Pensar Global, Agir Local: Crédito Social baseado nas Metas de Desenvolvimento do Milênio

Marcelo Neri
Centro de Políticas Sociais – CPS/FGV e EPGE/FGV

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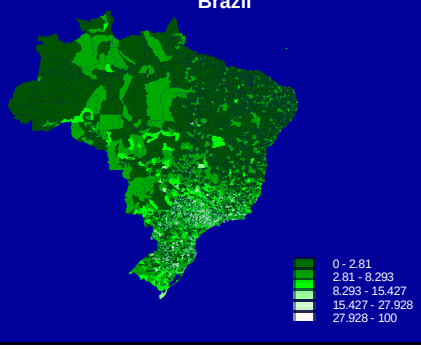
Brazil



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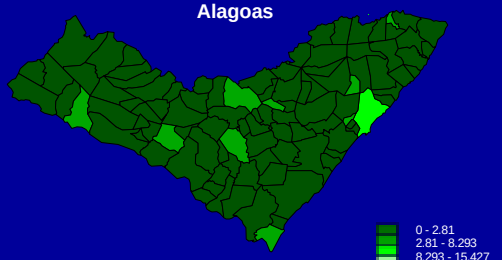
Alagoas



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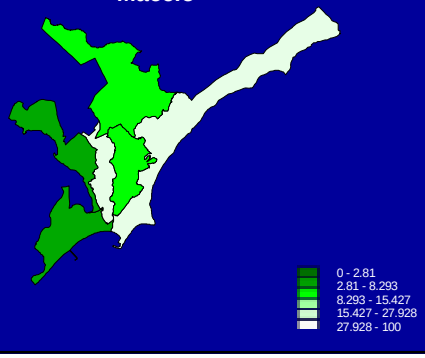
Maceió



What? Incorporate MDGs into the local economic architeture though incentive contracts.

Why? to reduce Moral Hazard problems in social transfers to local governments.

Why use MDGs as numeraire?

- Exogenous for a Given Country (credibility)
  - Coordinate actions across different government levels from different political parties
- Long-Lasting
  - Smooth transitions between different mandates.

How? through Social Credit mechanisms that transform poverty emancipation into financial resources.

Theory

- **Principal-Agent Model** (based on Neri and Xerez (2003, 2004))

Principal

Government Budget = Y_F

Federal Government — $U_F = G_F + N_P . v(Y_P)$

T = Government Transfer

Agent

Municipality Budget = Y_M

Municipality — $U_M = G_M + N_P . \theta . v(Y_P)$

Y_P = Poor´s Income Level

Poor

References: Besley (1997), Gelbach and Pritchett (1997), and Azam and Laffont (2001)

Modelo Básico

Hipótese básica: Governo federal e municípios possuem diferentes graus de preocupação com as condições da vida dos pobres (aversão à pobreza).

Referências: Besley (1997), Gelbach e Pritchett (1997) e Azam e Laffont (2001)

Roteiro da Apresentação

1. Modelo Básico
2. Modelo Estático
3. Modelo Dinâmico
4. Modelo com Choques

Modelo Estático

Informação Completa:

1. Autarquia (A)
2. Transferência Incondicional (I)
3. Incentivo Perverso (IP)
4. Transferência com Metas Sociais (MS)
5. Favoritismo em Autarquia (FA)
6. Favoritismo com Metas Sociais (FMS)
7. Parceria entre Governo Federal e Municípios (P)

Autarchy (A)

$$\max_{Y_P} G_M + N_P.\theta \,.\, v(Y_P)$$
$$\text{s.a: } G_M + N_P \,.\, Y_P \le Y_M$$

FOC:

$$v'(Y_P^A) = \frac{1}{\theta} \longrightarrow \theta_1 > \theta_2 \Rightarrow Y_{P_1} > Y_{P_2}$$

The larger the coefficient of the local government´s aversion to poverty, the larger will be the poor´s income.

Unconditional Transfer (I)

The government does not establish any social target, it transfers unconditionally a fixed amount, T^I.

$$\max_{Y_P} G_M + N_P.\theta \,.\, v(Y_P)$$
$$\text{s.a: } G_M + N_P.Y_P \le Y_M + T^I$$

FOC:

$$v'(Y_P^I) = \frac{1}{\theta} \quad \Rightarrow \quad Y_P^I = Y_P^A$$

<u>Proposition 1</u>: If the federal government perfoms unconditional transfers to the local governments, the poor´s situation does not change.

Crowding-out Effect

Poverty Incentives (IP)

The government always helps more the municipalities where the poor are poorer.

