Trading Places, Trading Platforms: The Geography of Trade Policy Realignment

Supporting Information

Contents

Appendix

Proof of Proposition 1: Solving General Equilibrium

Skilled labor supply and demand in constituency b are equalized:

$$W_{Sb} = W_{Sa} + \rho_b - \rho_a = X_{Sb} - S_b \qquad \text{(A1)}$$

Unskilled labor supply and demand in constituency b are equalized:

$$W_{Ub} = W_{Ua} + \rho_b - \rho_a = X_{Ub} - U_b \qquad \text{(A2)}$$

Skilled labor supply and demand in constituency a are equalized:

$$W_{Sa} = W_{Sb} + \rho_a - \rho_b = X_{Sa} - S_a \qquad \text{(A3)}$$

Unskilled labor supply and demand in constituency a are equalized:

$$W_{Ua} = W_{Ub} + \rho_a - \rho_b = X_{Ua} - U_a \qquad \text{(A4)}$$

Housing supply and demand in constituency b are equalized:

$$\rho_b = U_b + S_b = W_{Sb} - W_{Sa} + \rho_a = W_{Ub} - W_{Ua} + \rho_a \qquad \text{(A5)}$$

Housing supply and demand in constituency a are equalized:

$$\rho_a = U_a + S_a = W_{Sa} - W_{Sb} + \rho_b = W_{Ua} - W_{Ub} + \rho_b \qquad \text{(A6)}$$

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Increasing skilled productivity in the high-density constituency by $(1 - \tau_{G1})\Delta$[1] yields skilled migration to b and unskilled migration to a. Because $X_{Sb2} = X_{Sb1} + (1 - \tau_{G1})\Delta$, $S_{a2} = S_{a1} - \frac{4(1-\tau_{G1})\Delta}{12}$, $S_{b2} = S_{b1} + \frac{4(1-\tau_{G1})\Delta}{12}$, $U_{a2} = U_{a1} + \frac{2(1-\tau_{G1})\Delta}{12}$, and $U_{b2} = U_{b1} - \frac{2(1-\tau_{G1})\Delta}{12}$.

Proof of Proposition 2

The function M maps the skill ratio of a constituency to it's median tariff preference; formally, $M(\frac{S_c}{U_c}) = \tau_{m_c}$, where M is a decreasing function (more skilled demographics indicates the median voter prefers a lower tariff). If $U_c > S_c$, then $M(\frac{S_c}{U_c}) = \tau_{m_c} = \frac{3U_c - S_c}{4U_c}$.[2] If $U_c < S_c$, then $M(\frac{S_c}{U_c}) = \tau_{m_c} = \frac{U_c + S_c}{4S_c}$.[3]

Let's start with the high-density constituency b. If the median voter switches from unskilled to skilled, it is clear that $\tau_{m_{b2}} = \tau_{l2} < \tau_{l1} = \tau_{m_{b1}}$.[4] Suppose the median voter in district b is unskilled in periods 1 and 2, i.e. $U_{b1} > S_{b1}$ and $U_{b2} > S_{b2}$. Because the median voter in district b is unskilled, we have $\frac{3U_b - S_b}{4U_b} = \tau_{m_b}$. We therefore have $\frac{3U_{b1} - S_{b1}}{4U_{b1}} = \tau_{m_{b1}}$ and $\frac{3U_{b2} - S_{b2}}{4U_{b2}} = \tau_{m_{b2}}$. Following the enactment of τ_{G1}, there is population movement such that $S_{b2} - S_{b1} = \frac{4\Delta(1-\tau_{G1})}{12}$ and $U_{b2} - U_{b1} = -\frac{2\Delta(1-\tau_{G1})}{12}$. Substituting in for the second period population values, we have $\frac{3U_{b2} - S_{b2}}{4U_{b2}} =$

