Social Cohesion and Optimal Redistribution in a Model of Endogenous Growth

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Redistributive policy may improve allocative efficiency and promote economic growth, because of
1) the absence of credit market;
2) diminishing returns to input.

However, a redistributive policy may also inflict
1) a moral hazard problem for the potential recipients of transfers to defeat its essential purpose.
2) a costly political battle prior to the implementation of a redistribution policy.

Therefore, we explore whether a policy maker can alleviate those concerns by designing an unbiased education system to facillitate intergenerational transmission of nonrival knowledge to promote equity in the accumulation of human capital as a substitute for a redistributive policy.

Q. Do countries with greater social cohesion require less reliance on redistribution?

Social cohesion facilitates the diffusion of nonrival knowledge through social interactions.

The consequent bridging of the knowledge gap may make learning cheaper for children with limited access to adults with high human capital.

A child accumulates human capital by receiving
1) education and training from parents and schools,
2) from social interactions with the peers and with their parents.

Therefore,
1) how a society aggregates knowledge matters;
2) it affects the ease at which a learner can extract past knowledge to boost human capital.

A greater frequency of social interactions increases the stock of nonrival knowledge for the next generation.

It does so because
1) the diffusion of knowledge through interactions among the adults increases the substitutability of human capital;
2) allow children to learn an increased fraction of the frontier knowledge accumulated in the past.
3) Thus, as the substitutability of the parental human capital increases, the cost of acquiring the best ideas of the past decreases.

Could such a reduction in the cost of learning due to improved social cohesion lower the optimal progressivity for a redistributive policy?

Numerically, we find that as the index of social cohesion increases, the estimates for optimal progressivity decline and so do the corresponding gains in growth from progressive redistribution.

We conclude:
1) social cohesion decreases the need for politically divisive progressive redistribution, even with
  a) the absence of a credit market;
  b) technologies that exhibit diminishing returns,
2) a sufficiently large degree of social cohesion empowers a country to promote growth with equity without having to fight a costly political battle for a redistributive policy.

Factors preventing social cohesion and making it harder to substitute adults with different levels of human capital are:

1. ethnolinguistic diversity: Easterly and Levine (1997); Alesina and La Ferrara (2005); Michalopoulos (2012)

2. genealogical distance: Spolaore and Wacziarg (2009, 2011)

3. differences in the relative evaluation of ideas and information: Comin et al. (2010)

4. differences in culture and ethnicity: Desmet et al. (2015).

5. Ottaviano and Peri (2012): provide quantitative measures of how substitutability in work varies among educated people with different cultural and historical backgrounds

6. Acemoglu and Autor (2012): Overall, a low level of social cohesion, typically creates a mismatch between task and skill

7. Acemoglu (2014): Information islands blocked inside social cliques.

SCI - Based on 30 items from eight different sources, Foa (2011) constructed the social cohesion index (SCI) for 155 countries.

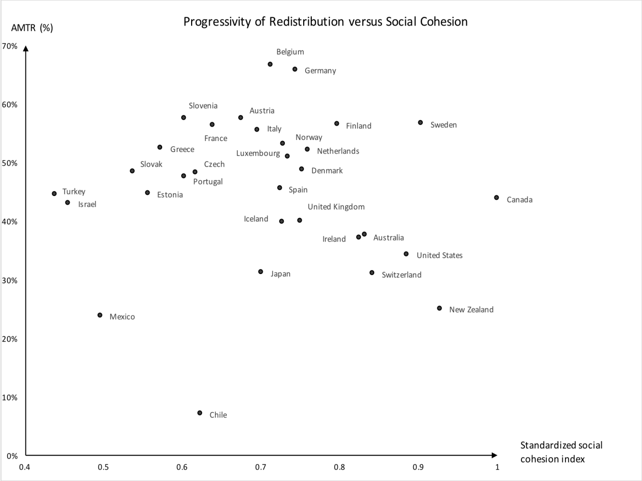
Its value increases with the measures of

(i) social trust (Knack and Keefer, 1997)

(ii) social inclusion measured by lower intergroup discrimination and violence based on ethnicity, race and religion (Woolcock et al., 2004)

(iii) fostering norms of cooperation between different groups, "as bridging social capital" rather than "bonding social capital within groups but not with outsiders." (Dasgupta, 2010) and (Staveren and Pervaiz, 2017)