Transfer: $T = (K - Y_P).N_P$

$$\max_{Y_P} G_M + N_P.\theta \,.\, v(Y_P)$$
$$\text{s.a: } G_M + N_P \,.\, Y_P \le Y_M + (K - Y_P).N_P$$

FOC:

$$v'(Y_P^{IP}) = \frac{2}{\theta} \longrightarrow Y_P^{IP} < Y_P^A$$

The smaller the poor´s income, the greater is the income per capita transfer carried out by the government to the municipality =>**poverty incentives**

Social Credit

Transfer Conditional on the Fulfillment of Social Targets (MS)

$$\max_{\{Y_P, T^{MS}\}} Y_F - T^{MS}(Y_P) + N_P.v(Y_P)$$
$$\text{s.a: } (Y_M + T^{MS}(Y_P) - N_P.Y_P) + N_P.\theta.v(Y_P) \ge U(\theta) \quad (RP)$$

FOC:

$$v'(Y_P^{MS}) = \frac{1}{1+\theta} \quad \Rightarrow \quad Y_P^{MS} > Y_P^A$$

Proposition 2: the establishment of a social credit mechanism increases poor´s income.

Furthermore, a social credit contract leverages locally funded social investments.

$$G_M^{MS} < G_M^A$$

Modelo Estático

Transferência com Metas Sociais (MS)

Contrato Linear:

$$T(Y_p) = a + b.Y_p$$

Proposição 3: Os coeficientes de um contrato linear de metas sociais são:

$$a = T(Y_p^{MS}) - b.Y_p^{MS} \qquad b = \frac{1}{1+\theta}$$

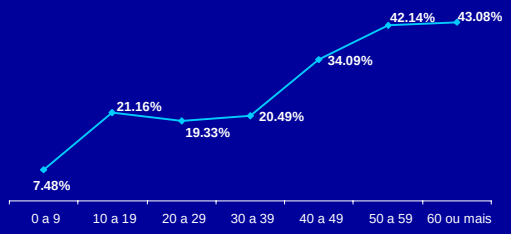
onde

$$T(Y_p^{MS}) = N_p.[(Y_p^{MS} - Y_p^{A}) - \theta.(v(Y_p^{MS}) - v(Y_p^{A}))]$$

Favoritismo Político – Motivação Renda Per Capita

Fonte: CPS/FGV processando os microdados do IBGE

Variação (%) da Renda - 2003 / 1991



Fonte: CPS/FGV processando os microdados do IBGE

RENDA PER CAPITA - PÚBLICAS X PRIVADAS

	Privadas				Públicas			
	Em 1991	Em 2000	Var (%)	Var (R$)	Em 1991	Em 2000	Var (%)	Var (R$)
TOTAL	201.67	249.43	23.68%	R$ 47.76	23.14	48.02	107.52%	R$ 24.88
0 a 15 anos	154.45	171.35	10.94%	R$ 16.90	7.98	13.79	72.89%	R$ 5.81
35 a 45	260.13	329.71	26.75%	R$ 69.58	14.57	26.99	85.20%	R$ 12.42
60 ou mais	183.98	221.32	20.29%	R$ 37.33	110.95	213.01	91.99%	R$ 102.06

Fonte: CPS/IBRE/FGV a partir dos microdados Censo Demográfico de 1991 e 2000/IBGE.

Questões Qualitativas

	0 a 9	40 a 49	60 ou mais
Total	100	100	100
Na sua opinião a renda total da sua família permite que você(s) levem a vida até o fim do mês com:			
Muita Dificuldade	34.84	27.67	28.37
Quantidade de Alimentos consumido pela família			
Normalmente não é Suficiente	19.64	14.29	13.54
Razão para não se alimentar como quer			
Porque a Renda Não Permite	77.42	67.56	65.81
Condições de moradia da família			
Boas	43.06	50.18	55.57
Atraso nas prestações de bens e serviços			
Sim	35.09	29.63	16.31

Static Model

Favoritism without Transfer (FA)

- **Electoral redout;**
- **The youngest people are not allowed to vote.**

$$\underset{\{Y_{P1}, Y_{P2}\}}{\text{Max}} \quad G_M + N_{P1}.\theta_1.v(Y_{P1}) + N_{P2}.\theta_2.v(Y_{P2})$$

$$\text{s.t:} \quad G_M + N_{P1}.Y_{P1} + N_{P2}.Y_{P2} \le Y_M$$

FOC:

$$v'(Y_{P1}^{FA}) = \frac{1}{\theta_1} \quad \text{e} \quad v'(Y_{P2}^{FA}) = \frac{1}{\theta_2}$$

$$\theta_1 > \theta_2 \longrightarrow Y_{P1}^{FA} > Y_{P2}^{FA}$$

Static Model

Favoritism Conditional on the Fulfillment of Social Targets (FMS)

$$\underset{(Y_{P1},Y_{P2})}{Max} \quad G_F + N_{P1}.v(Y_{P1}) + N_{P2}.v(Y_{P2})$$

$$s.a: \quad G_F + T^{FMS} \le Y_F$$

$$G_M + T^{FMS} + N_{P1}.\theta_1.v(Y_{P1}) + N_{P2}.\theta_2.v(Y_{P2}) \ge U_M^{FA} \qquad (RP)$$

