

Trade Liberalization by Tariff Design

Phase-out, Carve-out, and Tariff Cuts

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For whom governments make trade agreements?

General interests or special interests?

- What we know
 - General interests: public, consumers, median voter (terms-of-trade, commitment motivation)
 - Special interests: sectoral interests and lobbying (political motivation)
- What we don't know
 - Governments' delicate balancing act: How do governments serve general and special interests at the same time?
 - Our tentative answer: By tariff design. Serve special interests by gradual liberalization schedules (phase-out) and by exclusion of certain sectors (carve-out); serve general interests by cutting tariffs (tariff cut)

Mobility, Welfare-mindedness, and Liberalization

- Under what conditions do governments protectionist measures (carve-out, phase-out) or liberalization measures (tariff cut)?
- Mobility and welfare-mindedness are the key.
- Objective functions
 - $U_G = a^* W + C$ (general or special interests)
 - $U_L = xp - C$ (invest or pay for protection)
 - $c = f(z)$
- Effect of high z (mobility)
 - For L: c is relatively expensive than investing elsewhere. So, do not pay c .
 - For G: no incentive to protect, so liberalize.
- Effect of high a (welfare-mindedness)
 - For L: c is relatively expensive under welfare-mindedness government than under politically-motivated government
 - For G: larger weight on general welfare relative to lobbying contribution, so liberalize.

Hypotheses

- [Carve-out] As mobility and welfare-mindedness increase, carve-out is less likely.
- [Phase-out] As mobility and welfare-mindedness increase, phase-out is less likely.
- [Tariff-cuts] As mobility and welfare-mindedness increase, tariff cut is more likely.

Data

- Tariff data: sectoral-level (159 industries at ISIC 4-digit codes) for PTA partners in Asia and Latin America (22 reporters, 218 dyads) between 1990 and 2010 (Source: WITS)
- Mobility data: employment, capital formation, wage (Source: UNIDO)
- Welfare-mindedness data: Gawande et al. 2010

Measurement

Dependent Variable

- Carve-out (binary): 1) PTA exists, 2) preferential rates are not reported, 3) actual tariffs are reported, and 4) imports value is non-zero.
- Phase-out (count): the number of years to get to zero tariff
- Tariff cuts (binary): immediate tariff reduction to zero preferential rates

Measurement

Independent Variables

- Mobility

$$\text{Labor Mobility} = \frac{(E_s^t - E_s^{t-1}) / E_s^{t-1}}{(\sum_{s=1}^N E_s^t - \sum_{s=1}^N E_s^{t-1}) / \sum_{s=1}^N E_s^{t-1}}$$

- Welfare-mindedness

$$\frac{t_i}{1 + t_i} \cdot e_i \cdot \frac{M_i}{X_i} = \frac{1}{a}$$

Models of Carve-out

Logit Estimates

	Model 1-1 Two key IVs	Model 1-2 Other measures of mobility and controls	Model 1-3 Standard errors clustered by panel	Model 1-4 Panel analysis, random effects
Welfare-mindedness	-0.002*** (0.000)	-0.111*** (0.004)	-0.111*** (0.005)	-0.132*** (0.006)
Labor Mobility	-0.007*** (0.002)	-0.015*** (0.002)	-0.015*** (0.002)	-0.017*** (0.003)
Capital Mobility		-0.000 (0.000)	-0.000 (0.000)	0.000* (0.000)
Human Capital Mobility		-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Number of Employees		0.000** (0.000)	0.000 (0.000)	
Terms of Trade		-0.004* (0.002)	-0.004* (0.002)	-0.005 (0.003)
Import Penetration Ratio		-16.973 (14.287)	-16.973 (15.406)	-6.632 (10.363)
Constant	-0.049*** (0.015)	1.315*** (0.043)	1.315*** (0.054)	1.695*** (0.061)
Panel level variance				0.750*** (0.081)
Observations	23,248	13,798	13,798	13,798
Number of panel				5,114

Note: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Mobility measures are bounded between 0 and 100. Panel is the product in reporter-partner dyad.