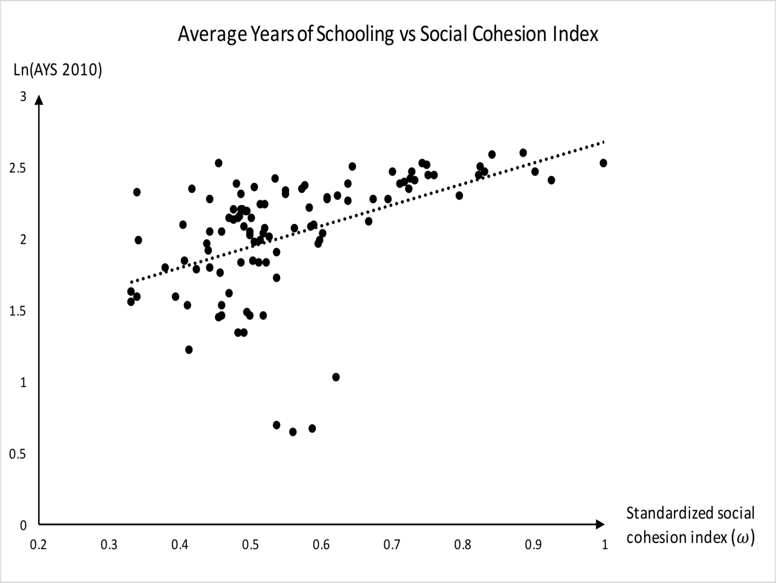
Figure 1 illustrates an apparently negative tradeoff between the SCI and the average marginal tax rate (AMTR).



Progressivity: The 2000–2005 average of the AMTR, source: OECD, Table I.4. Standardized SCI, Foa (2011, Table 1).

We argue that

- social cohesion boosts economic growth by increasing the economy's average human capital through knowledge diffusion.
- Therefore, this mechanism can act as a substitute for redistribution.



Average years of schooling Barro and Lee (2013). Standardized SCI Foa (2011,Table 1).

Knowledge endowment K_t as a public good for the next generation:

$$K_t \equiv \left(\int_0^1 \left(h_t^i\right)^{\omega} di \right)^{1/\omega}. \tag{1}$$

By (1), the availability of the past knowledge increases in ω and, equivalently, with the elasticity $(\frac{1}{1-\omega})$ of substitution of human capital inputs, which, by assumption, increases with social cohesion.

Also, the lognormal distribution of human capital implies

$$\ln K_t = \ln h_t - (1-\omega)\frac{\Delta_t^2}{2}, \tag{2}$$

where, h_t and Δ_{ht}^2, respectively, denote the date t mean and variance of the human capital distribution.

Knowledge Externality in Education

Tamura (1996), Heckman and Klenow (1997), Lloyd-Ellis (2000), de la Croix and Doepke (2003), Zhang (2003, 2005), Viaene and Zilcha (2009):

Atmospheric presence of the endowment of knowledge from the past augments children's human capital along with formal education and parental nurturing.

Comin et al. (2010): Dynamic externality through which the returns to schooling for a generation increase if it stands on the shoulders of the previous generation's knowledge for a head start.

To capture this idea, we assume children's human capital stock h^i_{t+1} as a function of the endowment of knowledge K_t from the previous generation, her parental human capital h^i_t and her inborn ability ξ^i_{t+1}, and the parental investment in her education e^i_t such that

$$h^i_{t+1} = \kappa K^\delta_t \xi^i_{t+1} \left(h^i_t\right)^\alpha \left(e^i_t\right)^\beta, \; \kappa, \alpha, \beta, \delta > 0, \; \alpha + \beta < 1. \tag{3}$$

Progressive Redistribution with Pigouvian Subsidy:

$$h^i_{t+1} = \kappa K^\delta_t \left(h^i_t\right)^\alpha \left(\left(1 + a_{PS}\right)\left(1 + a_R\right) e^i_t\right)^\beta, \text{ where } R = edu \text{ or } inc, \tag{4}$$

Empirical Evidence for δ: Hanushek (1992). Tamura (1996) and, more recently, Cavalcanti and Giannitsarou (2015) provide estimates of the degree δ of such knowledge externality in education.

$$\ln h_{t+1} = \varphi + \ln h_t + \delta\omega \frac{\Delta_t^2}{2} - \psi \Lambda_t \quad (5)$$

where $\varphi \equiv \ln \kappa + \beta \left(\ln s + \mu \ln l \right)$, and
$\psi \equiv \left(\left(\frac{1-(\alpha+\beta\lambda(1-\tau))^2}{\lambda^2} \right) - \beta\tau \left(2 - \tau \right) \right)$,
inequality of income $\Lambda_t = \frac{\lambda^2 \Delta_t^2}{2}$ and
variance of human capital $\Delta^2 = \frac{\sigma^2}{\left(1-(\alpha+(1-(\alpha+\delta^*))(1-\tau))^2 \right)}$.

