

A importância do uso das evidências empíricas para as políticas públicas

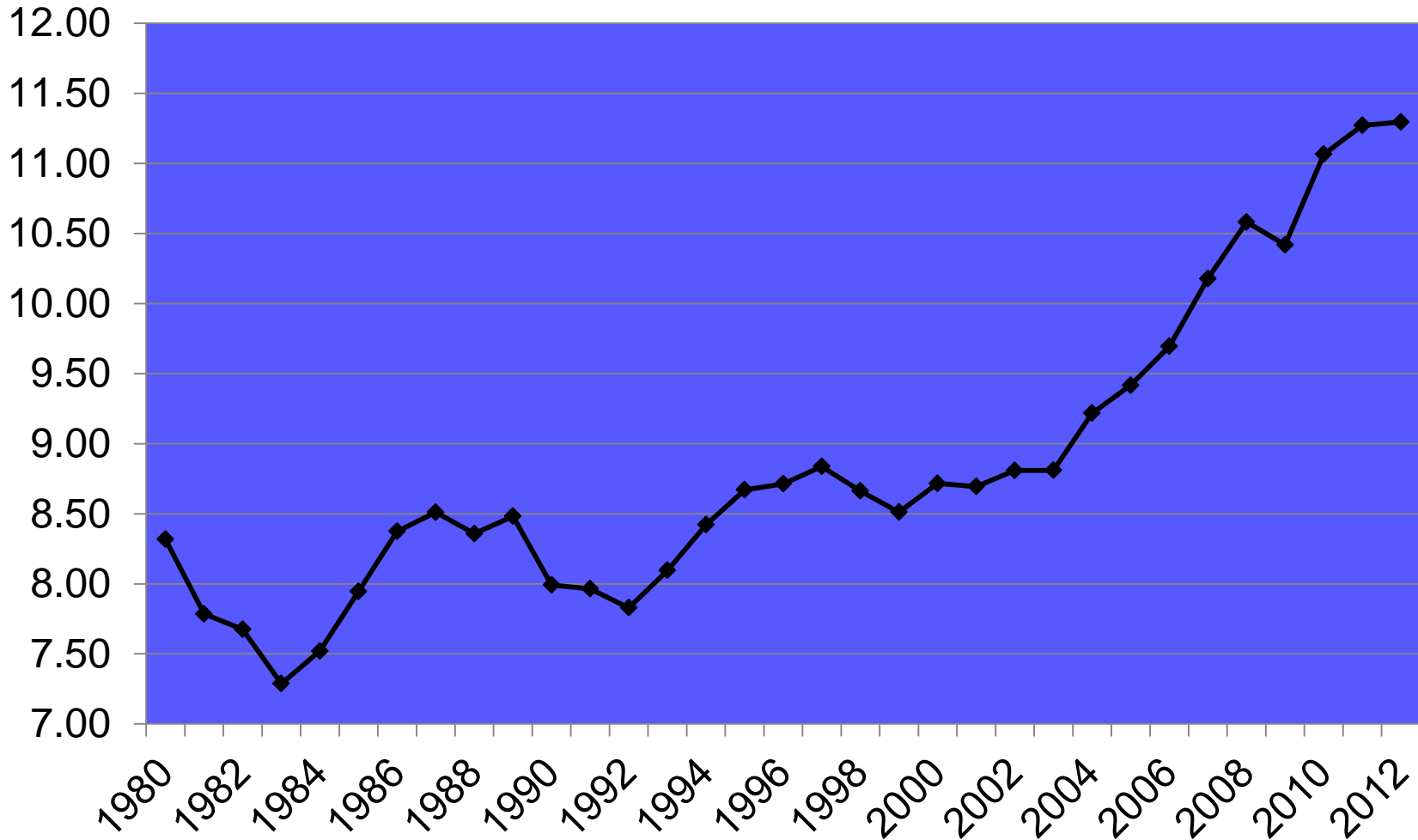
André Portela
EESP-FGV

V Fórum Baiano de Economia
07 de Outubro de 2016

A Importância do Conhecimento Baseado em Evidências para a Formulação de Políticas Públicas

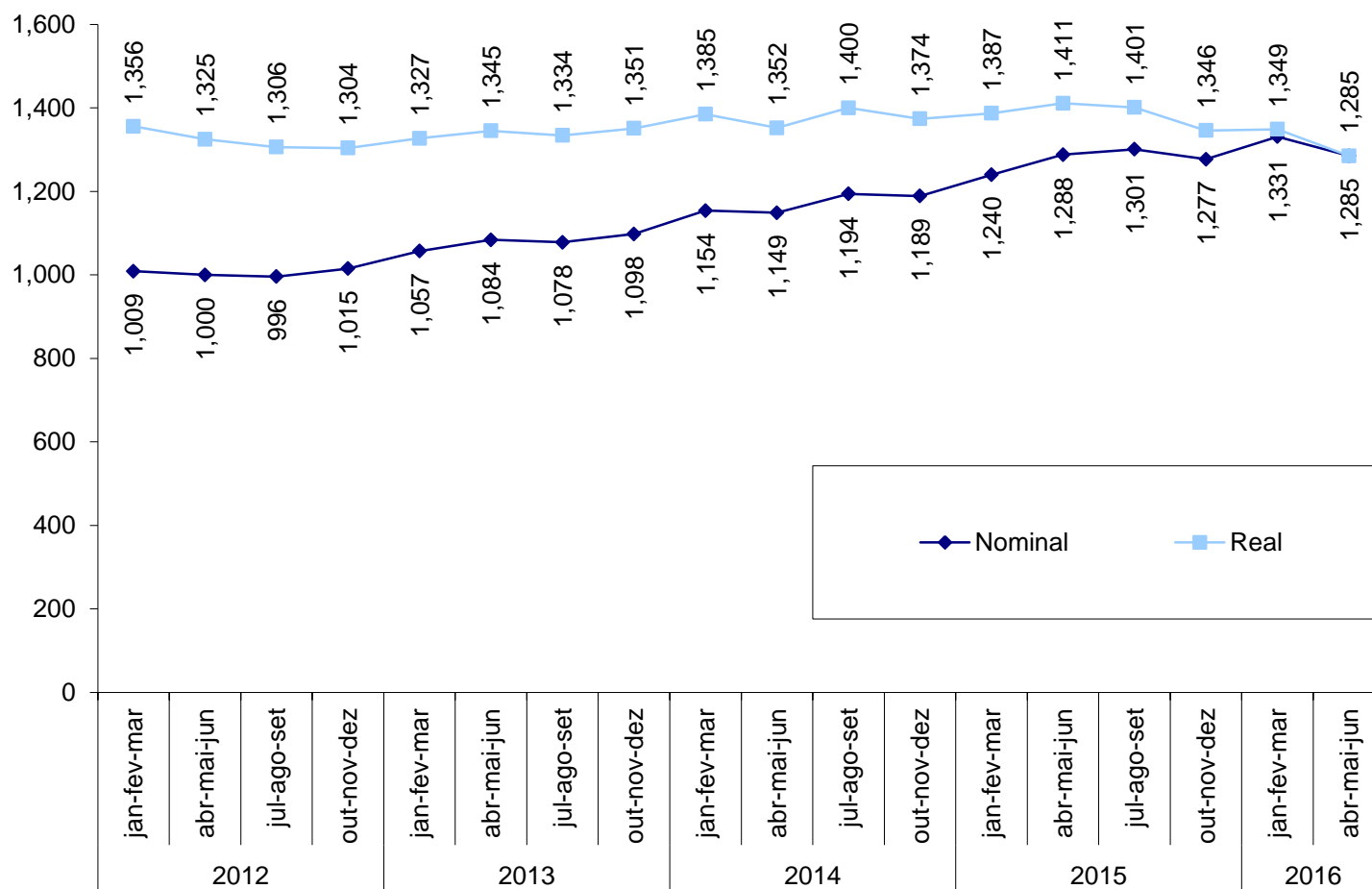
- 1. Identificando avanços*
- 2. Identificando novas tendências*
- 3. Identificando fracassos e retrocessos*
- 4. Identificando os determinantes do progresso e de novas tendências*
- 5. Avaliações de impacto ex-ante*
- 6. Avaliações de impacto ex-post*
- 7. Aprendendo com os outros (meta-análise)*

PIB Percapita (2013 US\$ Milhares) - Brasil



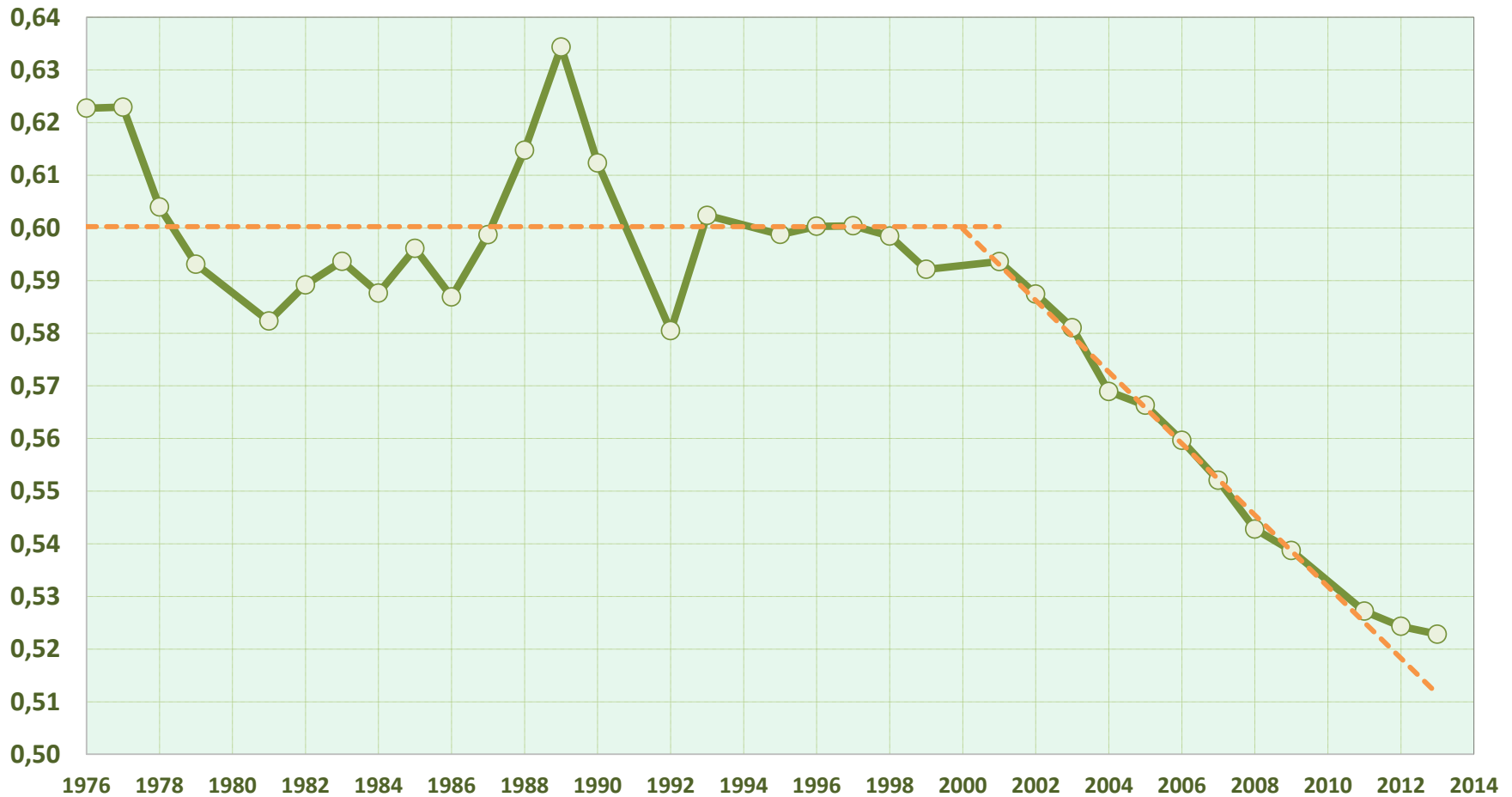
Source: IPEADATA

Rendimento médio mensal de todos os trabalhos - pessoas de 14 anos ou mais de idade, ocupadas na semana de referência, com rendimento de trabalho (em R\$) – Bahia