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1. We assume $\Delta > 0$.
2. We have $\frac{S_c}{S_c + U_c} \int_0^{\tau_{m_c}} 2\, dx = \frac{1}{2}$. Then $\frac{S_c}{S_c + U_c} [2x]_0^{\tau_{m_c}} = \frac{1}{2}$, so $2\tau_{m_c} \frac{S_c}{S_c + U_c} = \frac{1}{2}$. Solving for τ_{m_c}, we get the solution above.
3. We have $\frac{U_c}{S_c + U_c} \int_{\tau_{m_c}}^1 2\, dx = \frac{1}{2}$. Then $\frac{U_c}{S_c + U_c} [2x]_{\tau_{m_c}}^1 = \frac{1}{2}$, so $\frac{U_c}{S_c + U_c} (2 - 2\tau_{m_c}) = \frac{1}{2}$. Solving for τ_{m_c}, we get the solution above.
4. It is never the case that the median voter in constituency b switches from skilled to unskilled, as the high-density constituency always becomes more skilled following the enactment of τ_{G1}.

$$\frac{3(U_{b1}-\frac{2\Delta(1-\tau_{G1})}{12})-(S_{b1}+\frac{4\Delta(1-\tau_{G1})}{12})}{4(U_{b1}-\frac{2\Delta(1-\tau_{G1})}{12})} = \tau_{mb2} = \tau_{l2} < \frac{3U_{b1}-S_{b1}}{4U_{b1}} = \tau_{mb1} = \tau_{l1}.$$

Suppose the median voter in constituency b is skilled in periods 1 and 2, i.e. $U_{b1} < S_{b1}$ and $U_{b2} < S_{b2}$. Because the median voter is skilled, $\tau_{m_b} = \frac{U_b+S_b}{4S_b}$. We therefore have $\tau_{mb1} = \frac{U_{b1}+S_{b1}}{4S_{b1}}$ and $\tau_{mb2} = \frac{U_{b2}+S_{b2}}{4S_{b2}}$. Substituting in again for the second period's population, we have

$$\frac{U_{b1}-\frac{2\Delta(1-\tau_{G1})}{12}+S_{b1}+\frac{4\Delta(1-\tau_{G1})}{12}}{4(S_{b1}+\frac{4\Delta(1-\tau_{G1})}{12})} = \tau_{mb2} = \tau_{l2} < \tau_{mb1} = \frac{U_{b1}+S_{b1}}{4S_{b1}} = \tau_{l1}.$$

Now let's consider the low-density constituency a. If the median voter switches from skilled to unskilled, it is clear that $\tau_{ma2} = \tau_{r2} > \tau_{r1} = \tau_{ma1}$.[5] Suppose the median voter in constituency a is unskilled in periods 1 and 2, i.e. $U_{a1} > S_{a1}$ and $U_{a2} > S_{a2}$. Because the median voter in district a is unskilled, we have $\frac{3U_a-S_a}{4U_a} = \tau_{ma}$. We therefore have $\frac{3U_{a1}-S_{a1}}{4U_{a1}} = \tau_{ma1}$ and $\frac{3U_{a2}-S_{a2}}{4U_{a2}} = \tau_{ma2}$. Following the enactment of τ_{G1}, there is population movement such that $S_{a2} - S_{a1} = -\frac{4\Delta(1-\tau_{G1})}{12}$ and $U_{a2} - U_{a1} = \frac{2\Delta(1-\tau_{G1})}{12}$. Substituting in for the second period population values, we have $\frac{3U_{a2}-S_{a2}}{4U_{a2}} =$

$$\frac{3(U_{a1}+\frac{2\Delta(1-\tau_{G1})}{12})-(S_{a1}-\frac{4\Delta(1-\tau_{G1})}{12})}{4(U_{a1}+\frac{2\Delta(1-\tau_{G1})}{12})} = \tau_{ma2} = \tau_{r2} > \tau_{ma1} = \frac{3U_{a1}-S_{a1}}{4U_{a1}} = \tau_{r1}.$$

