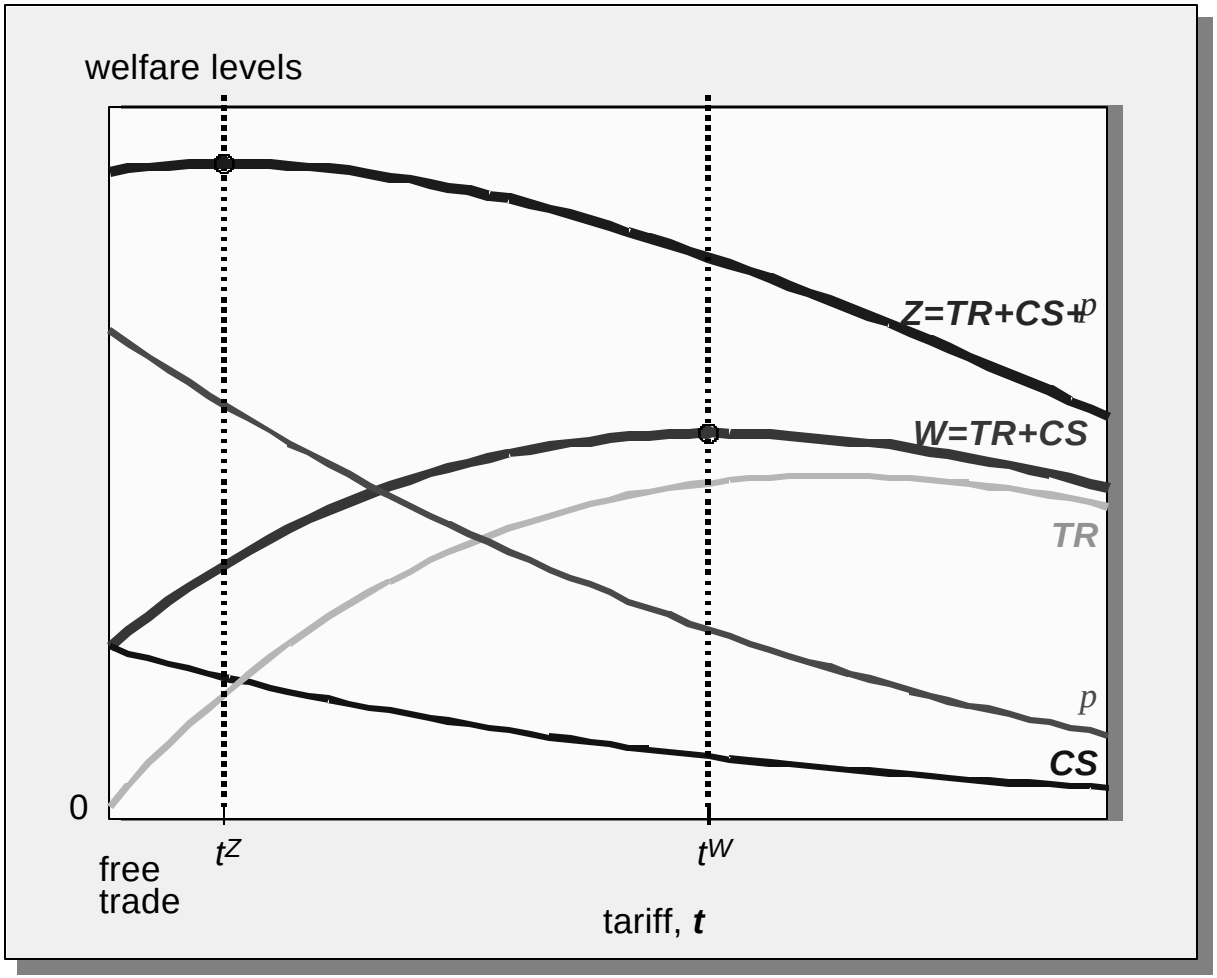
- Observation 6: The benefits of past market access concessions can be offset by future increases in the degree of market power exercised by the domestic trade and distribution sector in the export market.

FIGURE 1
WELFARE LEVELS, TARIFFS, AND COMPETITION IN THE DISTRIBUTION SECTOR



Note: Figure correspond to the linear supply and demand curves example developed in the appendix.

FIGURE 2
DECOMPOSITION OF WELFARE IN THE CASE OF DUOPOLY (Ω=0.5)



Note: Figure correspond to the linear supply and demand curves example developed in the appendix.