Policy Issues

Benabou (2002) considers two regimes of redistribution R:
(i) income tax (*in*) and
(ii) education finance (*ed*).

The progressivity parameters τ_{in} and τ_{ed} measure, respectively, the average marginal tax rate in the income tax regime and the average marginal rate of the progressive education subsidy in the education finance scheme.

Income tax

Technology:

$$y_t^i = \left(h_t^i\right)^{\lambda} \left(l_t^i\right)^{\mu}. \tag{6}$$

Disposable income $\hat{y}_t^i$ of agent i at a date t satisfies

$$\hat{y}_t^i \equiv \left(y_t^i\right)^{1-\tau} \left(\tilde{y}_t\right)^{\tau}, \; 0 < \tau < 1, \tag{7}$$

where $\tilde{y}_t$ represents the break-even level of income.
No Borrowing:

$$(1+\theta)\, c_t^i + e_t^i = \hat{y}_t^i. \tag{8}$$

Government's Budget Constraint:

$$\int_0^1 \hat{y}_t^i di = \int_0^1 y_t^i di \equiv y_t$$

Education Finance

The education finance scheme follows a progressivity rate τ for providing education subsidy and the educational investment satisfies

$$\hat{e}_t^i \equiv (1 + a) \left(\tilde{y}_t / y_t^i\right)^{\tau} e_t^i. \tag{9}$$

It means that for the poor family whose income y_t^i is less than $\tilde{y}_t$ will receive net benefit and then could provide more investment in education. Education subsidies are financed by a consumption tax at a rate $0 < \theta < 1$ such that change the parent's budget constraint satisfies

$$y_t^i = (1 + \theta)\, c_t^i + e_t^i, \tag{10}$$

and equation (3) changes to:

$$h_{t+1}^{i} = \kappa K_t^{\delta} \zeta_{t+1}^{i} \left(h_t^i\right)^{\alpha} \left(\hat{e}_t^i\right)^{\beta}. \tag{11}$$

Government's Budget Constraint:

$$a \int_0^1 e_t^i di = \theta \int_0^1 c_t^i di. \tag{12}$$

The Equilibrium

At each date t, let m_t denote the mean and Δ_t denote the variance in $\ln h_t^i$ and $\chi_t \equiv (m_t, \Delta_t; \tau, a_{PS}, R)$ denote the vector of the economy-wide state variables.

Thus, the Bellman equation is given below:

$$V\left(h_t^i, \chi_t; \tau\right) = \max_{\left(c_t^i, l_t^i, e_t^i\right)} \left\{ \begin{array}{l} (1-\rho)\left(\ln c_t^i - \left(l_t^i\right)^\eta\right) \\ +\rho E_t\left[V\left(h_{t+1}^i, \chi_{t+1}; \tau\right)\right] \end{array} \right\}, \tag{13}$$

subject to (1), (3) and (7)-(8).

Lemma 1: Under both schemes of redistribution R, income tax (in) and education finance (ed), the ratio of total educational expenditure e_t^i for the child of dynasty i to the parental disposable income $\hat{y}_t^i$, or the parental investment rate $s_t^i \equiv \frac{e_t^i}{\hat{y}_t^i}$, in the child's education as and the labor supply l_t^i are given, respectively, by two constants $0 < s_R,\ l_R < 1$, $R = in, ed$ such that

$$\begin{aligned} \text{if } R &= in \text{ then } s_R = \frac{\rho\beta\lambda(1-\tau)}{1-\rho\alpha}, \\ l_R &= \left(\frac{(\mu/\eta)(1-\tau)(1-\rho\alpha)}{1-\rho(\alpha+(1-\alpha-\delta)(1-\tau))}\right)^{1/\eta}, \end{aligned} \tag{14}$$

and

$$\begin{aligned} \text{if } R &= ed \text{ then } s_{ed} = \frac{\rho\beta\lambda}{1-\rho\alpha+\rho\beta\lambda\tau}, \\ l_R &= \left(\frac{(\mu/\eta)(1-\rho\alpha)}{1-\rho(\alpha+(1-\alpha-\delta)(1-\tau))}\right)^{1/\eta}. \end{aligned} \tag{15}$$

