Unintended consequences: can the rise of the educated class explain the revival of protectionism?

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ABCDE Conference, World Bank, 17-18 June 2019

Motivation and research question

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Why emptying the baby out with the bathwater?

Our politico-economic explanation:
the (endogenous) rise of the educated class erodes the political support for redistribution, so that the losers from trade prefer protectionism

▸ Fact 1 ▸ Fact 2 ▸ Fact 3

Our model: overview

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2. **political economy**: two-stage voting game on trade openness and redistribution;
3. **dynamics**: taxes finance a public good, which promotes human capital accumulation.

Literature

Our research is related to several strands of literature, i.e.

1. political attitudes towards globalization:
   Colantone and Stanig (2018a, 2018b), Dippel et al. (2015), Becker et al. (2016) Jensen et al. (2016), Autor et al. (2016), Rodrik (2018), Grossman and Helpman (2018), Pastor and Veronesi (2019)

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2. determinants of populism:
   Guiso et al. (2017, 2018), Inglehart and Norris (2016)
3. distributive effects of trade:
   Grossman et al. (2017), Burstein and Vogel (2017), Vannoorenberghe and Janeba (2016)
4. human capital accumulation and inequality:
   Galor (2011), Benabou (1996), Zeira (2007)

The economic environment: industries and agents

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Population of unit mass:

- $\lambda \in (1/2, 1)$ workers, and
- $1 - \lambda$ entrepreneurs.

Industries and agents

Entrepreneurs are *sector-specific*:

– $\gamma\,(1-\lambda)$ in sector X (denoted by x),

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As far as workers are concerned,

- $\sigma\lambda$ are skilled (s) and perfectly mobile across industries,
- $(1-\sigma)\,\lambda$ are unskilled (u) and imperfectly mobile.

Production

Production in the two sectors takes place according to

$$Y_X = AP\left[\gamma\left(1-\lambda\right)\right]^{1-\alpha-\beta}\left[\theta_s\sigma\lambda\right]^{\alpha}\left[\theta_u\left(1-\sigma\right)\lambda\right]^{\beta} \tag{1}$$

and

$$Y_M = \left[\left(1-\gamma\right)\left(1-\lambda\right)\right]^{1-\alpha-\beta}\left[\left(1-\theta_s\right)\sigma\lambda\right]^{\alpha}\left[\left(1-\theta_u\right)\left(1-\sigma\right)\lambda\right]^{\beta}, \tag{2}$$

where:

- θ_s and θ_u are (endogenous) labor shares (in X),
- $A \in R_+$ is TFP in X,
- $P \in [\underline{P}, \overline{P}]$ is the relative price in sector X ($\hookrightarrow$ proxy for trade openness, as in Grossman et al. (2017), etc.).

Factor allocation

Factors are paid their marginal productivity (MP).
The allocation of workers (θ_s, θ_u) is obtained from factor income equalization:

$$y_{M,i} = y_{X,i} \text{ for } i = s, u.$$

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For the skilled, $MP_{M,s} = MP_{X,s}$.
Unskilled workers incur an access cost to sector X, so that

$$MP_{M,u} = \frac{MP_{X,u}}{\phi P}, \tag{3}$$

with $\phi > 0$.

Trade and factor incomes

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Lemma 1

An increase in P (i) raises y_x and y_s, (ii) lowers y_m, and (iii) lowers y_u as long as $\phi P > 1$.

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3. $\overline{P} < \dfrac{\phi^{\frac{\beta}{1-\beta}}}{A^{\frac{1}{1-\beta}}} \left(\dfrac{\lambda\sigma\left(1-\alpha-\beta\right)-\alpha\left(1-\gamma\right)\left(1-\lambda\right)}{\alpha\gamma\left(1-\lambda\right)} \right)^{\frac{1-\alpha-\beta}{1-\beta}}$.

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3. $$\overline{P} < \frac{\phi^{\frac{\beta}{1-\beta}}}{A^{\frac{1}{1-\beta}}} \left(\frac{\lambda\sigma (1-\alpha-\beta) - \alpha (1-\gamma)(1-\lambda)}{\alpha\gamma (1-\lambda)} \right)^{\frac{1-\alpha-\beta}{1-\beta}}.$$

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The above restrictions on the parameter space allow us to "freeze" the ranking of incomes, thus simplifying the analysis.

Lemma 2

Under Assumption 1, we have $y_x, y_m > y_s > y_u$.