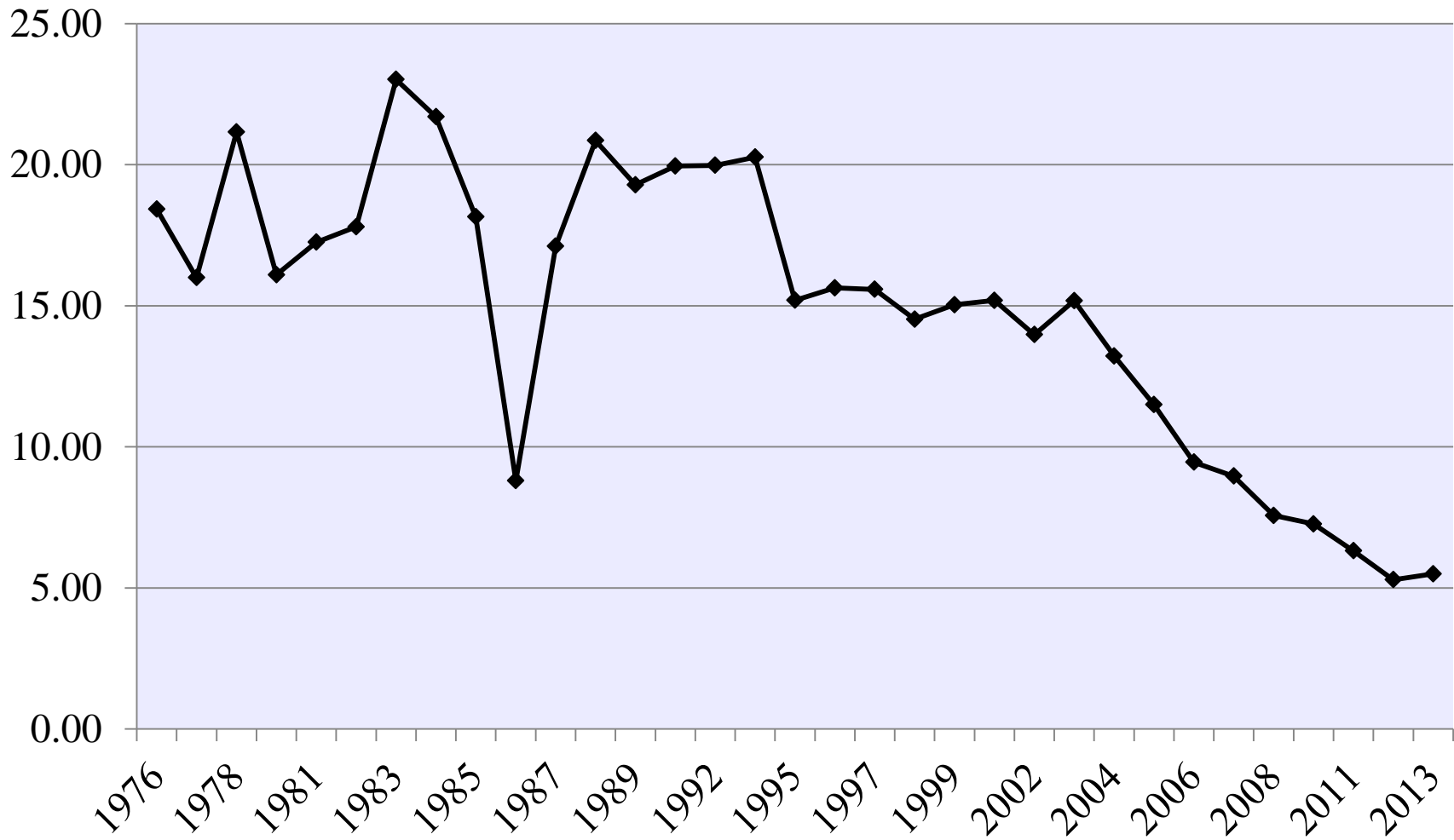


Fonte: IBGE

Evolução da desigualdade de renda no Brasil: Coeficiente de Gini



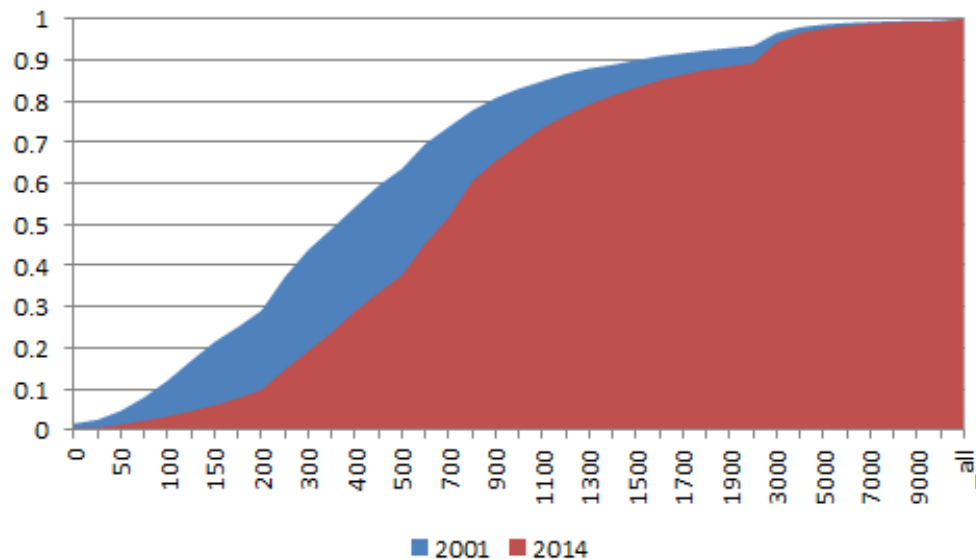
Pobreza Absoluta no Brasil (%)



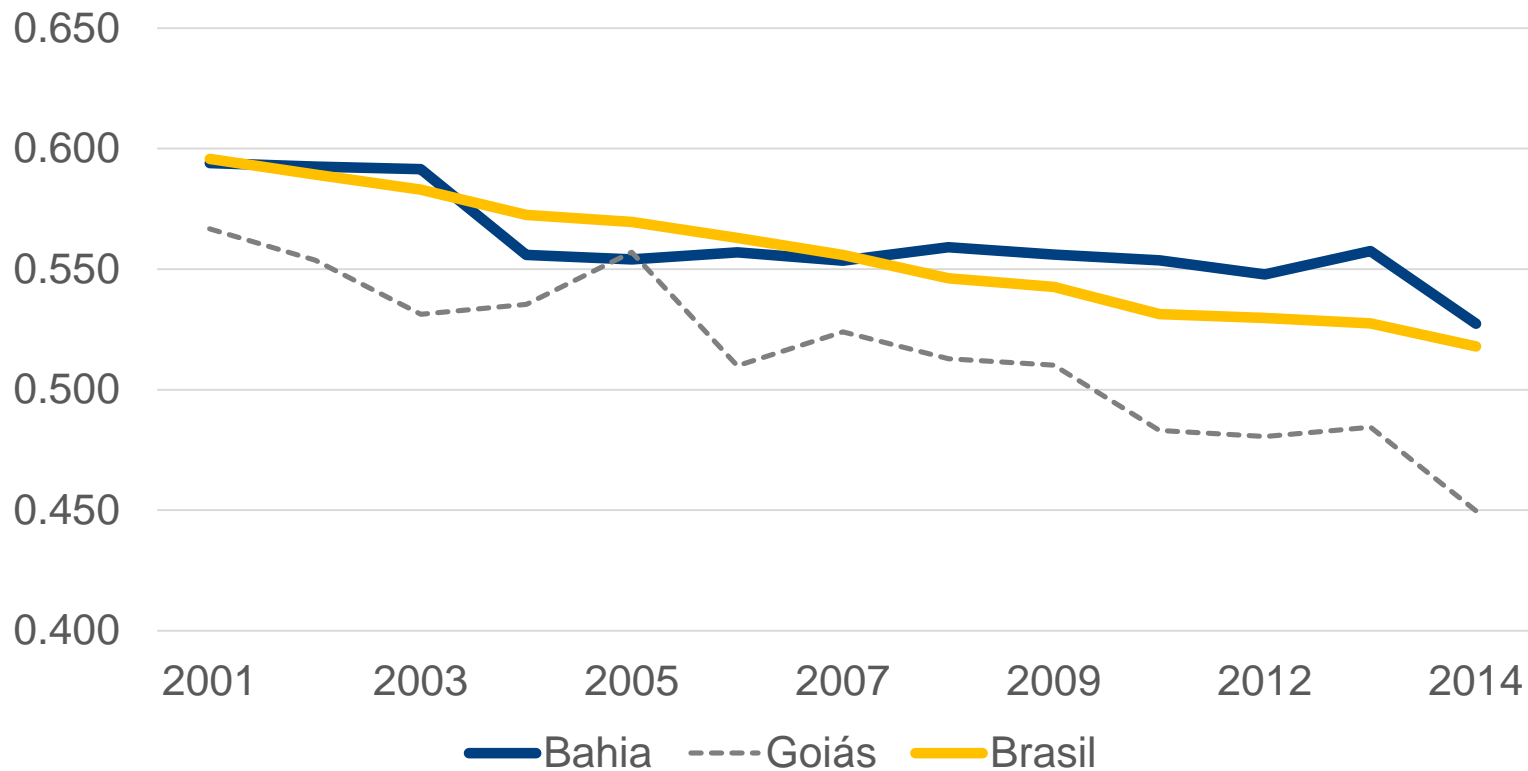
Source: IPEADATA

Bem-Estar: 2001 x 2014

Figure: CDF da Renda domiciliar per capita real — 2001 e 2014 (PNAD)

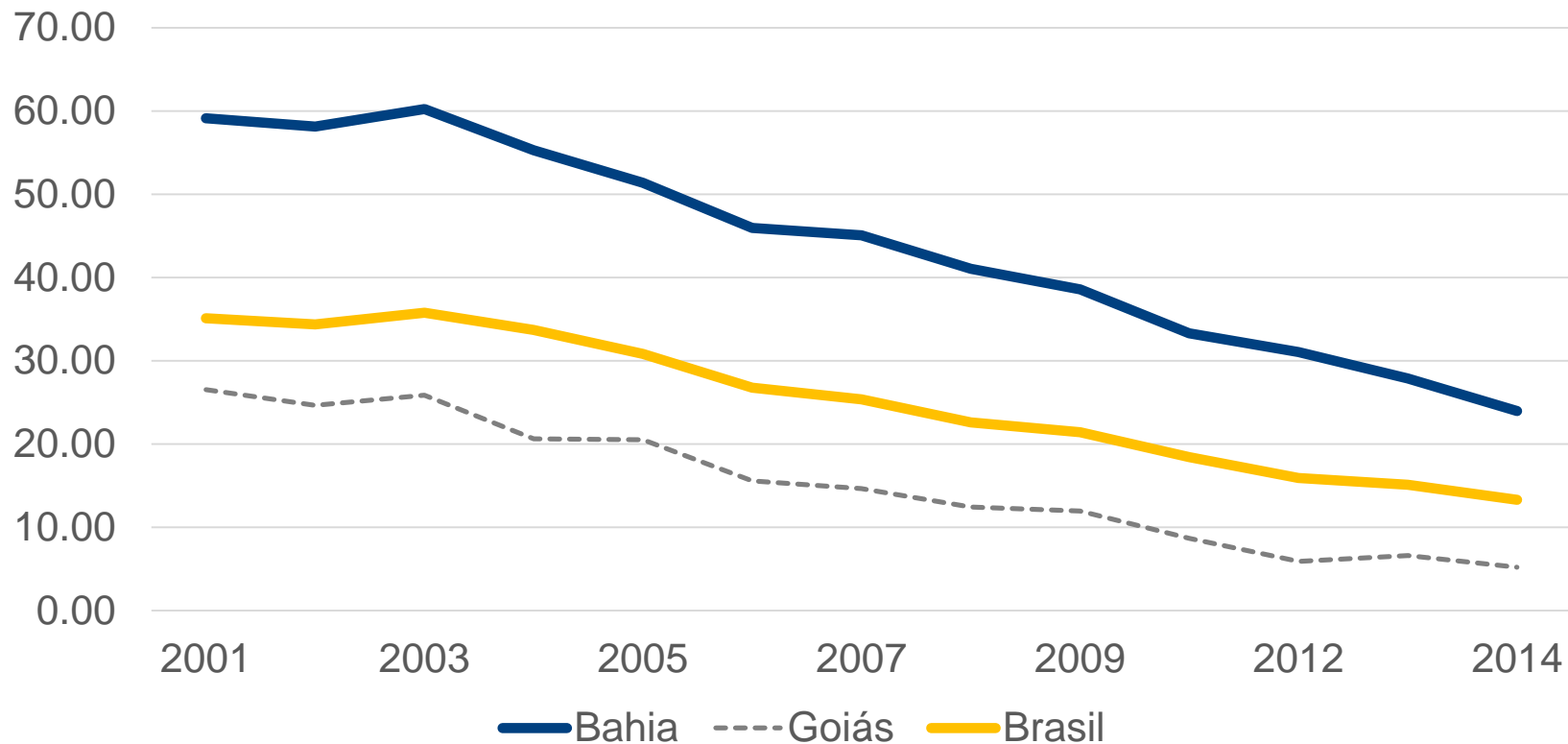


Evolução Desigualdade (Gini)



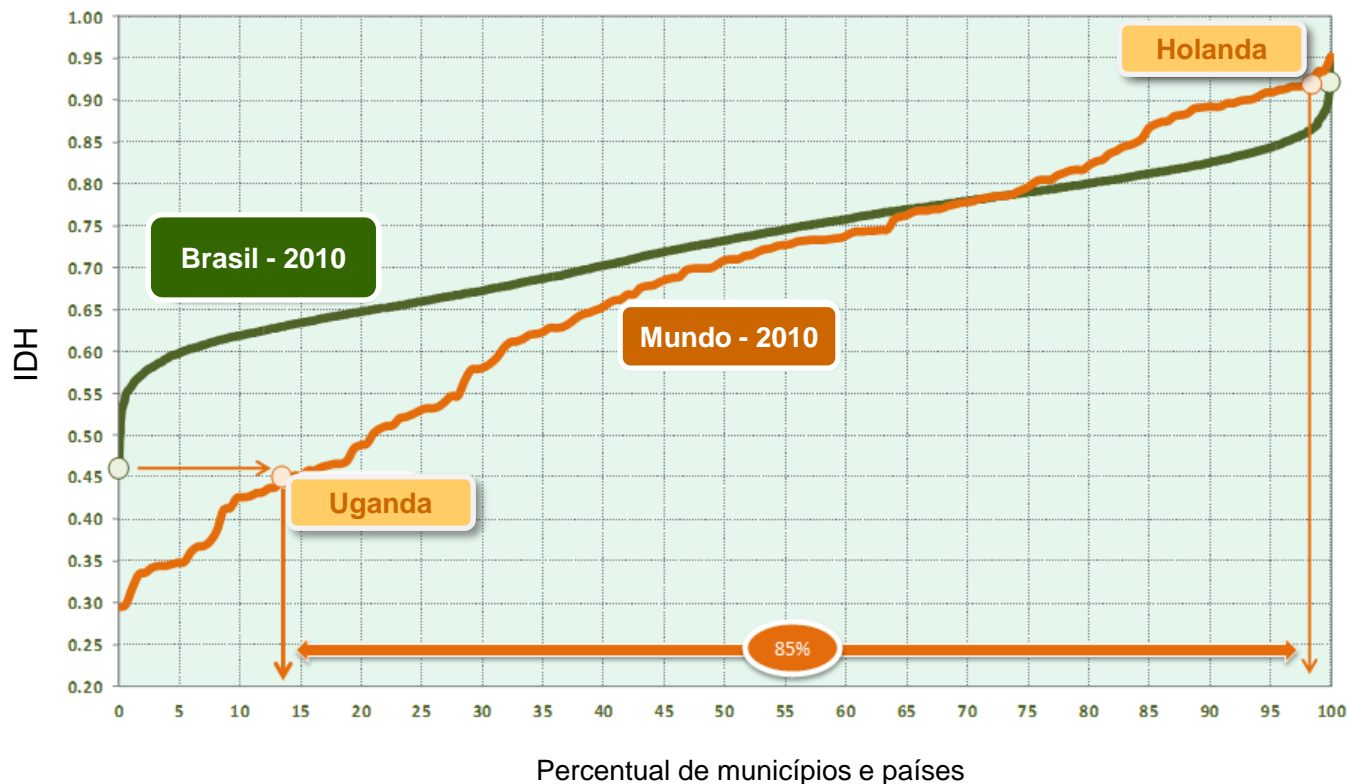
Fonte: Atlas do Desenvolvimento Humano no Brasil