Using Lemma 1, we can write the optimal rules human capital accumulation for each dynasty i and the resulting evolution of income as follows:

$$\begin{aligned} \ln h^i_{t+1} &= \ln \kappa + \delta \ln K_t + \beta \ln s_R + \beta\mu\left(1-\tau\right)\ln l_R + \ln \xi^i_{t+1} \\ &\quad + \left(\alpha + \beta\lambda\left(1-\tau\right)\right)\ln h^i_t + \beta\tau \ln \tilde{y}_t . \end{aligned} \tag{16}$$

$$\begin{aligned} \ln y^i_{t+1} = \psi\left(\tau\right) + \lambda(\ln \kappa + \delta \ln K_t) + \lambda \ln \xi^i_{t+1} + \beta\lambda\tau \ln \tilde{y}_t \\ + \left(\alpha + \beta\lambda\left(1-\tau\right)\right)\ln y^i_t , \end{aligned} \tag{17}$$

where $\psi\left(\tau\right) \equiv \beta\lambda \ln s_R + \left(1-\alpha\right)\mu \ln l_R$, K_t satisfies (1).

PROPOSITION 1: *There exists a unique equilibrium* $\{\chi_t\}_{t=0}^{\infty}$ *such that, at each date* t, χ_t *satisfies*

$$m_{t+1} = Am_t + d_\tau \Lambda_t + d_{\delta\omega} \Delta_t^2 / 2 + d_\phi, \tag{18}$$

and

$$\Delta_{t+1} = \sigma^2 + B * \Delta_t, \tag{19}$$

where, $d_\phi \equiv \ln \kappa - \sigma^2/2 + \beta \ln s_R + \beta\lambda \ln l_R$, $d_\tau \equiv \beta\tau(2-\tau)$, $d_{\delta\omega} \equiv \delta\omega$, *and* $A \equiv \alpha + \beta\lambda + \delta$, $B \equiv (\alpha + \beta\lambda(1-\tau))^2$.

Endogenous Inequality and Growth

Clearly, $B < 1$.

Therefore, if $A < 1$ then, by (18), the economy converges to a constant steady state.

If $A > 1$ then there are no transitional dynamics but an unstable steady state.

If, however, $A = 1$ then we can define a critical degree $\delta^* \geqslant 0$ of knowledge externality, where

$$\delta^* \equiv 1 - (\alpha + \beta\lambda) , \tag{20}$$

such that if the social returns to schooling through knowledge externality exactly offsets the diminishing private returns to education then the economy would exhibit an endogenous and a balanced growth path: $\gamma_t \equiv \ln y_{t+1} - \ln y_t = \gamma$.

PROPOSITION 2: *If and only if, $\delta = \delta^*$, then the model economy exhibits a balanced growth path such that the long-run growth rate γ as a function of δ^* satisfies*

$$\gamma_R = \Phi_R^* - \Psi^* \Lambda^* > 0, \tag{21}$$

where the aggregate effect Φ_R^* of the input supply on growth is given by

$$\Phi_R^* \equiv \lambda \ln \kappa - \lambda \mu \sigma^2 / 2 + (1 - \alpha - \delta^*)(\ln s_R + \mu \ln l_R), \tag{22}$$

where, s_R and l_R satisfy (14) - (15), *and the cost of inequality, measured by Ψ^* satisfies,*

$$\Psi^* = 1 - (1 - \alpha - \delta^*)(2 - \tau)\tau - (\alpha + (1 - \alpha - \delta^*)(1 - \tau))^2 - \delta^* \frac{\omega}{\lambda}, \tag{23}$$

the intergenerational correlation r^* of family income and the stationary inequality Λ^* are given by

$$r^* = \alpha + (1 - (\alpha + \delta^*))(1 - \tau), \tag{24}$$

$$\Lambda^* = \frac{\lambda^2}{(1 - r^{*2})} \frac{\sigma^2}{2}. \tag{25}$$

Clearly, by (23), as ω increases the adverse impact Ψ^* of inequality decreases. It means that social cohesion reduces the cost of inequality by facilitating knowledge diffusion through increased frequency of social intercations.