Suppose the median voter in constituency a is skilled in periods 1 and 2, i.e. $U_{a1} < S_{a1}$ and $U_{a2} < S_{a2}$. Because the median voter is skilled, $\tau_{m_a} = \frac{U_a+S_a}{4S_a}$. We therefore have $\tau_{ma1} = \frac{U_{a1}+S_{a1}}{4S_{a1}}$ and $\tau_{ma2} = \frac{U_{a2}+S_{a2}}{4S_{a2}}$. We therefore have $\frac{U_{a1}+\frac{2\Delta(1-\tau_{G1})}{12}+S_{a1}-\frac{4\Delta(1-\tau_{G1})}{12}}{4(S_{a1}-\frac{4\Delta(1-\tau_{G1})}{12})} = \tau_{ma2} = \tau_{r2} > \tau_{ma1} = \frac{U_{a1}+S_{a1}}{4S_{a1}} = \tau_{r1}$. Because $\tau_{r2} > \tau_{r1}$, and $\tau_{l2} < \tau_{l1}$, the "Relative Protectionism of the Right" $(\tau_r - \tau_l)$ increases over time $(\tau_{r2} - \tau_{l2} >$

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5. It is never the case that the median voter in constituency a switches from unskilled to skilled, as the low-density constituency always becomes less skilled following the enactment of τ_{G1}.

$\tau_{r1} - \tau_{l1}$).

Robustness of Economic Geography

I demonstrate below that the growing skill gap between high and low-density constituencies in the U.S. holds when looking at median (rather than average) skill levels.
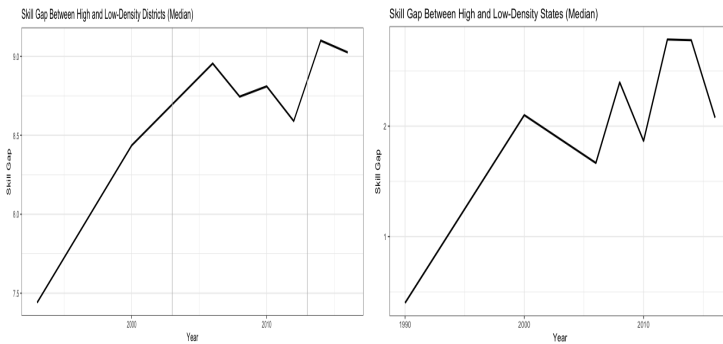

FIGURE A1. Skill Gap Between High and Low-Density Constituencies (Median)

I also demonstrate that the growing skill gap between high and low-density constituencies in Australia, Canada and the U.K. holds when looking at median (rather than average) skill levels.
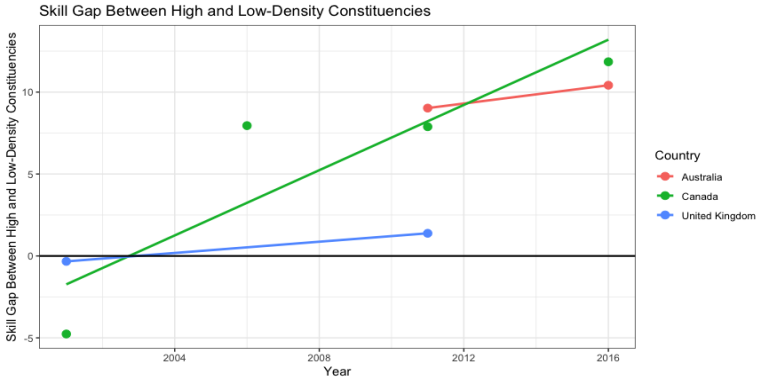
FIGURE A2. Skill Gap Between High and Low-Density Constituencies
(Median)