Setting up the problem

We consider a two-stage voting game, in which agents decide by majority on

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Utility depends on consumption of private and public goods:

$$U(c_X, c_M, G) = c_X^{\mu} c_M^{1-\mu} + \delta \ln G. \tag{4}$$

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The government budget constraint is

$$G = \tau Y, \tag{5}$$

with $Y = PY_X + Y_M$.

Political preferences over taxation

The preferred tax rate by agent $i = \{s, u, x, m\}$ is

$$\tau_i^* = \frac{\delta \left(\frac{P}{1-\mu}\right)^{1-\mu} \left(\frac{1}{\mu}\right)^{\mu}}{y_i}. \tag{6}$$

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Given Lemma 1, political preferences on taxation can be ranked as follows

Lemma 3

Under Assumption 1, we have $\tau_u^* > \tau_s^* > \tau_m^*, \tau_x^*$.

Voting on taxation

Political preferences are aggregated by majority voting, where τ^M is the preferred tax rate of the median voter.

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Proposition 1

The median voter on τ is always a worker, unskilled if $\lambda(1-\sigma) \geq 1/2$ and skilled otherwise, i.e.

$$\tau^M = \begin{cases} \tau_u^* \text{ if } \sigma \leq 1 - \dfrac{1}{2\lambda} \\ \tau_s^* \text{ if } \sigma > 1 - \dfrac{1}{2\lambda}. \end{cases} \quad (7)$$

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$$\sigma' \equiv 1 - \frac{1}{2\lambda}.$$

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In the absence of adequate redistribution, the losers from trade would like to reduce trade openness.

Lemma 5

Unskilled workers become more hostile to trade when the median voter on τ becomes a skilled worker, i.e. $P_u^*\left(\tau_s^*\right) < P_u^*\left(\tau_u^*\right)$.

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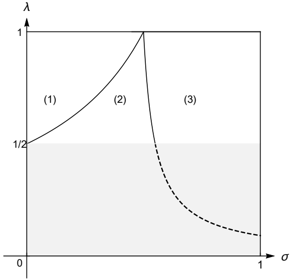

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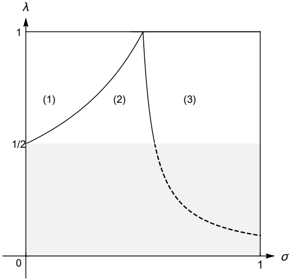

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The political equilibrium is such that

$$(P^M, \tau^M) = \begin{cases} \left(P_u^*\left(\tau_u^*\right), \tau_u^*\right) \ \textit{if } \sigma \leq \sigma' \textit{ (reg. 1)} \\ \\ \end{cases}$$

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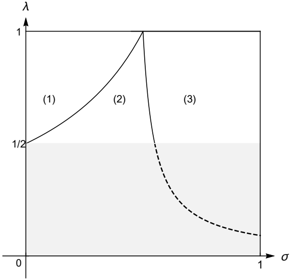

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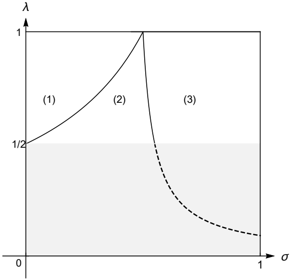

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The evolution of σ is described by

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where $\zeta \in (0,1)$, $\eta \in R_+$ and $\chi^{SS} > \chi^{US}$.

The transition function

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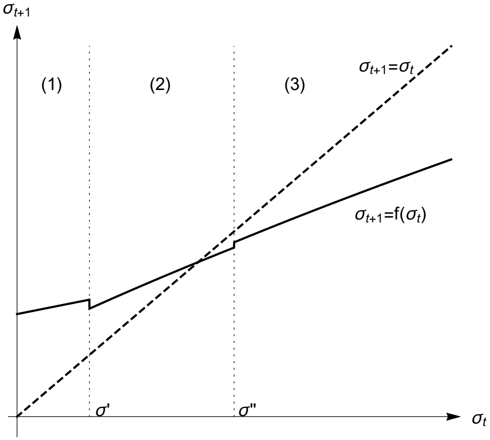
The transition function for σ is given by