FOC:

$$v'(Y_{P1}^{FMS}) = \frac{1}{1+\theta_1} \quad e \quad v'(Y_{P2}^{FMS}) = \frac{1}{1+\theta_2} \longrightarrow Y_{P1}^{FMS} > Y_{P1}^{FA} \quad e \quad Y_{P2}^{FMS} > Y_{P2}^{FA}$$

Static Model

Favoritism Conditional on the Fulfillment of Social Targets (FMS)

Proposition 4: A contract with social targets would reduce the social difference among the groups.

$$\frac{v'(Y_{P1}^{FA})}{v'(Y_{P2}^{FA})} = \frac{1/\theta_1}{1/\theta_2} = \frac{\theta_2}{\theta_1} > \frac{1+\theta_2}{1+\theta_1} = \frac{1/(1+\theta_1)}{1/(1+\theta_2)} = \frac{v'(Y_{P1}^{FMS})}{v'(Y_{P2}^{FMS})}$$

Static Models

1. **Autarchy (A)**
2. **Unconditional Transfer (I)**
3. **Poverty Incentives (IP)**
4. **Social Credit (MS)**
5. **Political Favoritism without Transfer (FA)**
6. **Favoritism with Social Credit (FSC)**

Non Deterministic Models

1. Idiosyncratic Shocks → Insurance Provision.
2. Aggregate Shocks → Performance Comparison.

Dynamic Models

1. Complete Contracts
   - Full Commitment
   - Long term commitment
   - No commitment or spot commitment
2. Incomplete Contracts

Dynamic Model

Full Commitment

Government´s Problem:

$$\underset{(\bar{Y}_{P_t},\bar{T}_t,\underline{Y}_{P_t},\underline{T}_t)_{t=1}^{T}}{Max} \; \pi.\left[\sum_{t=1}^{T}\delta^{t-1}(Y_{F_t}-\underline{T}_t)+N_P.v(\underline{Y}_{P_t})\right]+(1-\pi).\left[\sum_{t=1}^{T}\delta^{t-1}(Y_{F_t}-\bar{T}_t)+N_P.v(\bar{Y}_{P_t})\right]$$

$$s.a: \; (RP\bar{\theta}) \quad \sum_{t=1}^{T}\delta^{t-1}[(Y_{M_t}+\bar{T}_t-N_P.\bar{Y}_{P_t})+N_P.\bar{\theta}.v(\bar{Y}_{P_t})] \ge U(\bar{\theta})$$

$$(RP\underline{\theta}) \quad \sum_{t=1}^{T}\delta^{t-1}[(Y_{M_t}+\underline{T}_t-N_P.\underline{Y}_{P_t})+N_P.\underline{\theta}.v(\underline{Y}_{P_t})] \ge U(\underline{\theta})$$

$$(RCI\bar{\theta}) \quad \sum_{t=1}^{T}\delta^{t-1}[(Y_{M_t}+\bar{T}_t-N_P.\bar{Y}_{P_t})+N_P.\bar{\theta}.v(\bar{Y}_{P_t})] \ge \sum_{t=1}^{T}\delta^{t-1}[(Y_{M_t}+\underline{T}_t-N_P.\underline{Y}_{P_t})+N_P.\bar{\theta}.v(\underline{Y}_{P_t})]$$

$$(RCI\underline{\theta}) \quad \sum_{t=1}^{T}\delta^{t-1}[(Y_{M_t}+\underline{T}_t-N_P.\underline{Y}_{P_t})+N_P.\underline{\theta}.v(\underline{Y}_{P_t})] \ge \sum_{t=1}^{T}\delta^{t-1}[(Y_{M_t}+\bar{T}_t-N_P.\bar{Y}_{P_t})+N_P.\underline{\theta}.v(\bar{Y}_{P_t})]$$

Conclusion: Theory

- Unconditional Transfer does not change poor´s situation;
- The smaller the poor´s income, the greater is the income per capita transfer carried out by the government to the municipality =>poverty incentives;
- Social Targets increase the efficiency in the use of public money and help to reduce the social difference among the different groups;
- The existence of a commitment mechanism, when there is not the possibility of any type of renegotiation among the parties, makes possible greater efficiency in the dynamic problem (with complete contracts);

Care with MDGs Contracts

Pratical Issues:

- Not use the value of the indicator at a given date but its discounted present value along its path.
- 1st MDG should be based on P^2 (squared poverty gap) and not on the proportion of poor (P^0).

Main Lesson: It is not enough to know to whom and the social budget employed; it is necessary to measure social results.

But how we do it?

MOTIVATION

Difference between GDP per capita Classification and HDI Classification