Evolução Pobreza (%) – FAO/OMS



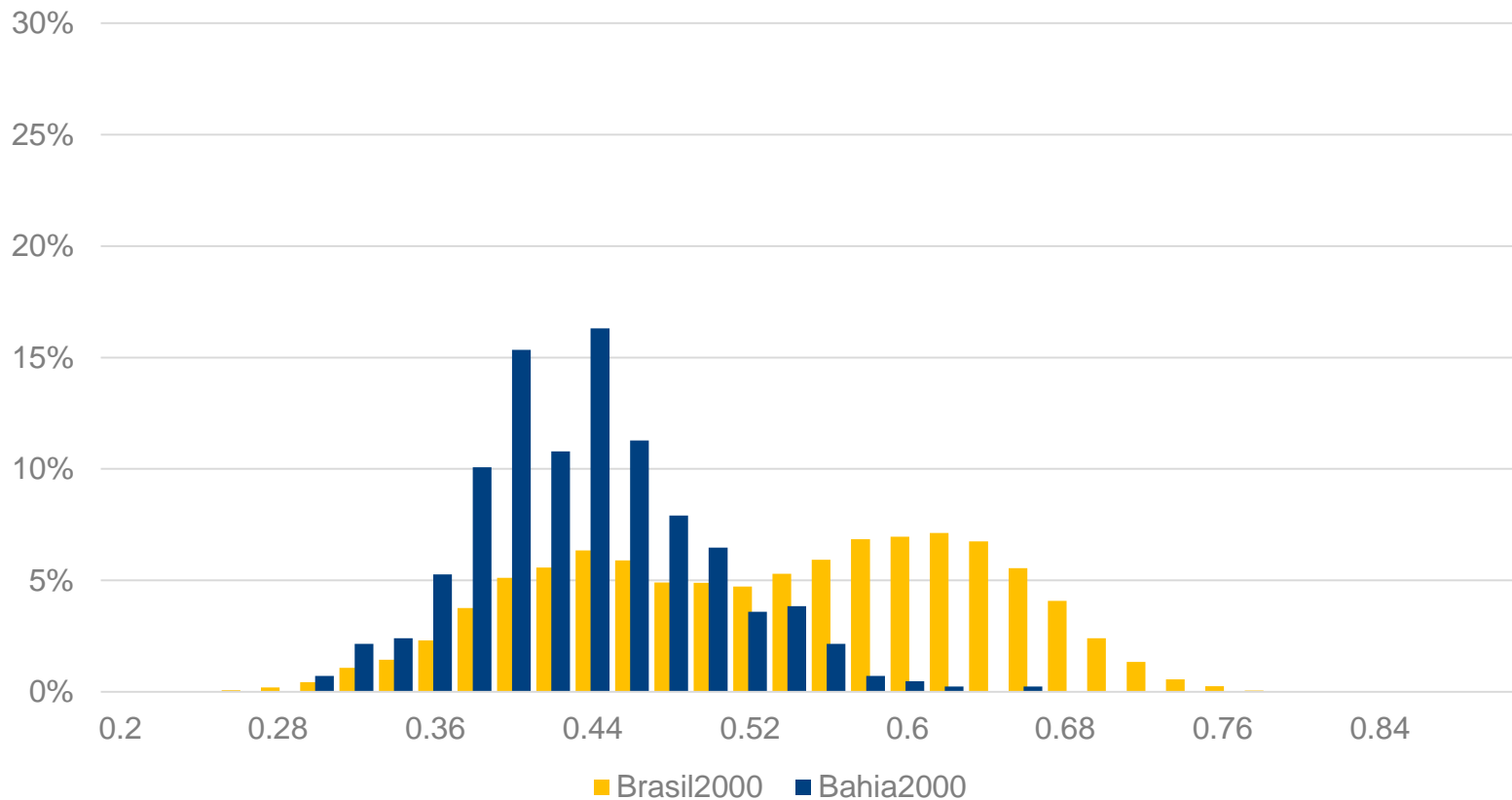
Nota: Percentual de pessoas na população total com renda domiciliar per capita inferior à linha de pobreza. A linha de pobreza aqui considerada é o dobro da linha de extrema pobreza, uma estimativa com base em recomendações da FAO e da OMS. Série calculada a partir das respostas à Pesquisa Nacional por Amostra de Domicílios (Pnad/IBGE).

Distribuição dos municípios brasileiros e dos países do mundo segundo o IDH, 2010



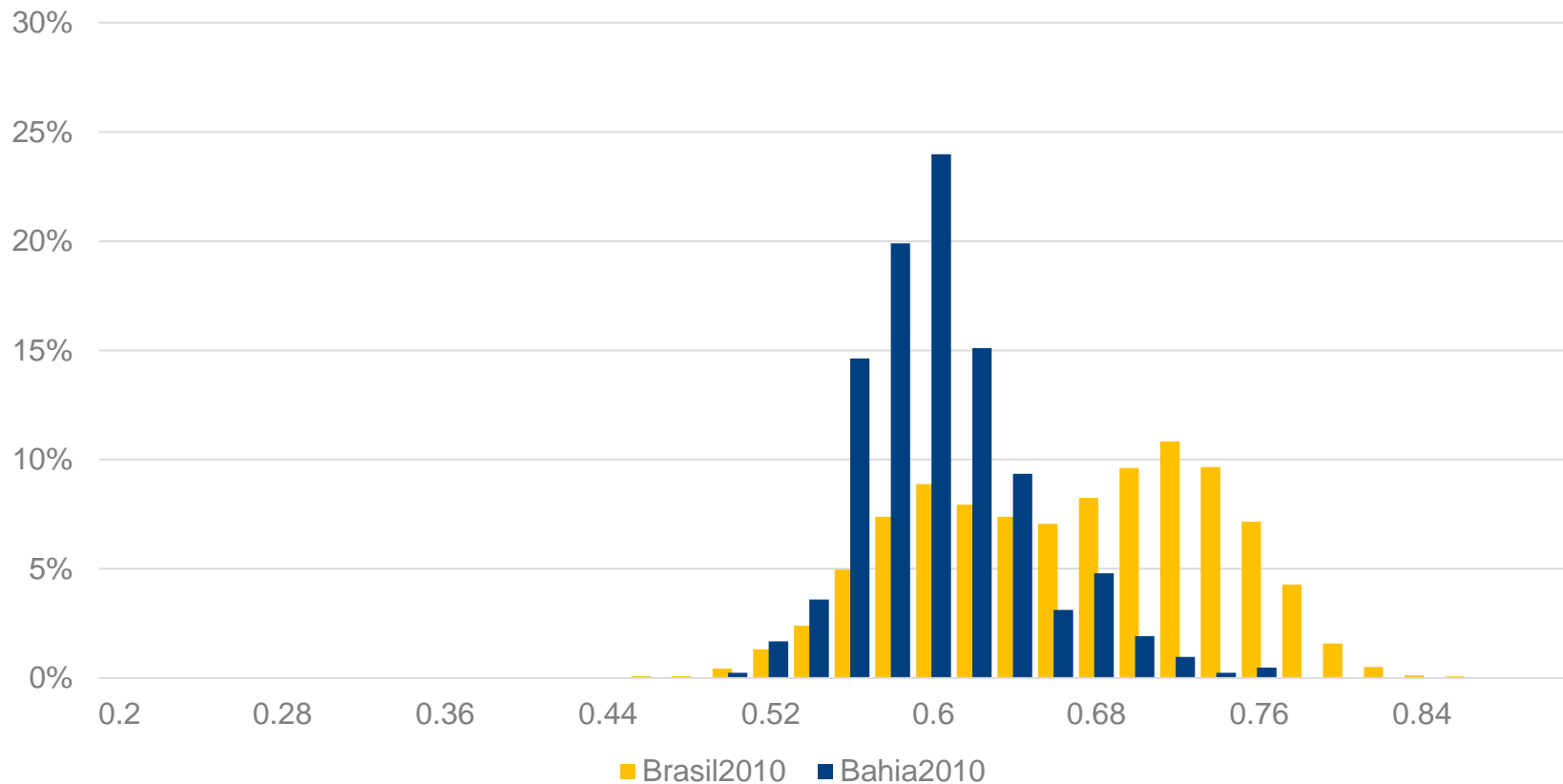
Fonte: SAE, baseado no Censo e no IDH (calculado pelo PNUD)

Distribuição IDHM (2000)



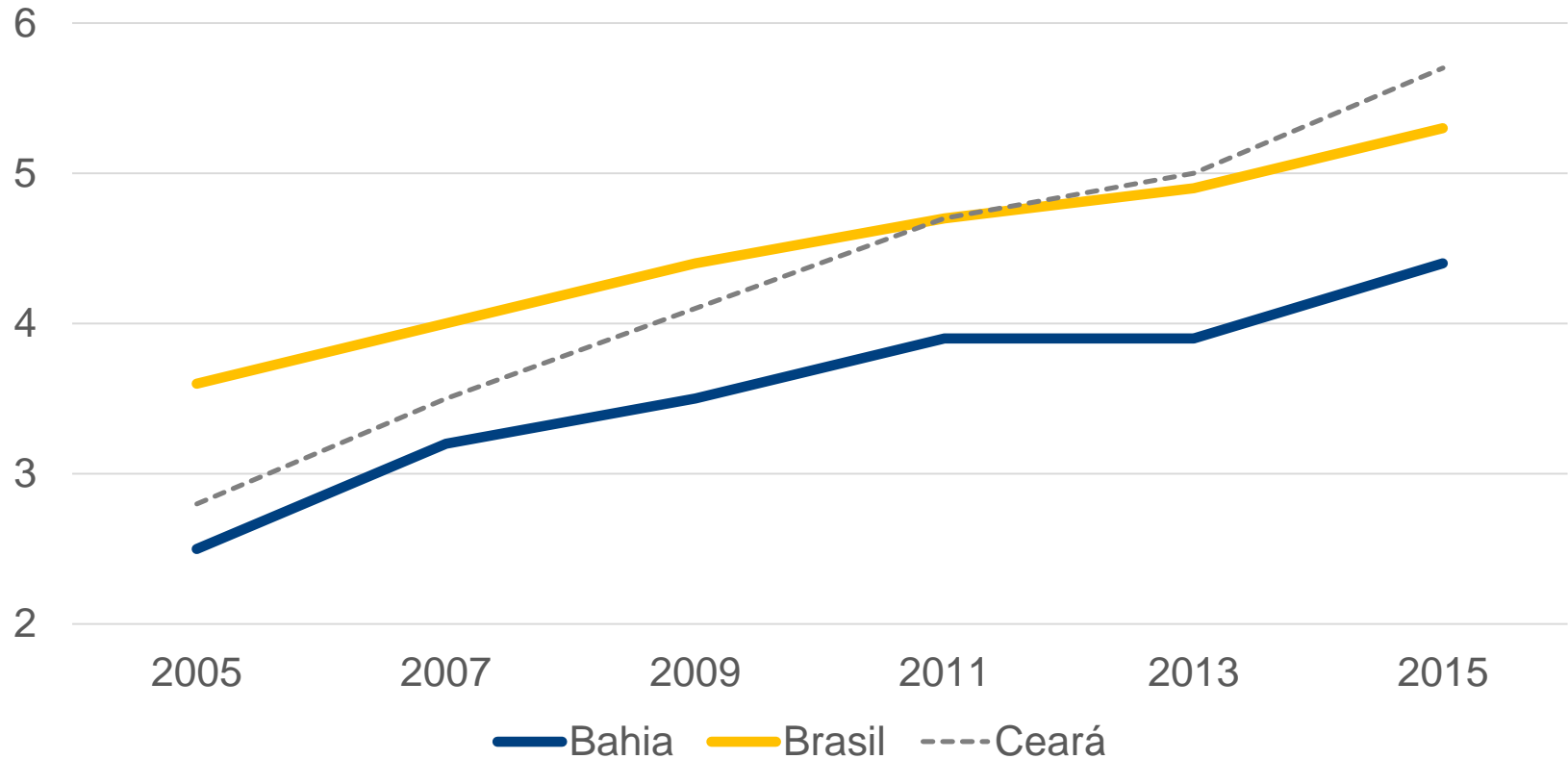
Fonte: Atlas do Desenvolvimento Humano no Brasil

Distribuição IDHM (2010)



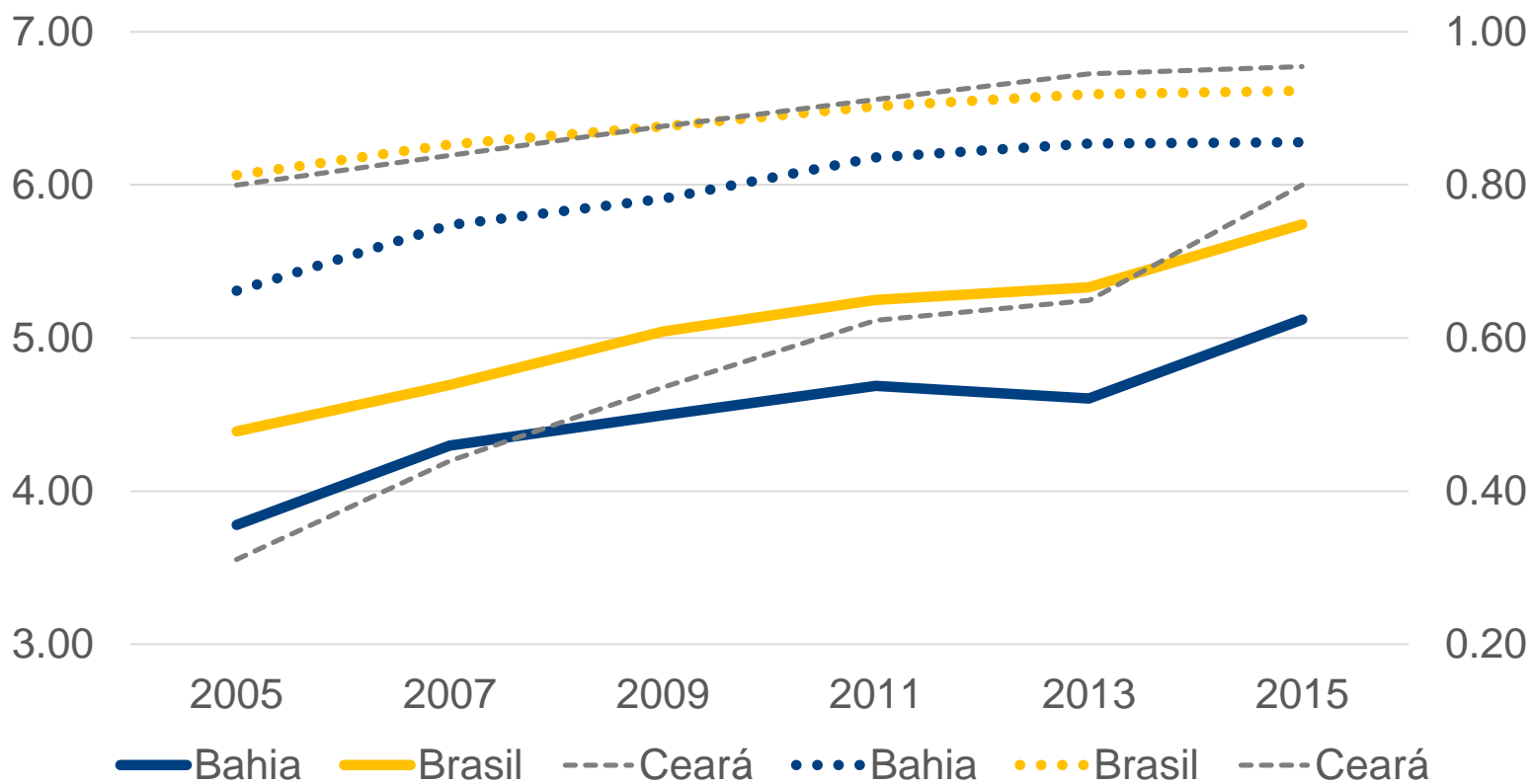
Fonte: Atlas do Desenvolvimento Humano no Brasil