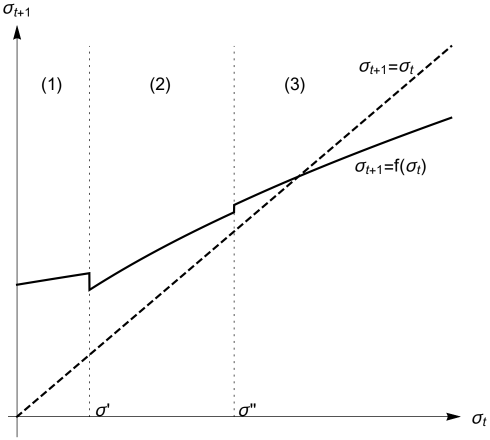
$$\sigma_{t+1} = \begin{cases} f_1(\sigma_t) & \text{if } \sigma_t \leq \sigma' \\ f_2(\sigma_t) & \text{if } \sigma' < \sigma_t \leq \sigma'' \\ f_3(\sigma_t) & \text{if } \sigma_t > \sigma'' \end{cases} \tag{13}$$

where $f_i(\sigma_t)$ depends on the specific political equilibrium prevailing at time t.

Example: protectionist SS



Example: free-trade SS



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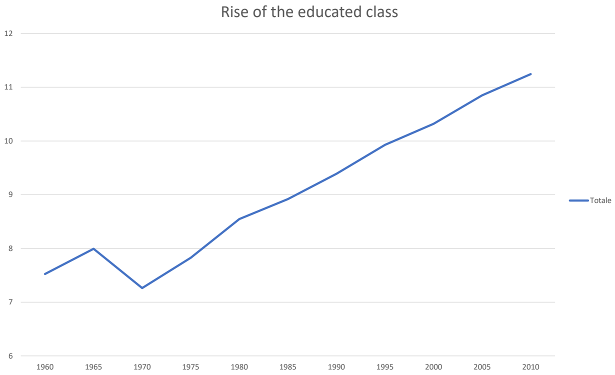
- thus increasing the demand for protectionism.

The rise of the educated class (OECD)

Back

Source: own elaborations on OECD data



Trade Openness and Social Expenditure (OECD)

Back

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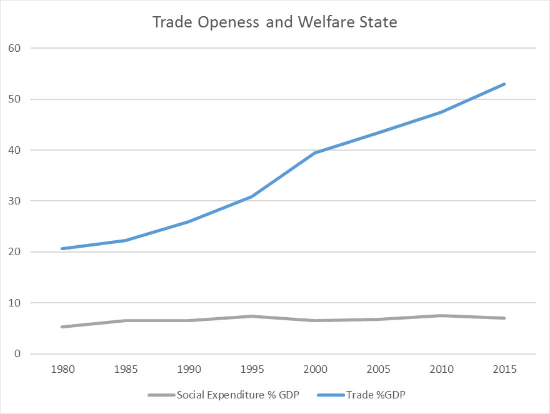

Globalization and redistribution (or the lack thereof)

OECD countries: trade openness and social expenditure

◂ Back

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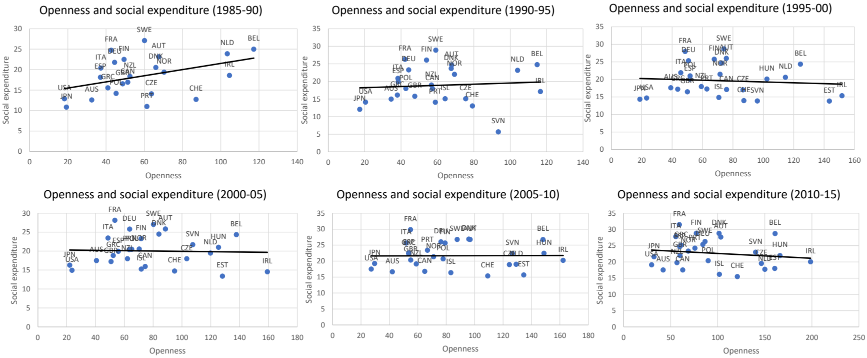
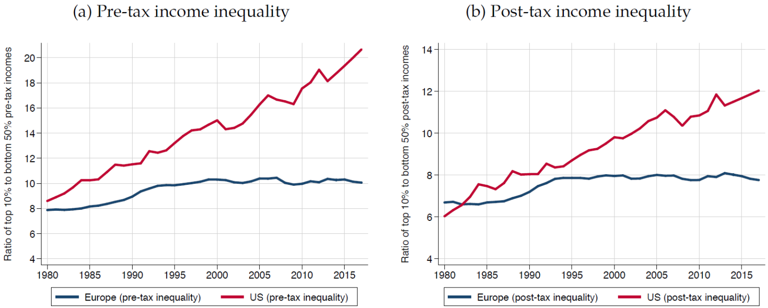


Inequality before and after redistribution (Europe Vs. US)

Source: Blanchet et al. (2019)



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