The Social Planner's Problem:

We define the social welfare, W_t, as the aggregation of utilities, $W_t \equiv \int_0^1 \ln U_t^i di$. The social welfare W_t satisfies:

$$W_t = (1-\rho)\sum_{t=0}^{\infty}\rho^t\left[\ln y_t - (1-\tau)^2\Lambda_t - l^\eta + \ln(1-s)\right], \qquad (26)$$

where by $\gamma_t = \ln y_{t+1} - \ln y_t$, thus, $\ln y_t = \ln y_0 + t\gamma_t$.

Following Benabou (2002) we note that:

(i) if the planner maximizes the long run growth rate γ of per capita income then the efficiency value of redistribution would be underestimated due to the ignorance of social insurance while

(ii) if the planner maximizes W_t then it would exaggerate the efficiency value of redistribution due to its concavity property of individual utility which creates an inherent bias toward equality.

Therefore, we consider Benabou's (2002) measure of aggregate economic efficiency ε which can also be called adjusted GDP for individual risk, in which certainty-equivalent consumption, $\bar{c}_t^i$, replaces agent's stochastic consumption, c_t^i, and are aggregated over time with common discount rate and intertemporal elasticity of substitution as follows:

$$\varepsilon_t = W_t + (1-\rho)\left(\sum_{t=0}^{\infty} \rho^t (1-\tau)^2 \prod_{k=0}^{t-1} p(\tau)^2\right)\Lambda. \tag{27}$$

Social Planner

Lemma 2: By limiting the social planner's choice to allocation of consumption, labor and investment in children's schooling, along the balanced growth path and the atmospheric presence of knowledge externality in the private education technology, the labor l_δ and the rate s_δ of investment in schooling satisfy:

$$l_\delta = \left(\frac{\mu \left(1 - \rho \left(\alpha + \delta\right)\right)}{\eta \left(1 - \rho\right)} \right)^{1/\eta}, \tag{28}$$

$$s_\delta = \frac{\rho \beta \lambda}{1 - \rho \left(\alpha + \delta\right)}, \tag{29}$$

and the growth rate of the average human capital satisfies,

$$\gamma_h^{sp} = \ln \kappa - \sigma^2/2 + \beta \ln s_\delta + \beta\mu \ln l_\delta + \delta\omega\Delta^2/2, \tag{30}$$

where, the stationary variance of logarithm of human capital, which the planner takes as given, satisfies,

$$\Delta^2 = \frac{\sigma^2}{1-(1-\delta)^2}. \tag{31}$$

Pigouvian Subsidy

A consumption tax financed Pigouvian Subsidy a_{PS} to the parental expenditure on the child's education to ensure the overall subsidy equalizes the investment rate by each parent to mitigate the inefficiency due to credit market friction.

The human capital accumulation function becomes

$$h_{t+1}^{i} = \kappa K_t^{\delta} \left(h_t^i\right)^{\alpha} \left(\left(1 + a_{PS}\right)\left(1 + a_R\right) e_t^i\right)^{\beta}, \text{ where, } R = ed, \text{ or, } in. \quad (32)$$

Thus, with Pigouvian subsidy, $s_R = s_\delta$, given by (29).

Long-Run Growth Rate Maximizing Progressivity

The planner considers both schemes of redistribution R (education finance or income tax) and sets the appropriate amount of Pigouvian subsidy a_{PS} to parental expenditure on education such that:

$$\gamma(\tau^*) = \underset{0 \leq \tau < 1,\ R}{Max}\ \gamma_R(a_{PS},\ \tau), \tag{33}$$

where,

$$\begin{aligned} \gamma_R(a_{PS},\ \tau) &= \left[\lambda(\ln \kappa - \sigma^2/2) + (1-\alpha-\delta^*)(\ln s_\delta + \mu \ln l_R)\right] \\ &+ \left[(1-\alpha-\delta^*)\tau(2-\tau) + \delta^* \frac{\omega}{\lambda}\right] \Lambda^*. \end{aligned} \tag{34}$$

Lemma 3: With Pigouvian subsidy to equalize the parental investment rate in the child's education to the efficient rate corresponding to the degree of knowledge externality, the optimal progressivity as well as the maximal growth rate, efficiency and welfare are higher under education finance than under income tax.

Lemma 4: If $\delta^* = 0$, then $\tau^* = 0$.