IDEB - Anos Iniciais



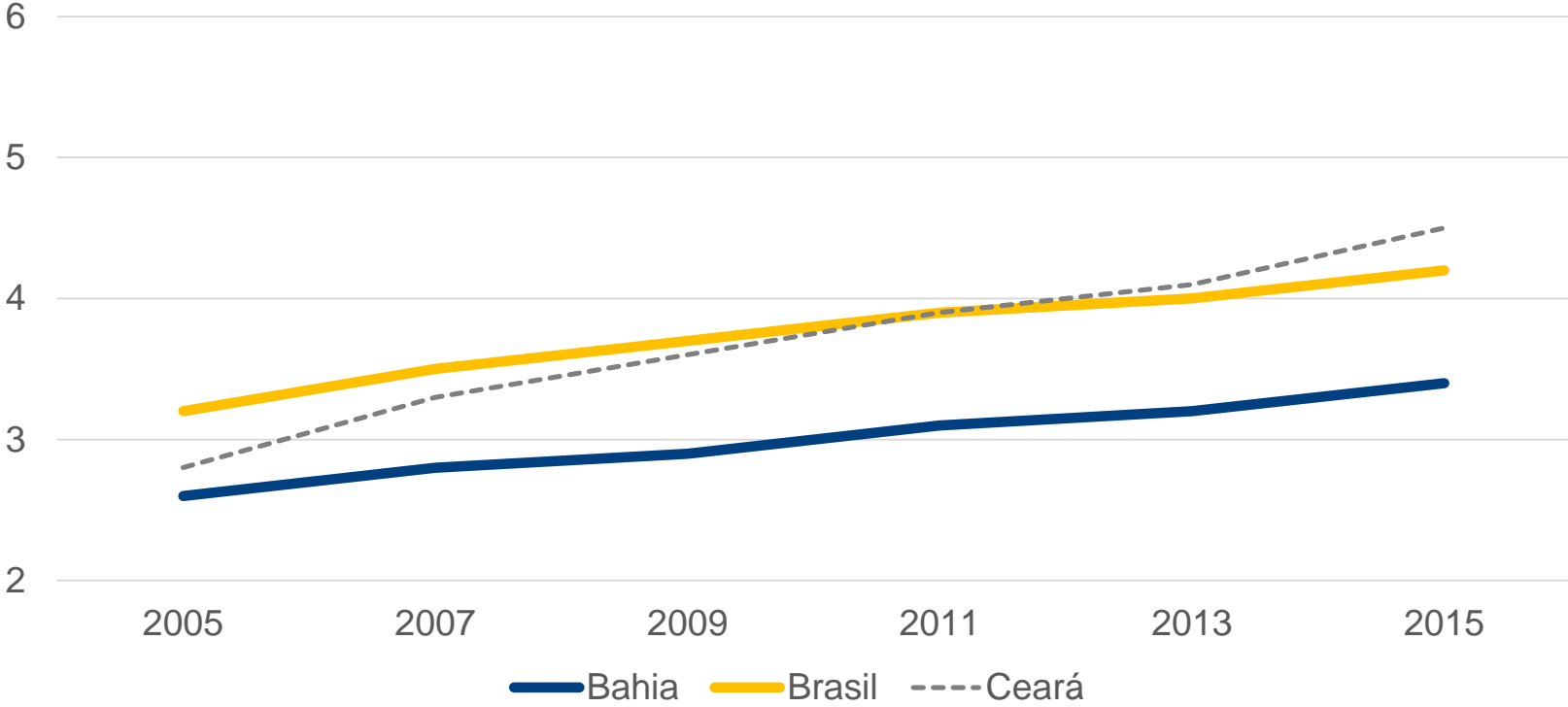
Fonte: INEP/Elaboração Própria

Proficiência e Rendimento - Anos Iniciais



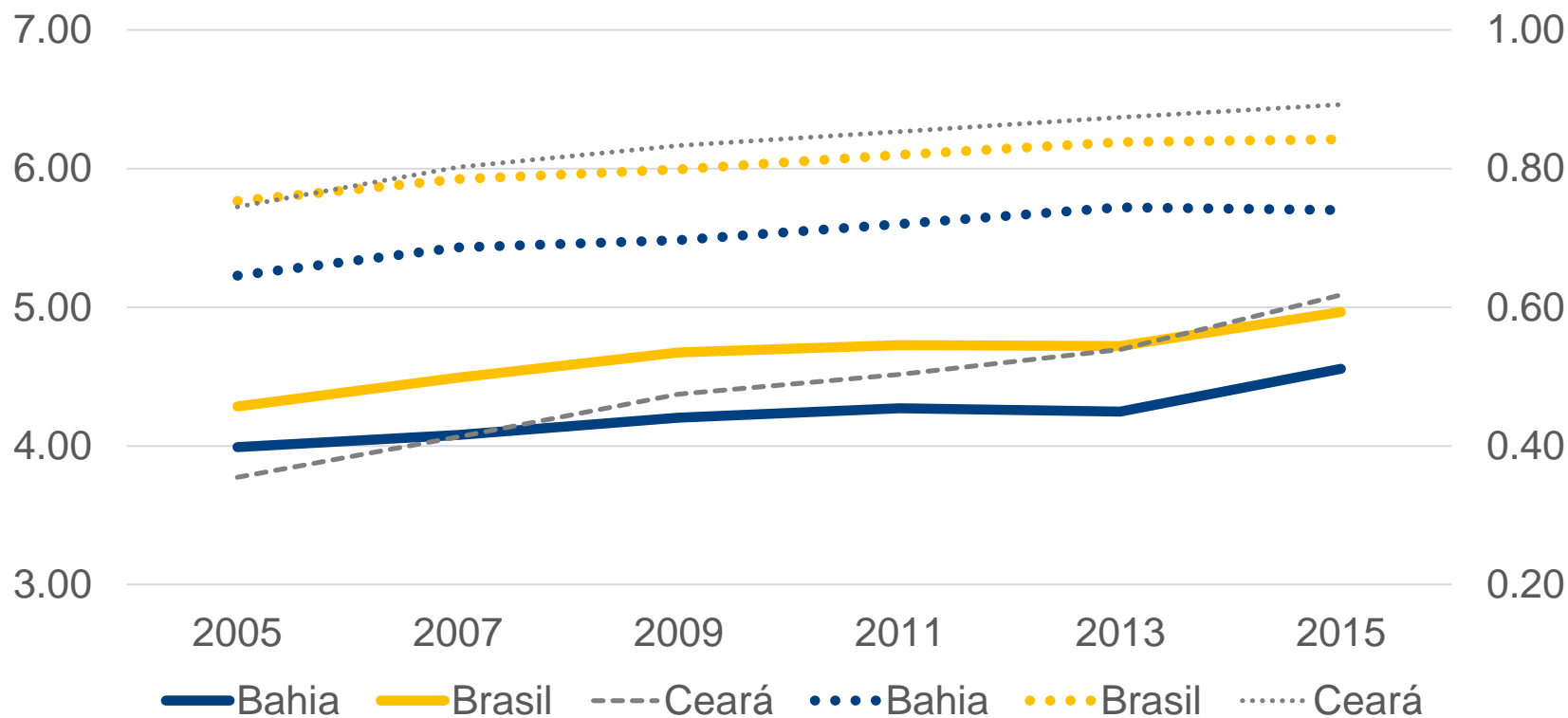
Fonte: INEP/Elaboração Própria

IDEB - Anos Finais



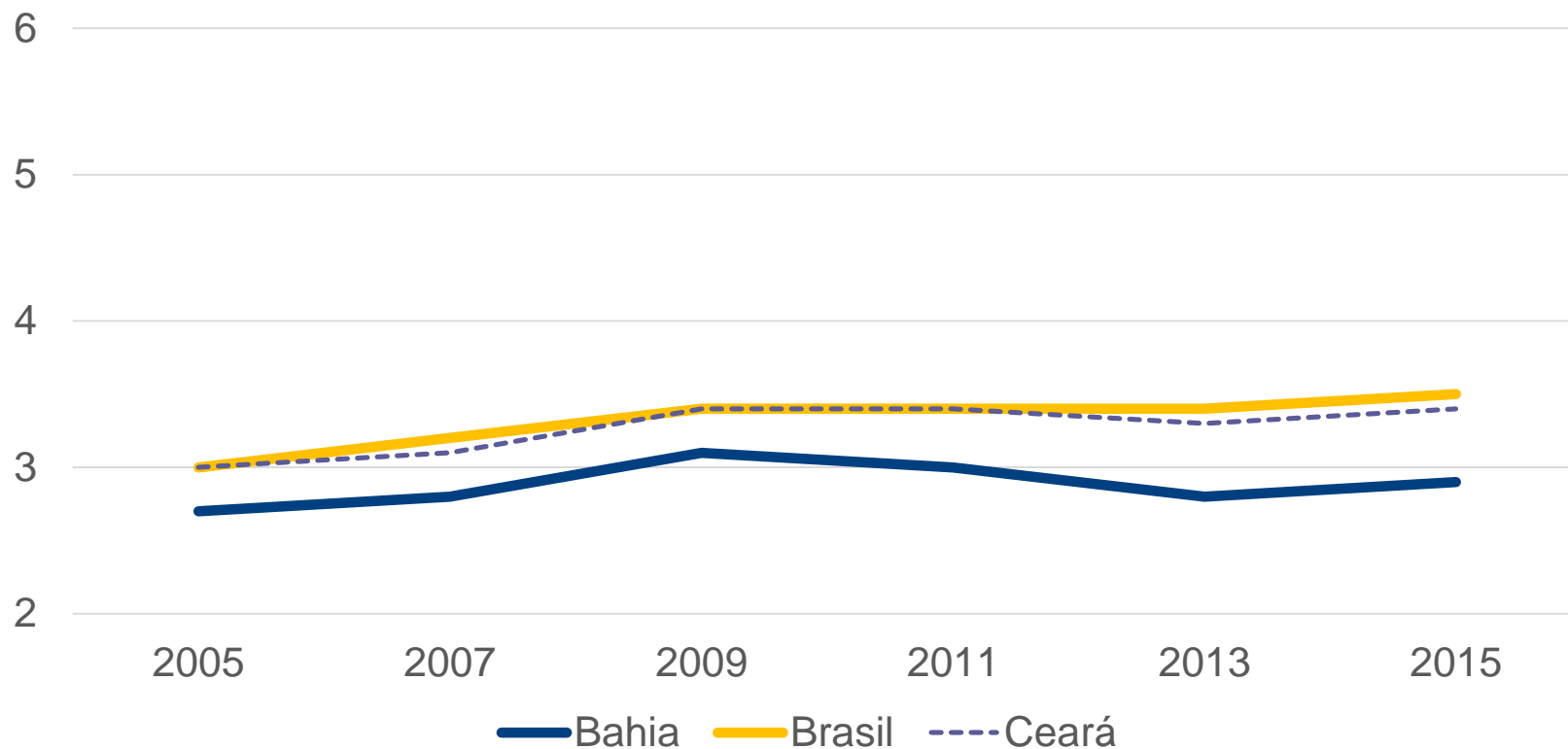
Fonte: INEP/Elaboração Própria

Proficiência e Rendimento - Anos Finais



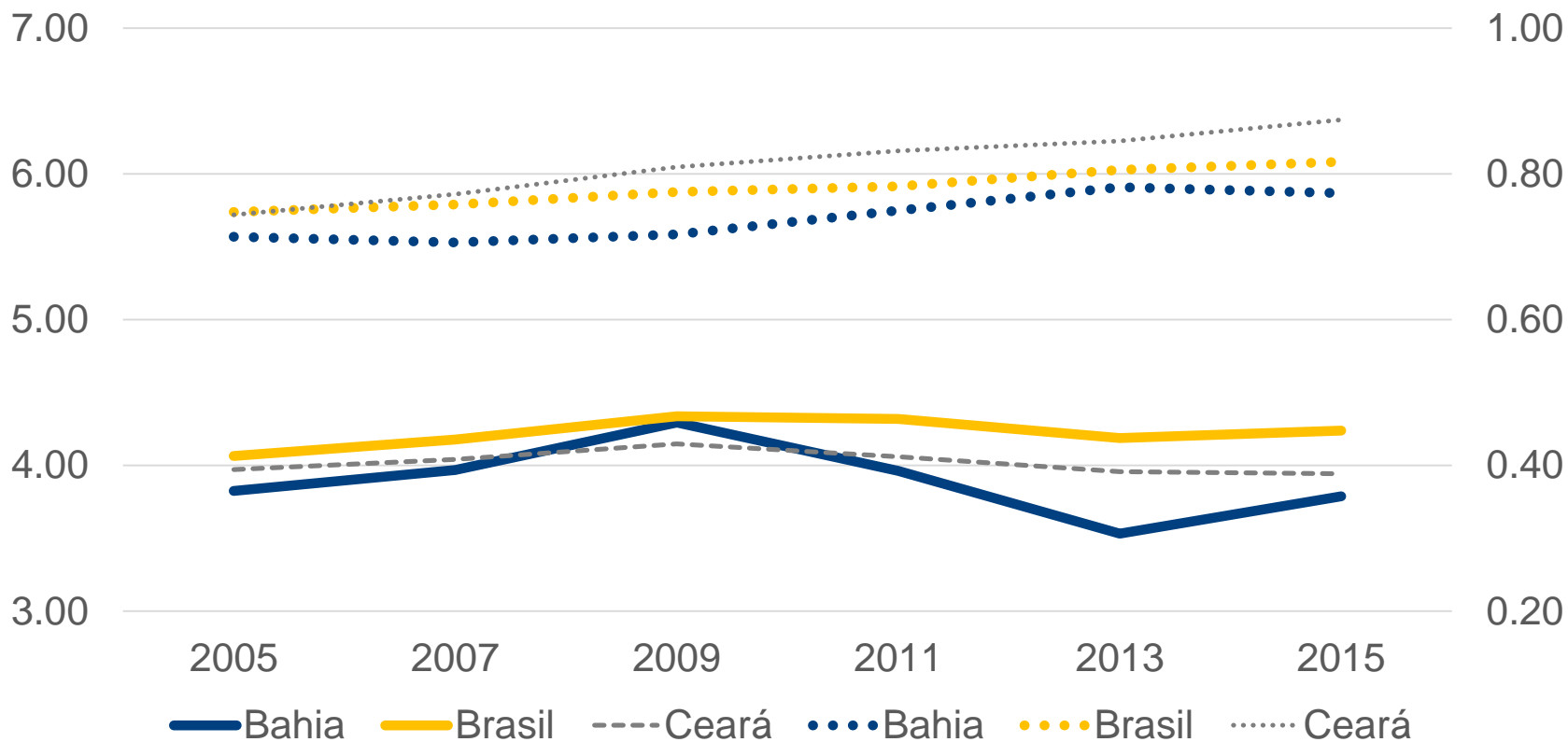