Models of Phase-out

Negative Binomial Estimates

	Model 2-1 Key IVs	Model 2-2 Control variables	Model 2-3 SE clustered by panel
Welfare-mindedness	-0.012*** (0.001)	-0.008*** (0.002)	-0.008* (0.004)
Labor Mobility	-0.009*** (0.002)	-0.012*** (0.002)	-0.012*** (0.002)
Capital Mobility		-0.000** (0.000)	-0.000 (0.000)
Number of Employees		-0.000*** (0.000)	-0.000*** (0.000)
Terms of Trade		-0.001 (0.001)	-0.001 (0.002)
Import Penetration Ratio		0.245 (0.297)	0.245 (0.298)
Constant	-0.027* (0.015)	0.062*** (0.023)	0.062 (0.041)
Ln alpha	0.905*** (0.023)	0.866*** (0.032)	0.866*** (0.065)
Observations	17,717	11,224	11,224

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

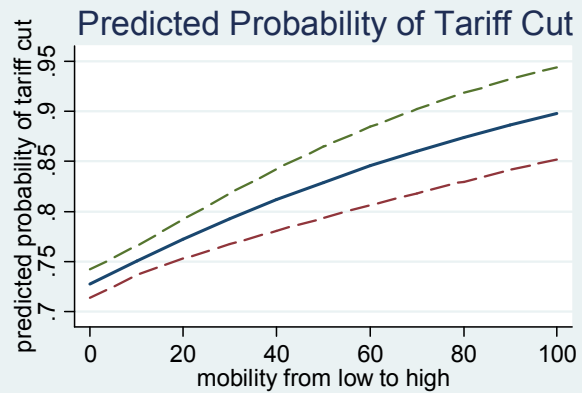
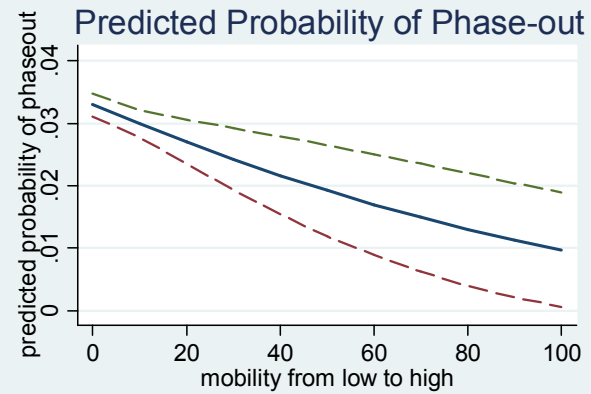
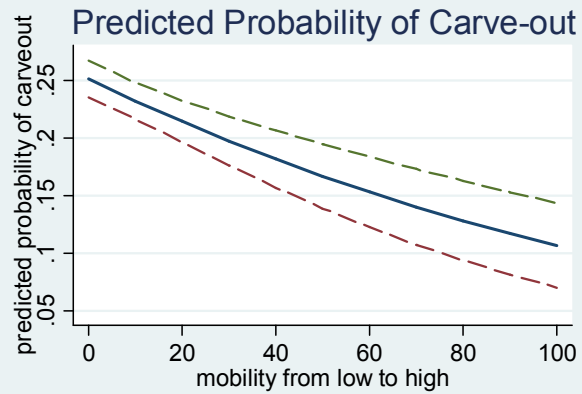
Models of Tariff-Cuts