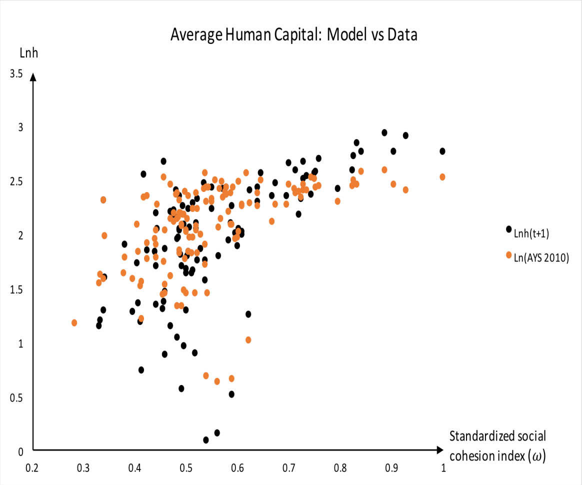
Proof: *Note $\Psi^* = (1-\alpha)\,\alpha\tau^2$, and thus, we can eliminate the cost of inequality on growth by setting $\tau^* = 0$. Next, by (21) and Lemma 1, we establish that $\tau^* = 0$ maximizes the growth rate γ.* $\square$

Lemma 6. $\frac{\partial \tau^*}{\partial \omega} < 0$.

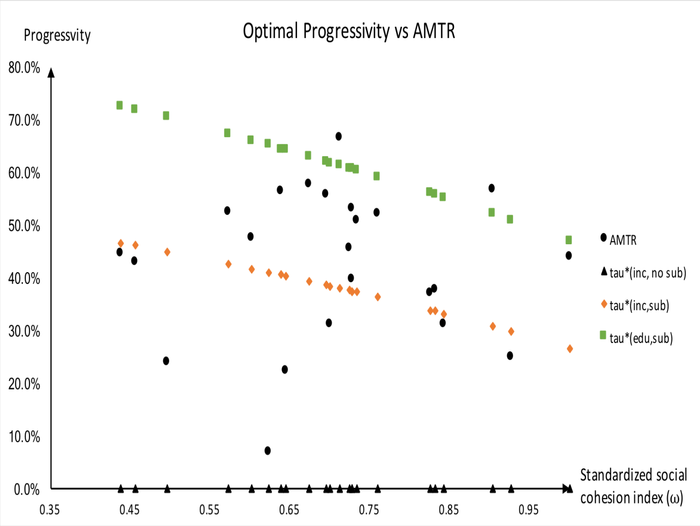
It implies that the growth promoting potential of a progressive redistribution decreases with ω, which we assume to be positively correlated with social cohesion.

Lemma 5. There exist a $\hat{\omega} > 0$ such that if $\omega > \hat{\omega}$ then $\tau_R^* = 0$ where $R = inc$ or edu and τ_R^* maximizes $\gamma_R(a_{PS}, \tau)$, given by (34), where,

$$\hat{\omega} \equiv \tilde{\omega} - \frac{\mu}{\eta}\frac{1}{\lambda}\frac{1-\alpha\rho}{1-\rho(1-\delta)}\frac{\delta(2-\delta)^2}{(1-\delta)\sigma^2}, \text{ where, } \tilde{\omega} = \frac{\lambda(2-\delta)}{(1-\delta)}.$$



We use data for social cohesion, ω, from Foa's (2011 Table 1), the AYS data from Barro and Lee (2013) for the year 1985 as a proxy for lnh(t) and plot the simulated values of lnh(t+1) to compare with the AYS data for year 2010.



Progressivity: The 2000–2005 average of the AMTR, source: OECD, Table I.4. Standardized SCI, Foa (2011, Table 1).