Fonte: INEP/Elaboração Própria

IDEB - Ensino Médio



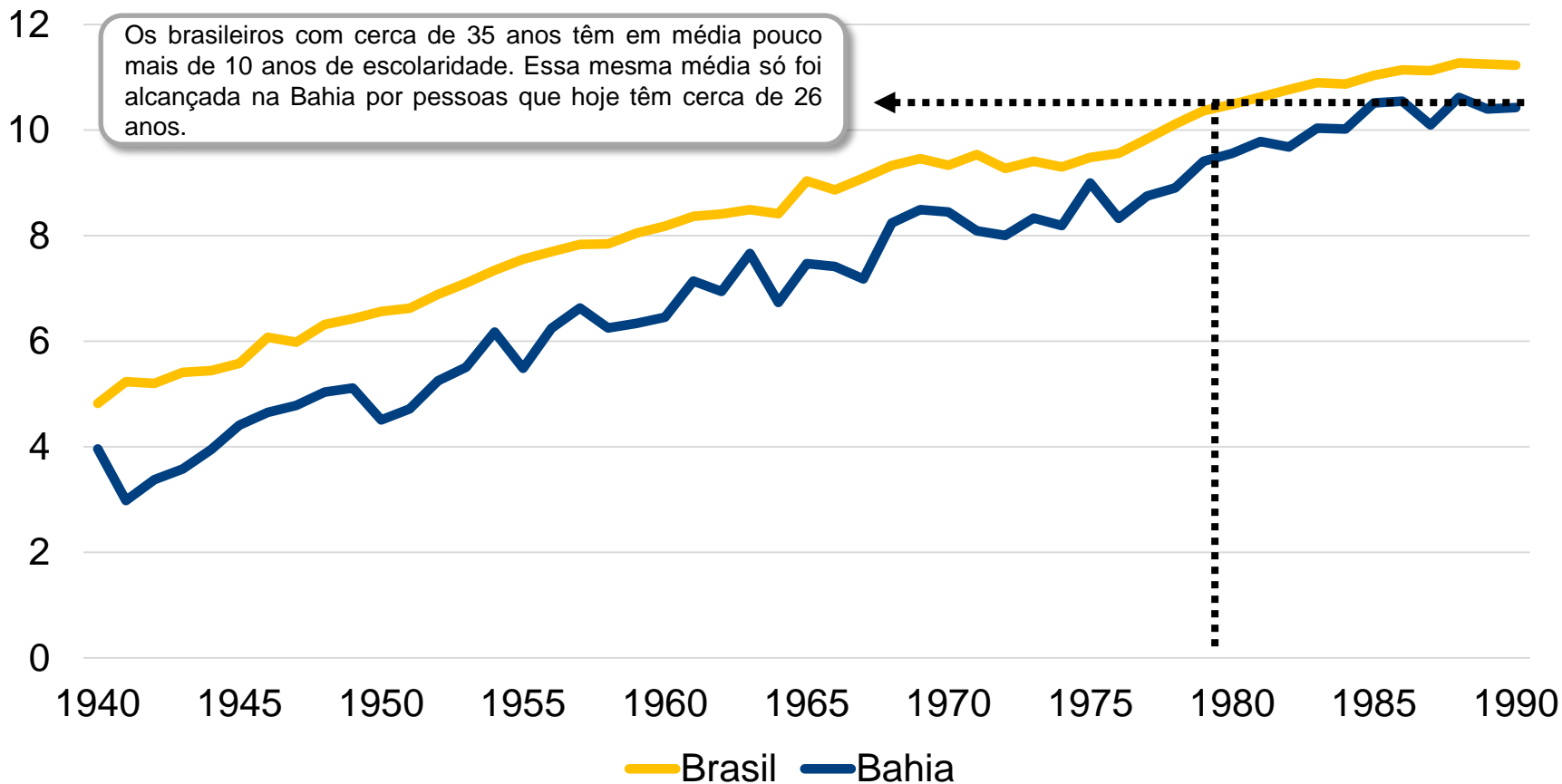
Fonte: INEP/Elaboração Própria

Proficiência e Rendimento - Ensino Médio



Fonte: INEP/Elaboração Própria

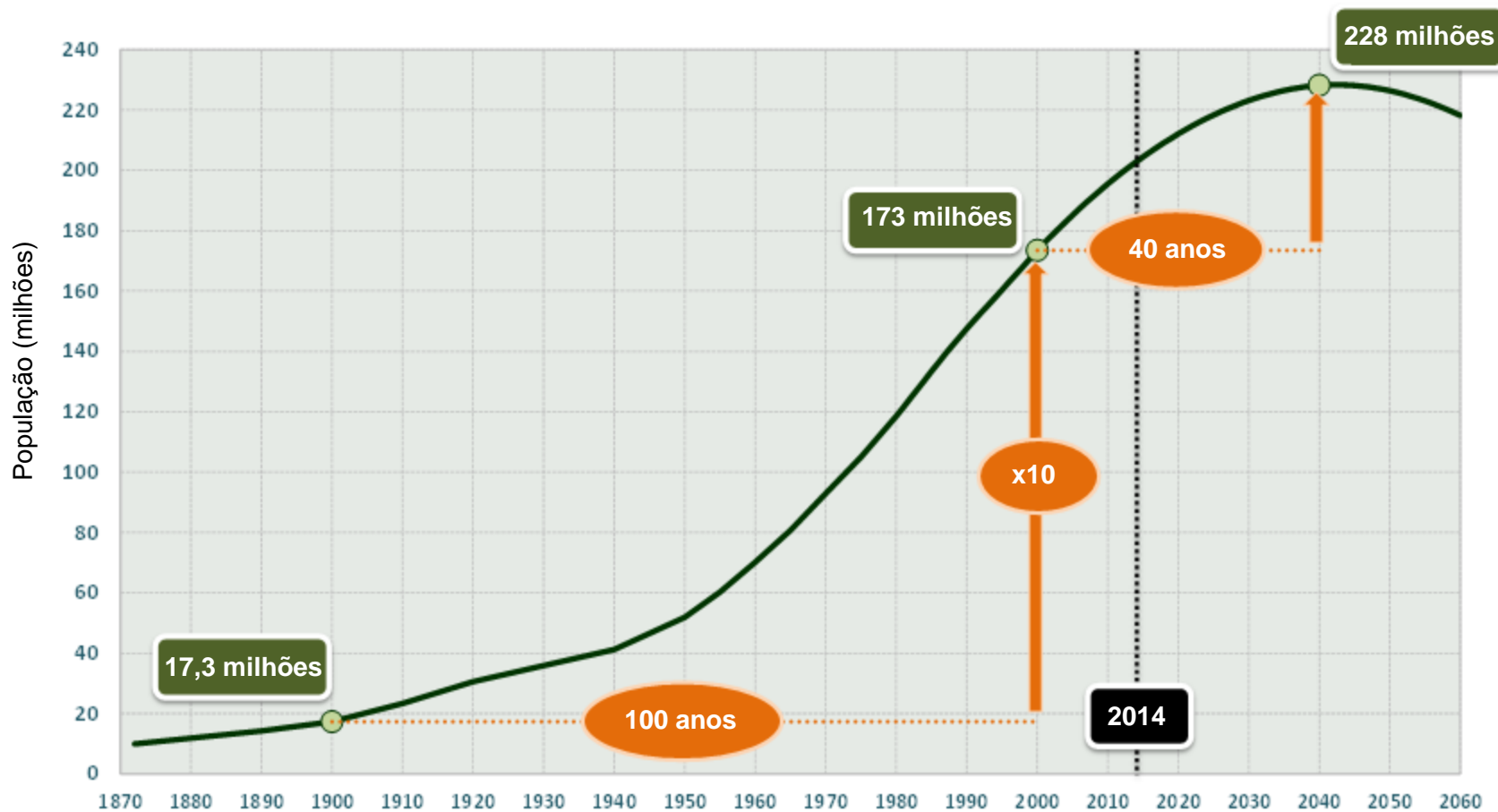
Escolaridade média



Fonte: INEP/Elaboração Própria

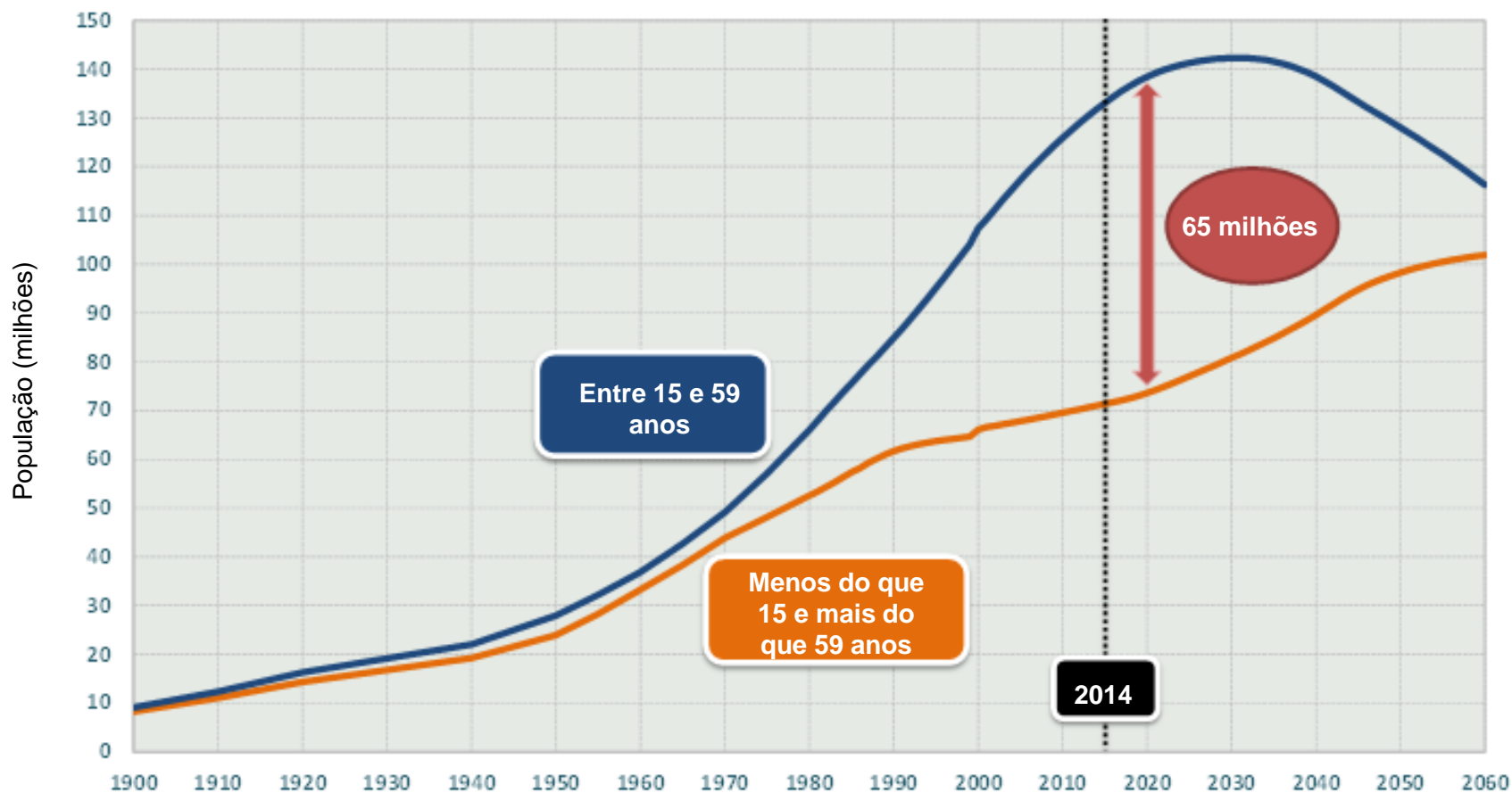
2. Sobre a Importância de Detecção Precoce de Novas Tendências