Logit Estimates

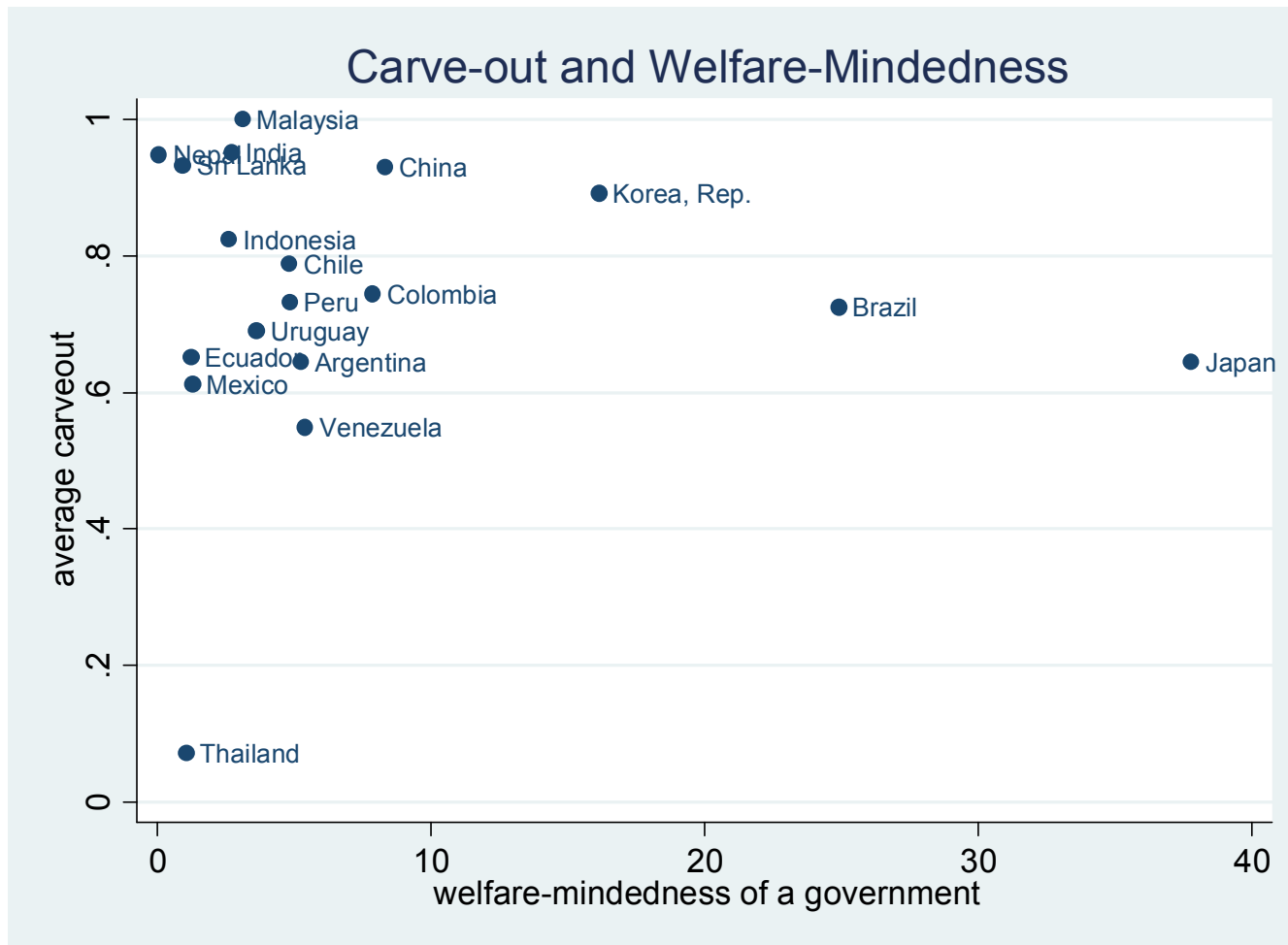
	Model 3-1 Two Key IVs	Model 3-2 Control Variables	Model 3-3 SE clustered by panels
Welfare-mindedness	0.023*** (0.001)	0.020*** (0.002)	0.025*** (0.004)
Labor Mobility	0.007*** (0.002)	0.012*** (0.003)	0.011*** (0.003)
Capital Mobility		0.000 (0.000)	0.000 (0.000)
Human Capital Mobility		0.000*** (0.000)	
Number of Employees		0.000*** (0.000)	0.000*** (0.000)
Terms of Traded		0.003 (0.003)	0.003 (0.003)
Import Penetration Ratio		-9.077 (8.088)	-0.653 (0.577)
Constant	0.329*** (0.023)	0.077** (0.034)	0.115** (0.051)
Observations	17,717	11,195	11,224

Note: Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1; panel is a product in reporter-partner trade relations.