Regressions

TABLE 1, DATABASE OVERVIEW (VALUE DATA REPORTED IN LOGS)

		Mean	Median	Max	Min
GDP	importer gross domestic product in billions of dollars in 2001 Source: World Bank (2002).	5.909	5.625	9.188	3.895
PCI	PPP-based per-capita income, dollars, 2001 Source: World Bank (2002).	9.989	10.108	10.442	9.017
Imports	Millions of U.S. dollars in 2001 Source: UNCTAD COMTRADE and GTAPv6.2 databases.	5.109	5.310	12.084	-2.168
Tariffs $T=1+t$	MFN trade-weighted tariff (with adjustments for trade preferences where available, as reflected in concordance of WTO, UNCTAD, and MACMAPS tariff data Source: GTAPv6.2 database	1.054	1.028	2.324	1.000
Transport $\Gamma=1+g$	ad valorem estimates of bilateral transport costs for traded goods, all modes weighted by trade Source: GTAPv6.2 database	1.032	1.022	1.230	1.005
Index 1	Overall index of competition in the retail/distribution sector Source: OECD (2000)	2.39	2.45	4.70	0.80
Index 2	Index of barriers to entry in the retail/distribution sector Source: OECD (2000)	2.52	2.30	5.50	0.70
Index 3	Index of price flexibility in the retail/distribution sector Source: OECD (2000)	1.80	2.10	4.00	0.10

Note: The scale of competition indexes range from 0-6, for least to most restrictive regimes. For countries reported as an interval by the OECD, the mid-point has been used. Countries for which index data are available are: Australia, Austria, Belgium, Canada, Czech Republic, Finland, France, Germany, Hungary, Ireland, Italy, Korea, Mexico, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, United Kingdom. Trade data are grouped by these 21 importers and by 86 exporting countries and regional groupings. Applied tariff data and transport costs data have been matched to these bilateral trade pairs.

Regressions

TABLE 2, OLS AND ROBUST REGRESSION ESTIMATES OF GRAVITY EQUATION OF TRADE

	MODEL 1 GENERAL INDEX		MODEL 2 BARRIERS TO ENTRY INDEX		MODEL 3 PRICE COMPETITION INDEX	
	OLS	ROBUST	OLS	ROBUST	OLS	ROBUST
ln(GDP)	0.951 (39.61)***	0.958 (43.69)***	0.945 (39.84)***	0.951 (43.94)***	0.924 (39.77)***	0.920 (42.62)***
ln(pci)	-0.043 -(0.55)	-0.006 -(0.08)	-0.075 -(0.92)	-0.060 -(0.80)	0.019 (0.23)	0.082 (1.06)
ln(T)=ln(1+*t*)	-193.721 -(3.74)***	-172.033 -(3.63)***	-194.648 -(4.58)***	-169.312 -(4.37)***	-119.416 -(4.07)***	-78.114 -(2.87)**
Trans=ln(1+*g*)	9.981 (8.06)***	9.880 (8.73)***	9.966 (8.05)***	9.592 (8.49)***	9.801 (7.90)***	9.872 (8.56)***
Competition Index=ln(Ω)	-1.182 -(2.21)**	-1.649 -(3.37)***	-1.120 -(2.85)***	-1.497 -(4.18)***	-0.500 -(2.20)**	-0.650 -(3.08)**
Interaction of T and ln(Ω)	95.407 (1.87)*	131.350 (2.82)***	94.137 (2.53)***	122.021 (3.60)***	47.384 (2.17)**	60.971 (3.01)**
Dummy for European Economic Area	2.228 (19.94)***	2.221 (21.76)***	2.199 (19.85)***	2.180 (21.56)***	2.170 (19.61)***	2.136 (20.76)***
Dummy for NAFTA trade	2.025 (3.72)***	2.017 (4.05)***	2.084 (3.83)***	2.098 (4.23)***	2.165 (3.97)***	2.214 (4.37)***
variables	95	95	95	95	95	95
observations	1847	1847	1847	1847	1847	1847
df	1751	1751	1751	1751	1751	1751
F, Pr>F	97.7, 0.0	124.3, 0.0	97.8, 0.0	124.3, 0.0	97.0, 0.0	121.4, 0
R-squared	0.8413		0.8414		0.8317	
Breusch-Pagan test statistic for hetero-skedasticity, Pr>Chi2	281.0, 0.00		278.0, 0.00		261.8, 0.00	
nificant hetero-skedasticity by roeter's test, .05 level	40 of 95 variables		41 of 95 variables		41 of 95 variables	

Regressions

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Regressions

TABLE 3, ESTIMATED TARIFF COEFFICIENT WITH AND WITHOUT INCLUSION OF COMPETITION INDEXES

	OLS ESTIMATES	ROBUST ESTIMATES
Model 1	-193.721 -(3.74)***	-172.033 -(3.63)***
Model 2	-194.648 -(4.58)***	-169.312 -(4.37)***
Model 3	-119.416 -(4.07)***	-78.114 -(2.87)**
Model without distribution sector variables	-83.489 -(2.77)***	-32.420 -(1.17)