Evolução e expectativa para a população brasileira de 1872 a 2060



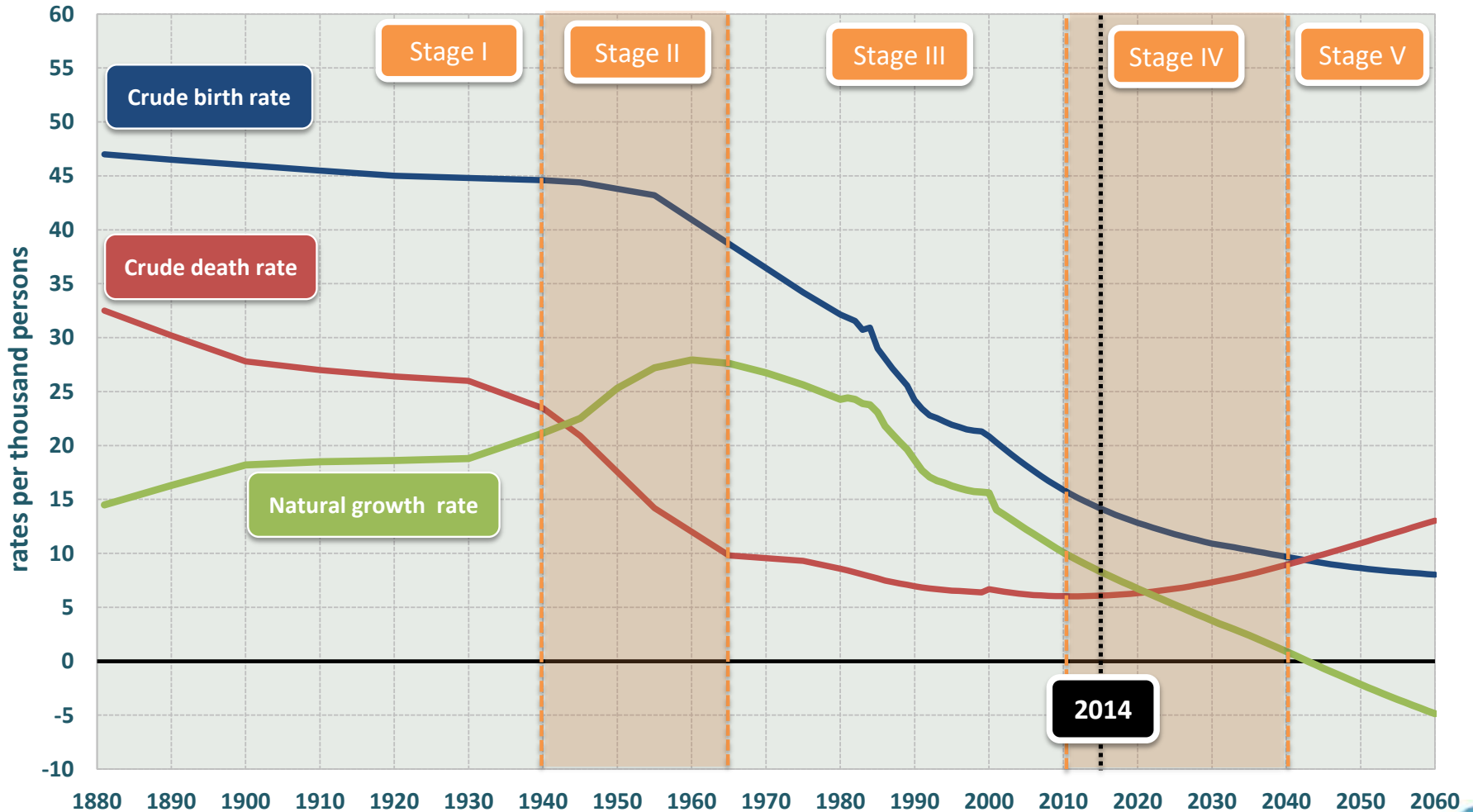
Fonte: SAE/IBGE

Evolução da população brasileira por grupos de idade: 1900 a 2060



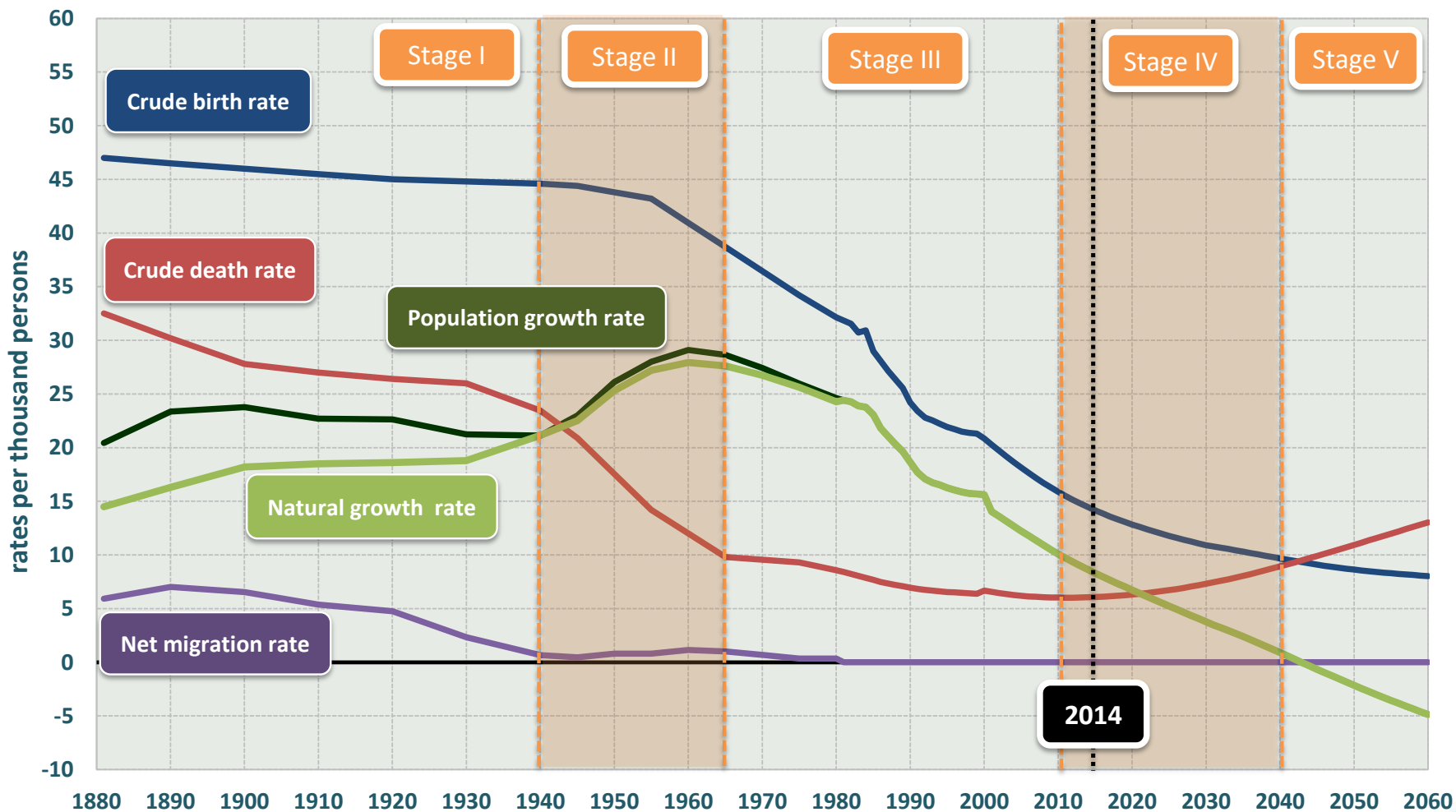
Fonte: SAE/IBGE

Brazilian Population Dynamics: 1880-2060



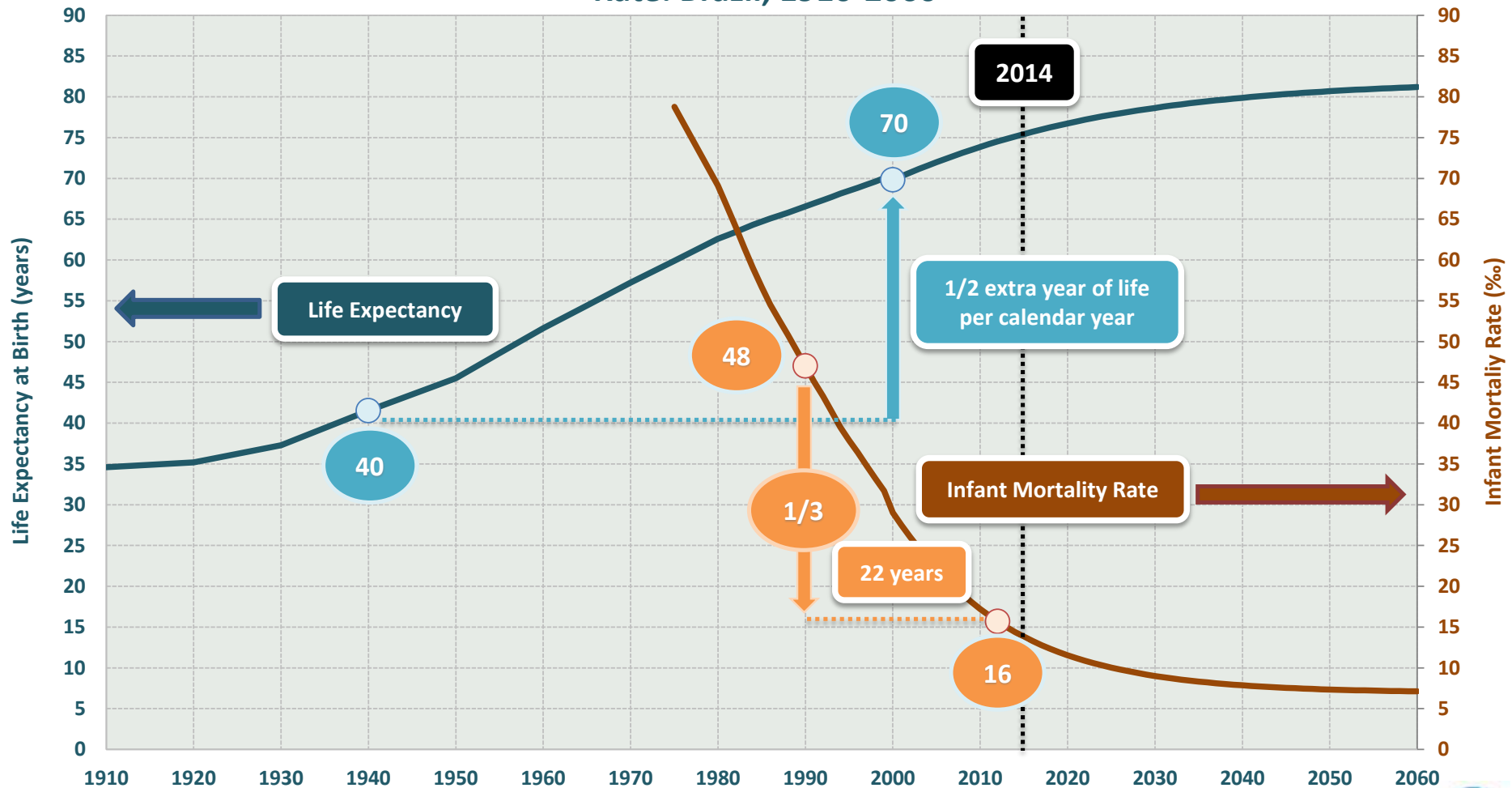
Source: SAE/PR based on population records and projections from IBGE

Brazilian Population Dynamics: 1880-2060



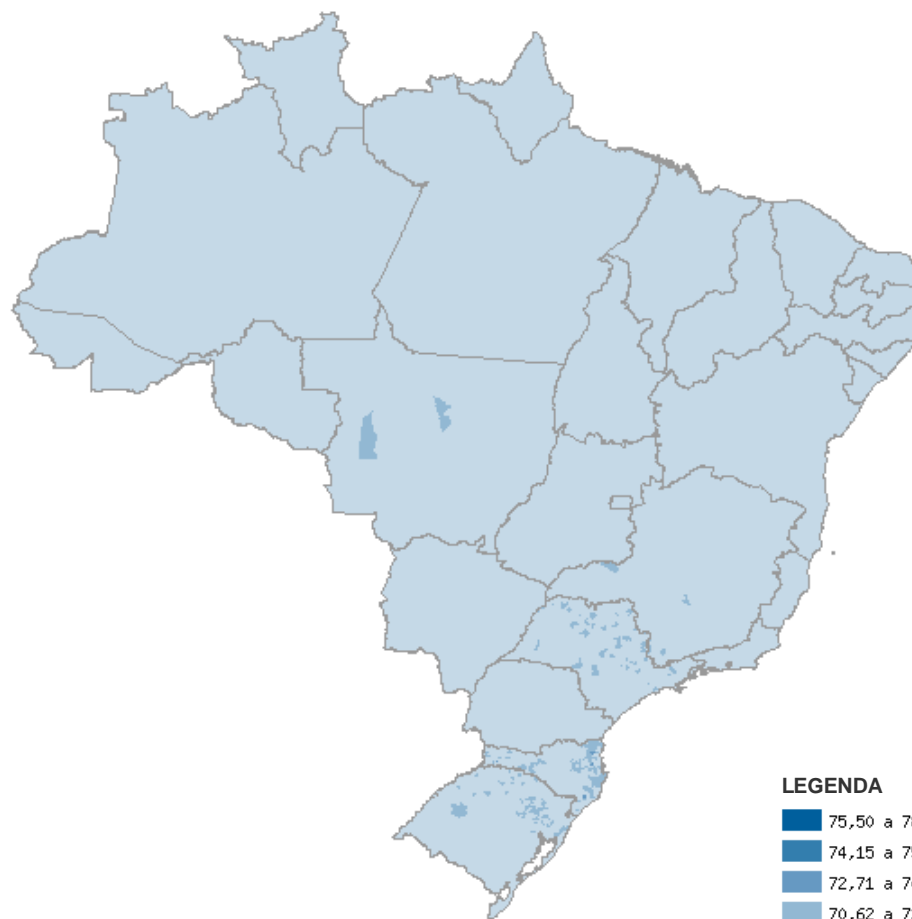
Source: SAE/PR based on population records and projections from IBGE

Actual and Predicted Evolution of Life Expectancy at Birth and Infant Mortality Rate: Brazil, 1910-2060



Source: SAE/PR based on population records and projections from IBGE

Life expectancy in Brazilian Municipalities: 1991

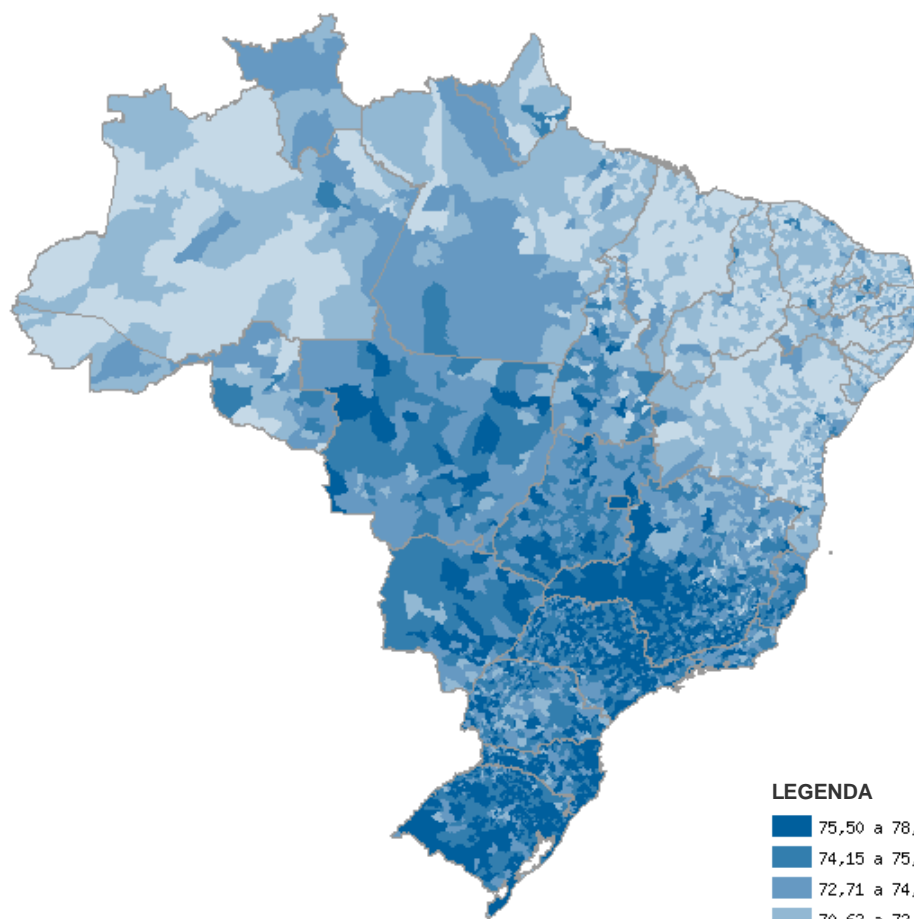


LEGENDA

- 75,50 a 78,64
- 74,15 a 75,50
- 72,71 a 74,15
- 70,62 a 72,71
- 0 a 70,62

Source: HDI-M Atlas

Life expectancy in Brazilian Municipalities: 2010



LEGENDA

- 75,50 a 78,64
- 74,15 a 75,50
- 72,71 a 74,15
- 70,62 a 72,71
- 0 a 70,62

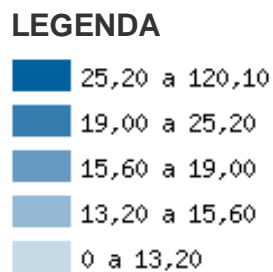
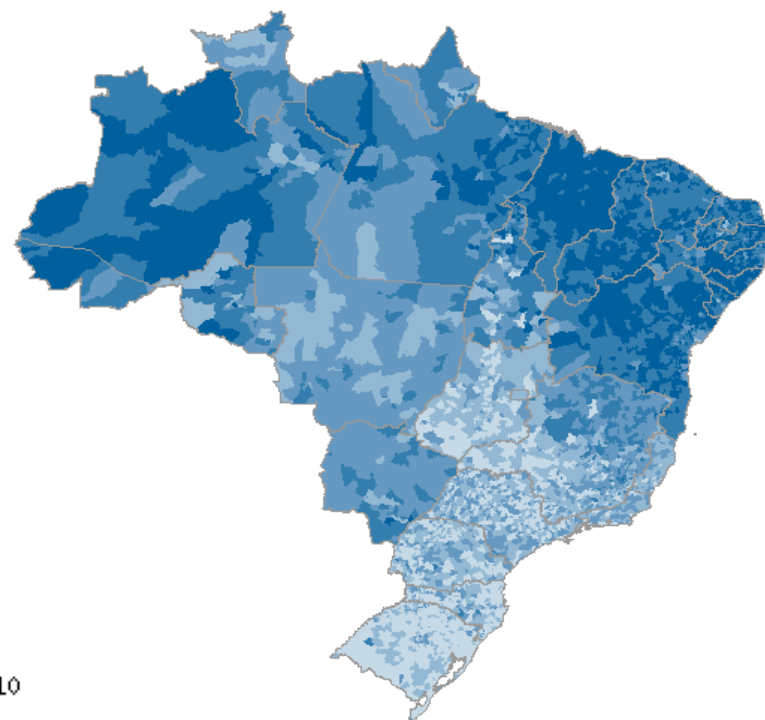
Source: HDI-M Atlas