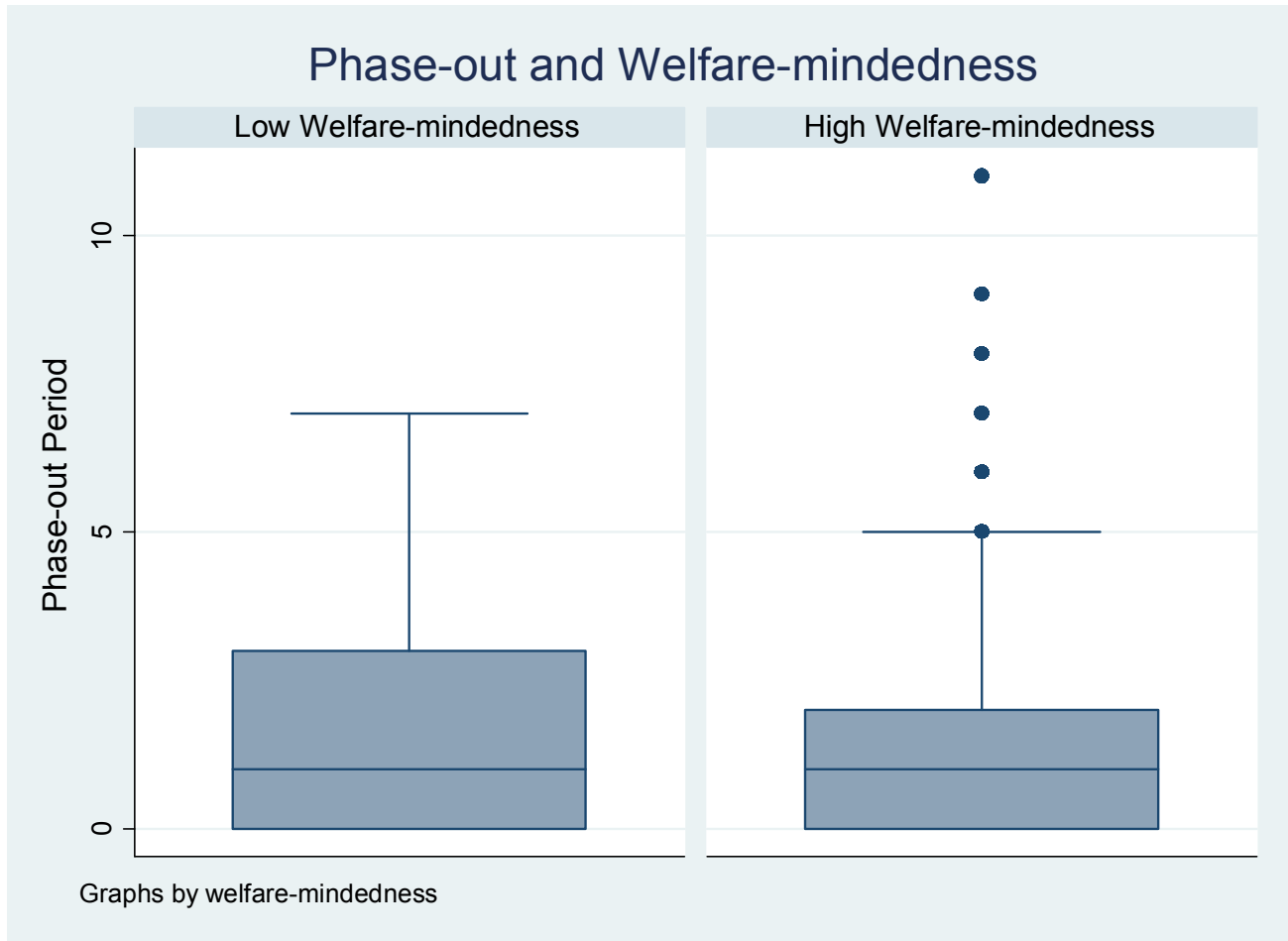
Mobility and Tariff Design



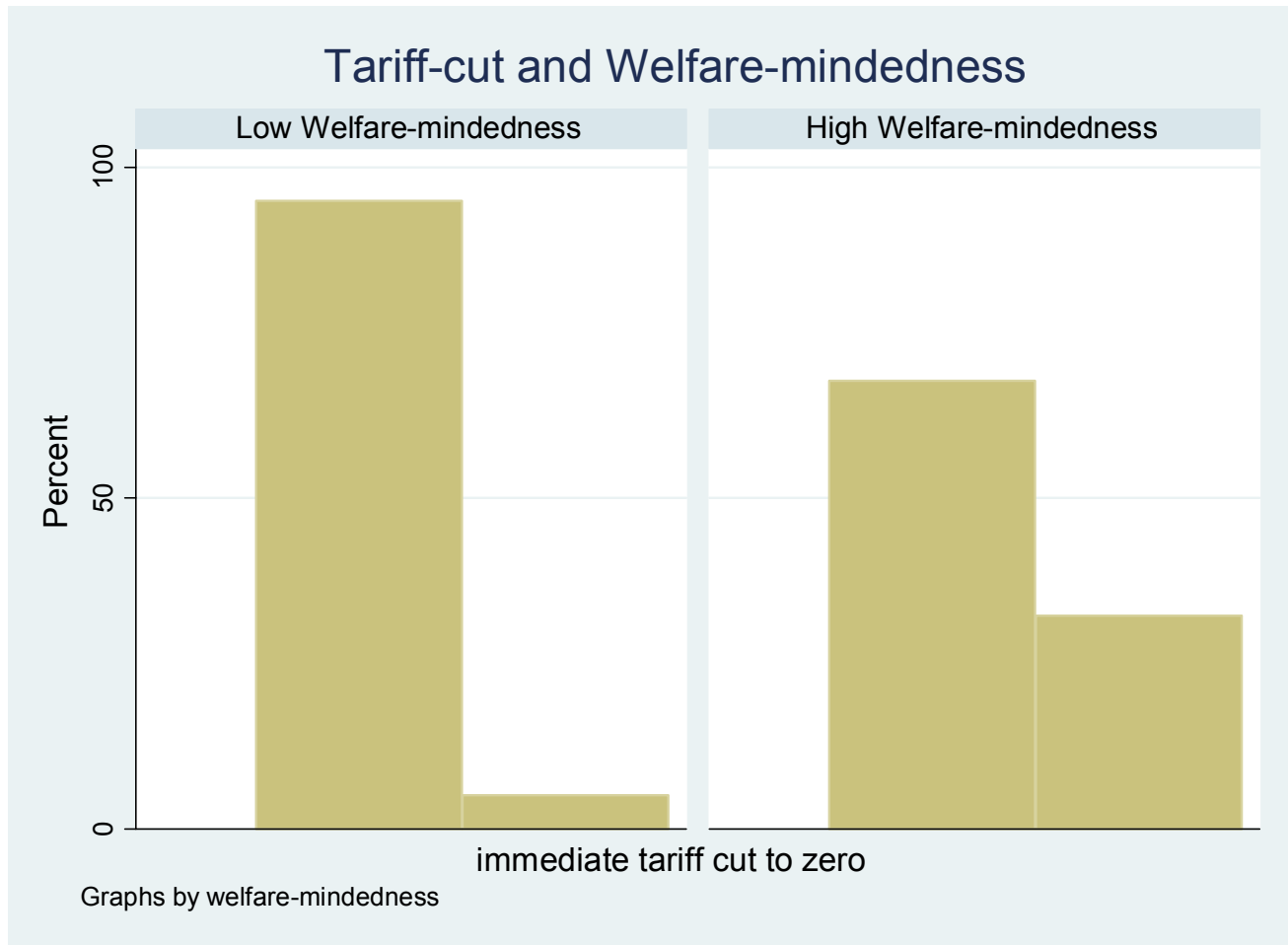
Welfare-mindedness and Carve-out



Welfare-mindedness and Phase-out



Welfare-mindedness and Tariff-cut



Conclusion

- Summary of Finding: Governments are able to balance special and general interests by engineering tariffs in PTAs.
- Implication: PTA more than binary variable. PTAs can be both liberalizing and non-liberalizing.