Robustness of Relative Skill of Right Constituencies

I demonstrate that the cross-national results for the Relative Skill of Right
Constituencies hold when using the average constituency rather than the
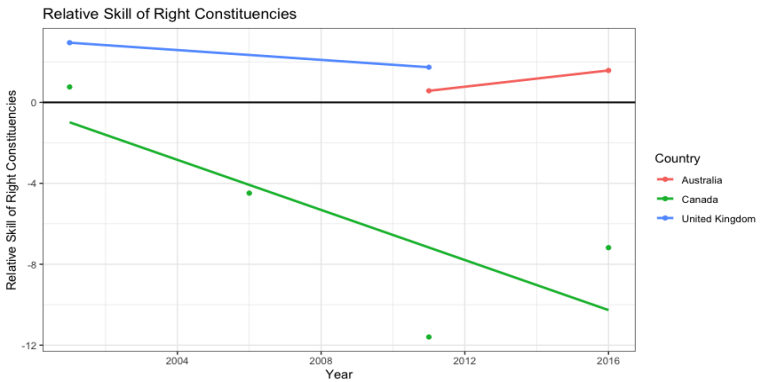median.

FIGURE A3. Relative Skill of Right Constituencies (Average)

I show below that the trend of Republican constituencies becoming relatively less educated over time holds when looking at average percent skilled instead of median percent skilled.
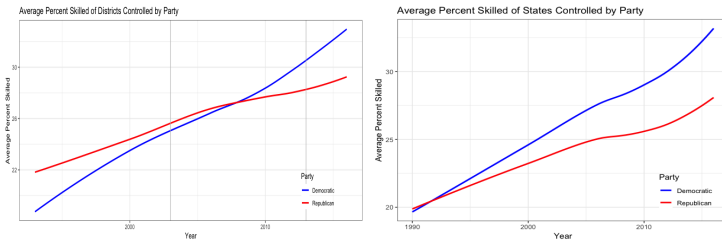

FIGURE A4. Average Percent Skilled of Constituencies Controlled by Party

Empirical Analysis

I first demonstrate that the Relative Protectionism of the Right has exhibited a positive and statistically significant time trend.

Relative Protectionism of the Right

TABLE A1. *Relative Protectionism of the Right, 1985-2015*

	Dependent variable:
	Relative Protectionism of the Right
Year	0.106**
	(0.040)
Country FE	✓
Constant	−210.868**
	(79.000)
Observations	33
R^2	0.276
Adjusted R^2	0.172
Residual Std. Error	1.901 (df = 28)
F Statistic	2.662* (df = 4; 28)

Note: $^{*}p<0.1; ^{**}p<0.05; ^{***}p<0.01$

Relative Protectionism of the Right (Robustness to Outlier Exclusion)

I now demonstrate that the positive trend in the Relative Protectionism of the Right holds when excluding the outlier of Canada in 1988.

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TABLE A2. *Relative Protectionism of the Right, 1985-2015 (Outlier Exclusion)*

	Dependent variable:
	Relative Protectionism of the Right
Year	0.045**
	(0.021)
Country FE	✓
Constant	−89.075**
	(42.166)
Observations	32
R^2	0.161
Adjusted R^2	0.037
Residual Std. Error	0.962 (df = 27)
F Statistic	1.296 (df = 4; 27)

Note:	*p<0.1; **p<0.05; ***p<0.01

Relative Skill of Right Voters

Finally, I demonstrate that the Relative Skill of Right Voters has exhibited a negative and significant time trend.

Date received: MMMM DD, YYYY; Date accepted: MMMM DD, YYYY.   Dummy dates; please ignore.

TABLE A3. *Partisan Voting by Skill Level*

	Dependent variable:
	Relative Skill of Right Voters
Year	−0.608***
	(0.134)
Country FE	✓
Constant	1,216.732***
	(268.679)
Observations	32
R^2	0.672
Adjusted R^2	0.623
Residual Std. Error	6.447 (df = 27)
F Statistic	13.812*** (df = 4; 27)
Note:	*p<0.1; **p<0.05; ***p<0.01