Infant mortality rate in Brazilian Municipalities

1991



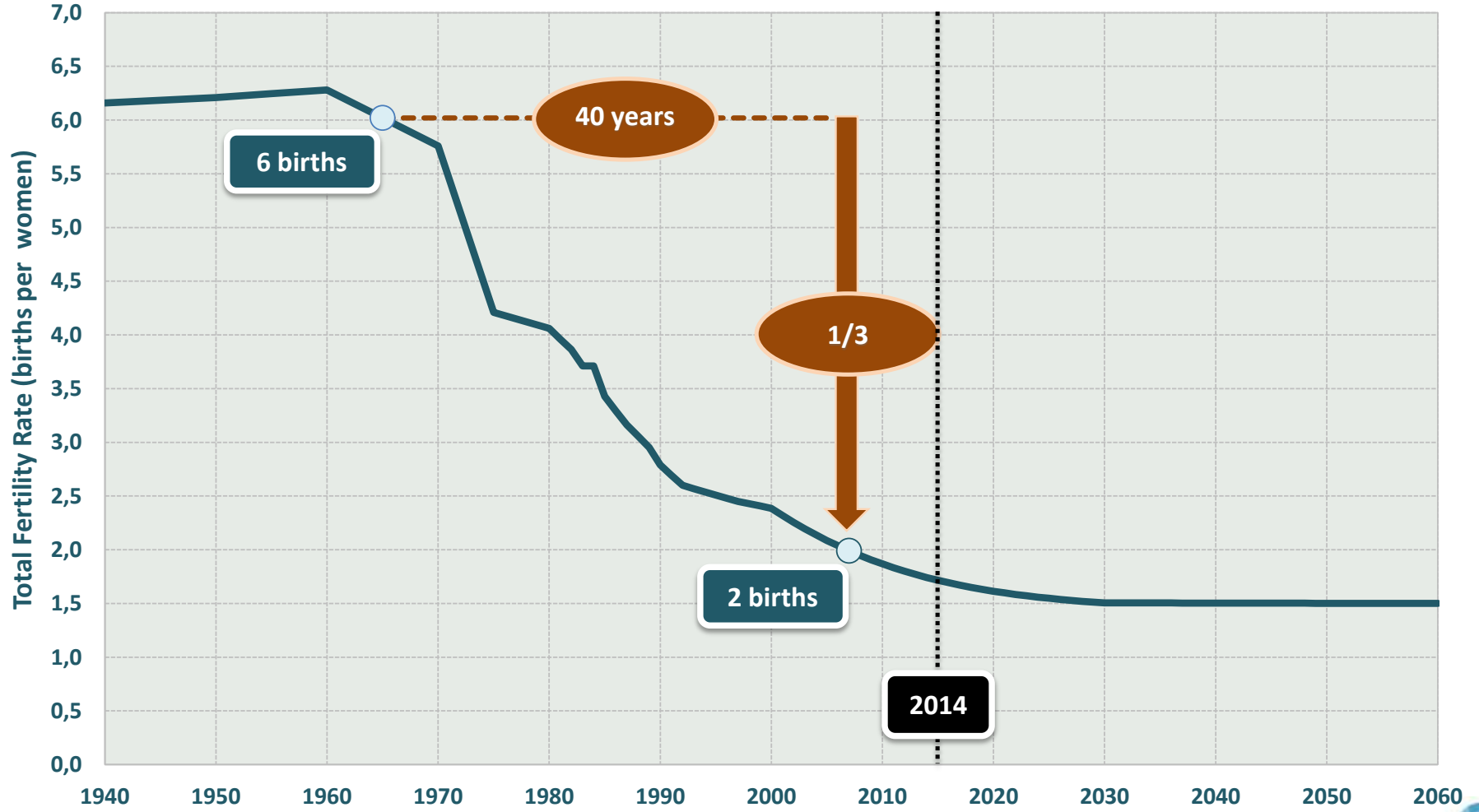
2010



Source: HDI-M Atlas

C. Fertility decline

Actual and Predicted Evolution of Total Fertility Rate : Brazil, 1940-2060



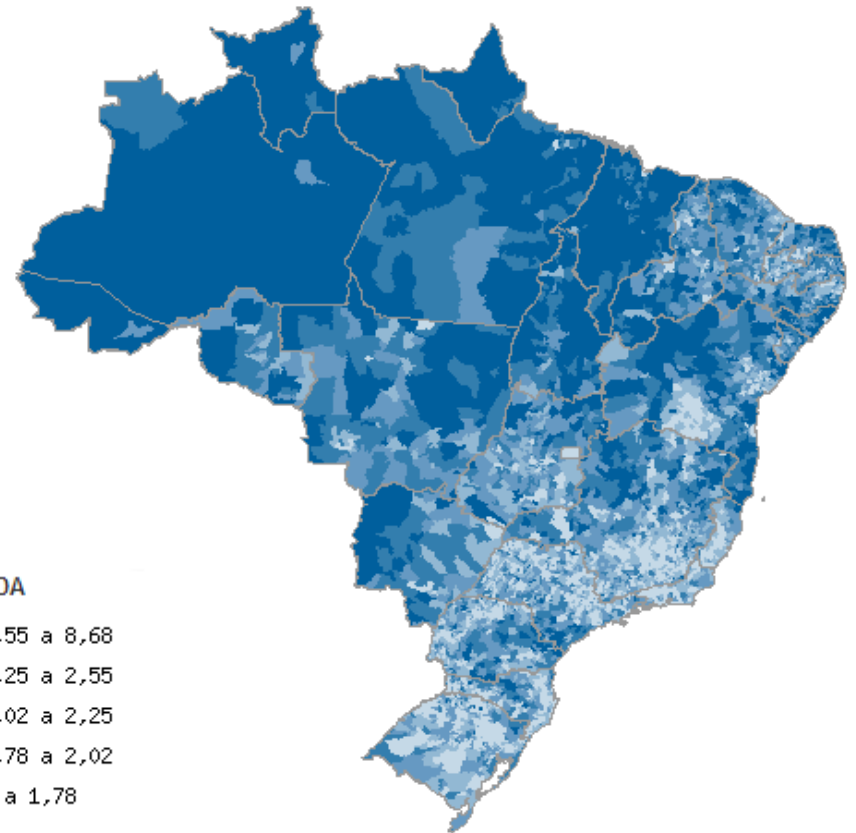
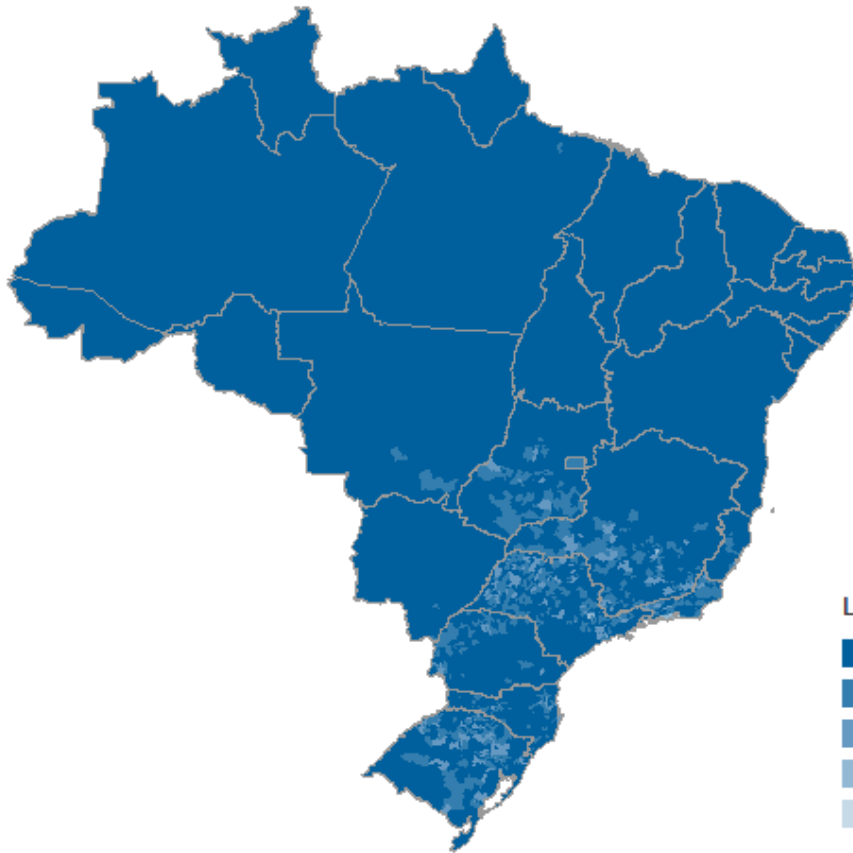
Source: SAE/PR based on population records and projections from IBGE

C. Fertility decline

Total fertility rate in Brazilian Municipalities

1991

2010



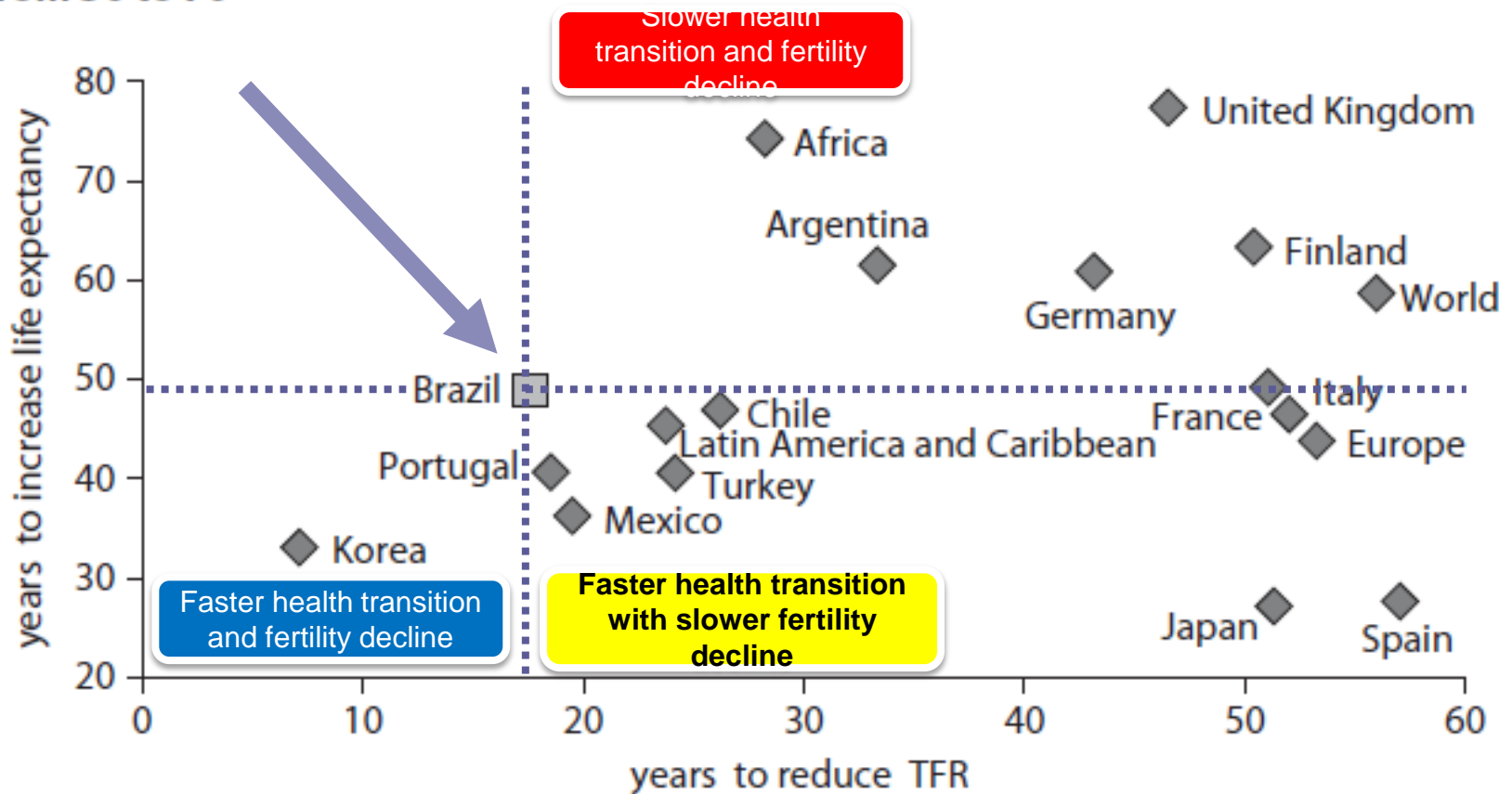
LEGENDA

- 2,55 a 8,68
- 2,25 a 2,55
- 2,02 a 2,25
- 1,78 a 2,02
- 0 a 1,78

Source: HDI-M Atlas

C. Health transition and fertility decline

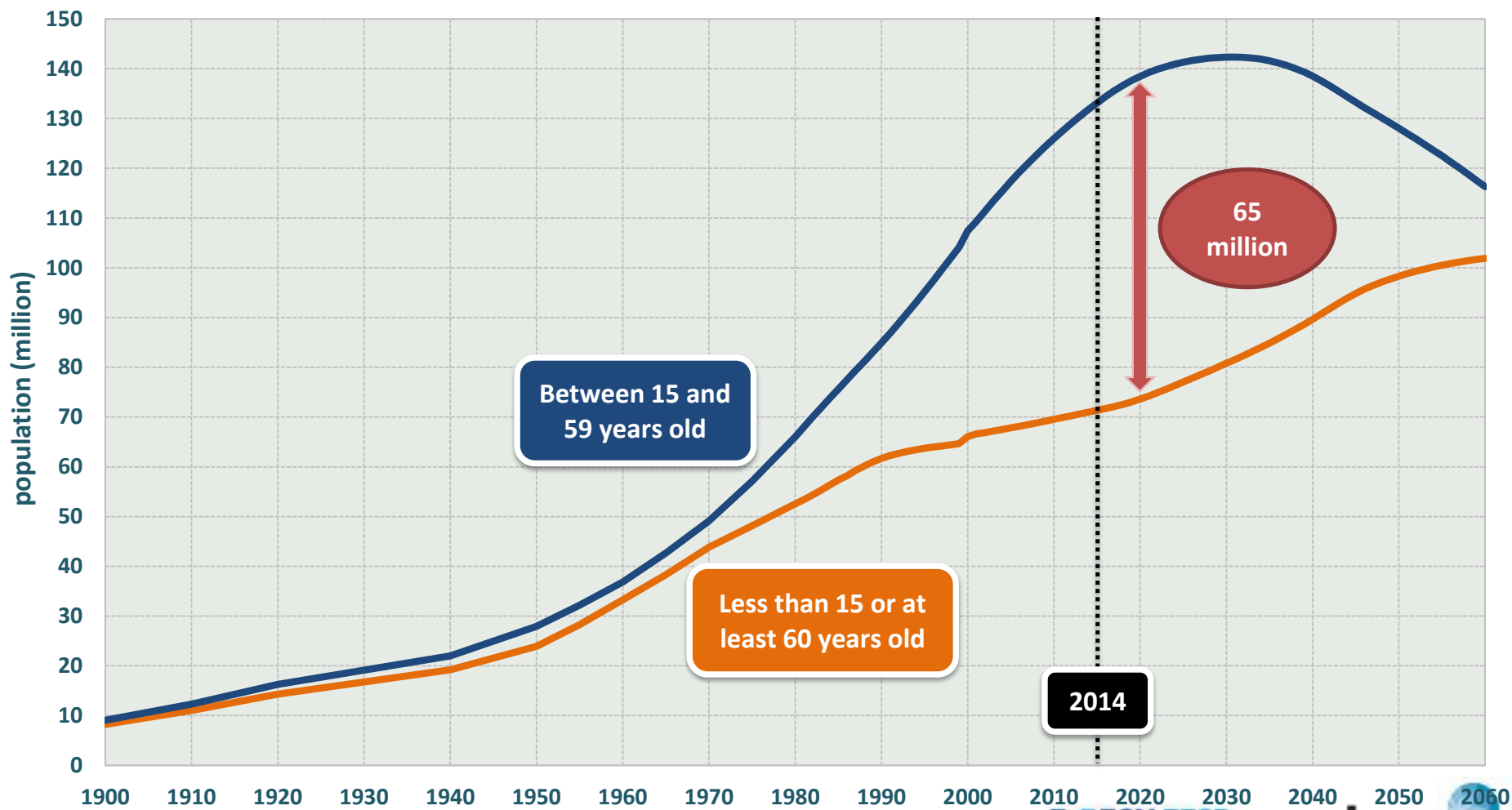
Figure 1.3 Years to Reduce Fertility (TFR) from 3 to 2 and Increase Life Expectancy from 50 to 70^a