Table 2: Gains in Long Run Growth Rate, Welfare and Efficiency

		(i): From Externality Correction			(ii): From Progressive Redistribution			Total Gains		
Country	Omega	Growth Gains	Efficiency Gains	Welfare Gains	Growth Gains	Efficiency Gains	Welfare Gains	Growth Gains	Efficiency Gains	Welfare Gains
Canada	1.00	18.30%	1.97%	0.61%	4.22%	106.79%	101.93%	22.51%	108.76%	102.54%
New Zealand	0.93	19.27%	1.79%	0.59%	5.35%	99.48%	99.68%	24.61%	101.27%	100.27%
Sweden	0.90	19.60%	1.74%	0.59%	5.74%	97.42%	98.99%	25.34%	99.16%	99.58%
United States	0.89	19.86%	1.70%	0.58%	6.06%	95.91%	98.47%	25.93%	97.61%	99.05%
Switzerland	0.84	20.53%	1.62%	0.57%	6.88%	92.51%	97.23%	27.41%	94.14%	97.81%
Australia	0.83	20.70%	1.60%	0.57%	7.09%	91.74%	96.94%	27.80%	93.34%	97.51%
Ireland	0.82	20.80%	1.59%	0.57%	7.22%	91.28%	96.77%	28.03%	92.87%	97.34%
South Africa	0.61	25.02%	1.29%	0.53%	12.73%	78.84%	91.32%	37.75%	80.13%	91.84%
Botswana	0.61	25.05%	1.29%	0.53%	12.76%	78.79%	91.29%	37.81%	80.08%	91.82%
Portugal	0.60	25.20%	1.28%	0.52%	12.96%	78.50%	91.14%	38.16%	79.78%	91.67%
Vietnam	0.60	25.28%	1.28%	0.52%	13.07%	78.35%	91.07%	38.34%	79.63%	91.59%
Ghana	0.60	25.35%	1.27%	0.52%	13.17%	78.21%	91.00%	38.52%	79.48%	91.52%
Costa Rica	0.59	25.51%	1.27%	0.52%	13.38%	77.92%	90.85%	38.89%	79.19%	91.37%
Mozambique	0.59	25.53%	1.26%	0.52%	13.42%	77.87%	90.82%	38.95%	79.14%	91.35%
Burundi	0.41	30.70%	1.10%	0.49%	20.55%	71.07%	87.05%	51.25%	72.17%	87.54%
India	0.41	30.92%	1.09%	0.49%	20.87%	70.86%	86.92%	51.80%	71.95%	87.41%
Thailand	0.40	31.00%	1.09%	0.49%	20.98%	70.79%	86.87%	51.98%	71.88%	87.36%
Malawi	0.39	31.35%	1.08%	0.49%	21.47%	70.47%	86.68%	52.82%	71.56%	87.17%
Congo, Rep.	0.38	31.91%	1.07%	0.49%	22.26%	69.99%	86.39%	54.17%	71.06%	86.87%
Sri Lanka	0.34	33.53%	1.04%	0.48%	24.56%	68.74%	85.60%	58.09%	69.78%	86.08%
Pakistan	0.33	33.85%	1.03%	0.48%	25.01%	68.52%	85.45%	58.86%	69.55%	85.93%

First, the total growth gains are significantly higher among those with lower social cohesion.

The growth gains from optimal redistribution could be three to six times larger in a country belonging to the group with the lowest SCI than those belonging to the top group.

It is also noteworthy that among the countries with top-ranked SCI, the share of total growth gains from externality corrections is about three to five times larger than the gains from progressive redistribution.

A similar comparison among the countries ranked at the low end of SCI reveals that those gains are only one and half times larger from externality corrections than from progressive redistribution.

These observations imply that progressive redistribution has a strong potential to promote growth in countries with low social cohesion.

Reduced inequality would mitigate the inefficiency due to unequal access to knowledge in a country with low social cohesion.

However, the mere introduction of the Pigouvian subsidy to education could boost economic growth even more.

It is also quite noteworthy that among the countries with high SCI, once the Pigouvian subsidy is introduced, the marginal benefit of progressive redistribution appears almost insignificant.

Second, the total gains in efficiency and welfare, however, appear to differ only a little, as the simulations generate only slightly larger gains for a country with a higher SCI.

It is worth noting, however, that gains in efficiency and welfare from progressive redistribution are about 50-100 times larger than gains from externality correction and that a redistributive policy would be more effective in generating these gains in countries with high SCI. If countries with high SCI design institutions to promote efficiency and welfare rather than focus exclusively on growth, then we would expect these countries to choose a greater progressivity than those with low SCI.

Concluding Remarks

- Social interactions facilitate diffusion of nonrival knowledge.
- The consequent bridging of the knowledge gaps makes learning cheaper for children and thereby lowers macroeconomic gains from redistribution.
- Thus, the optimal progressivity for a redistributive policy declines.
- If social cohesion exceeds a critical threshold then zero progressivity would be optimal.
- Therefore, we conclude that social cohesion decreases the need for politically divisive progressive redistribution.