Source: Growing old in an older Brazil : implications of population aging on growth, poverty, public finance and service delivery / Michele Gagnolati, et al. Washington D.C.: The World Bank, 2011. p. 3

D. Demographic bonus

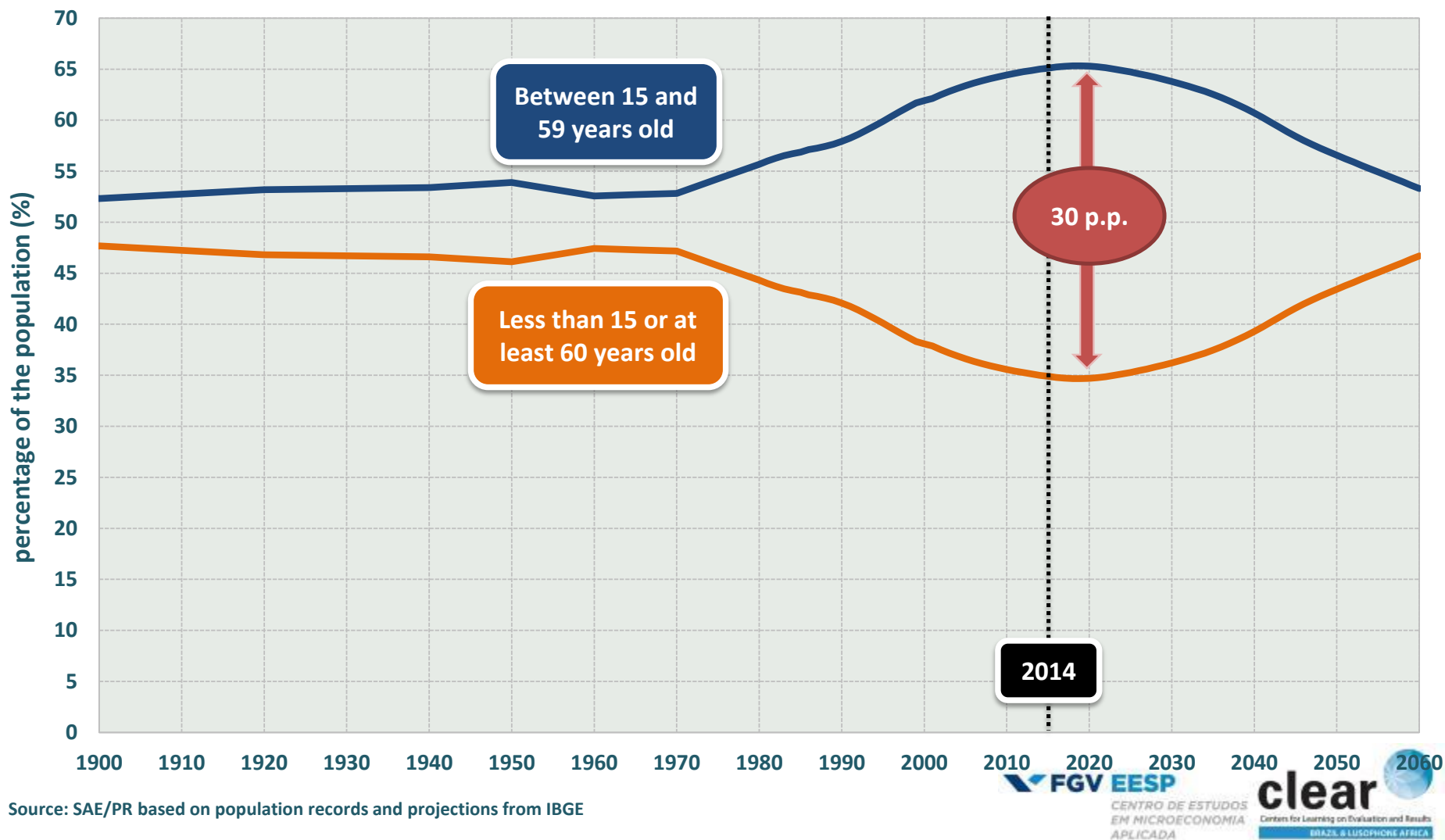
Evolution of the Brazilian Population by Age Groups: 1900 to 2060



Source: SAE/PR based on population records and projections from IBGE

D. Demographic bonus

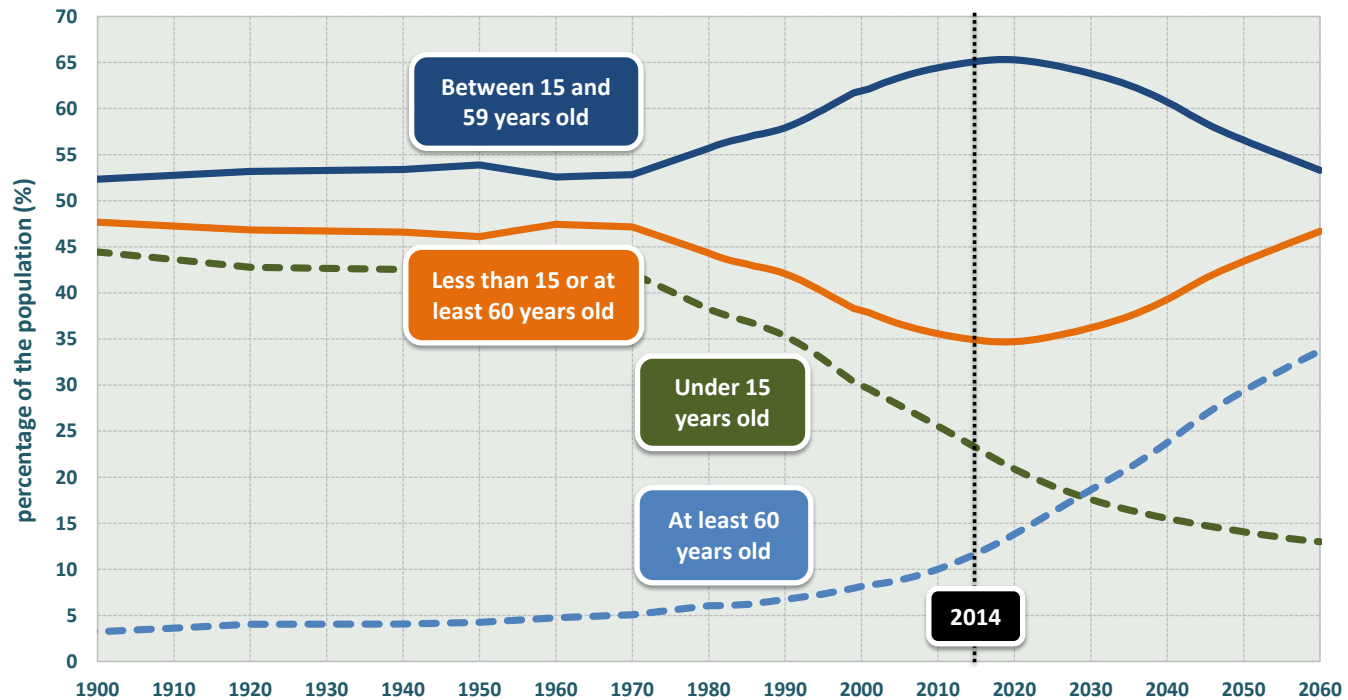
Evolution of the Distribution of the Brazilian Population by Age Groups: 1900 to 2060



Source: SAE/PR based on population records and projections from IBGE

Population aging

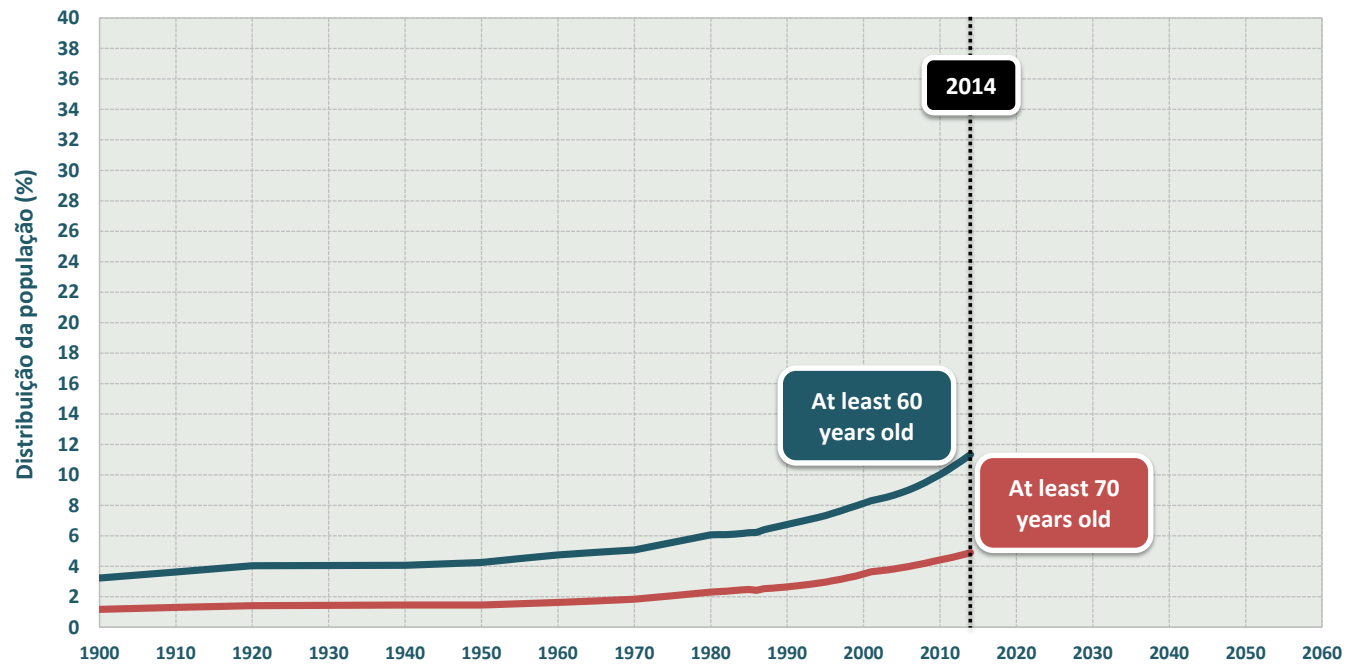
Evolution of the Distribution of the Brazilian Population by Age Groups: 1900 to 2060



Source: SAE/PR based on population records and projections from IBGE

Population aging

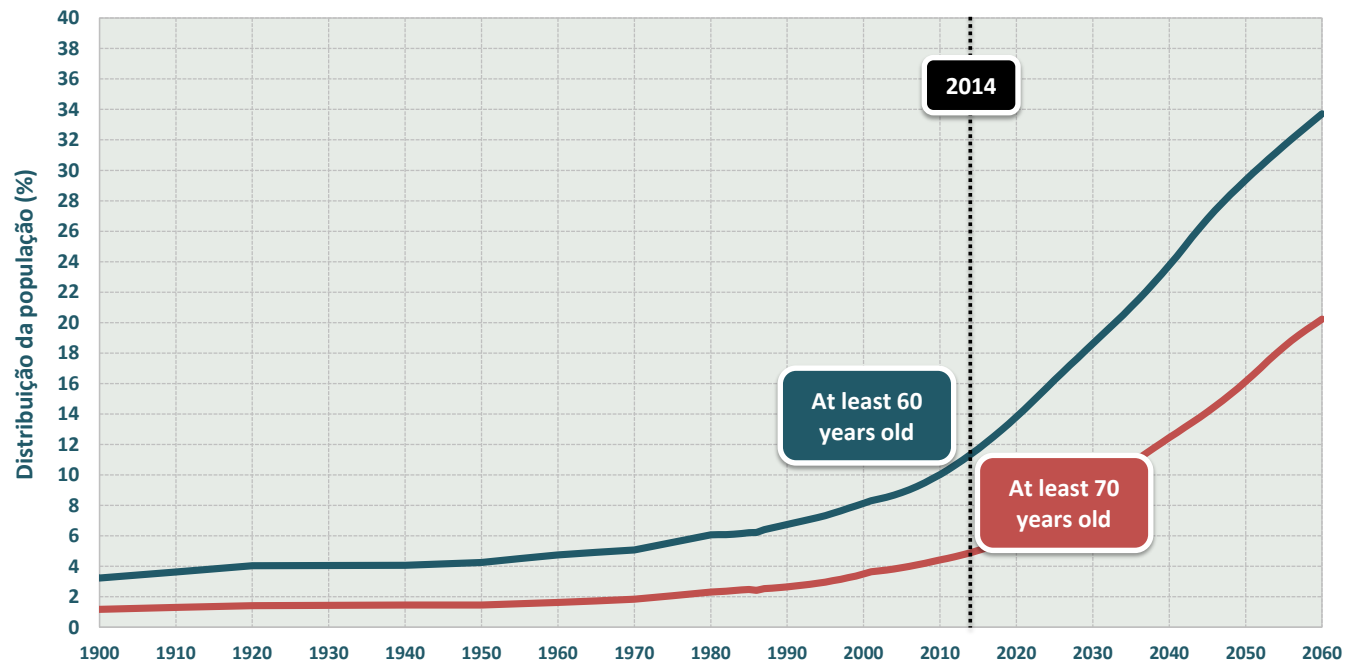
Evolution of the percentage of old-age population:
Brazil, 1990-2060



Source: SAE/PR based on population records and projections from IBGE

Population aging

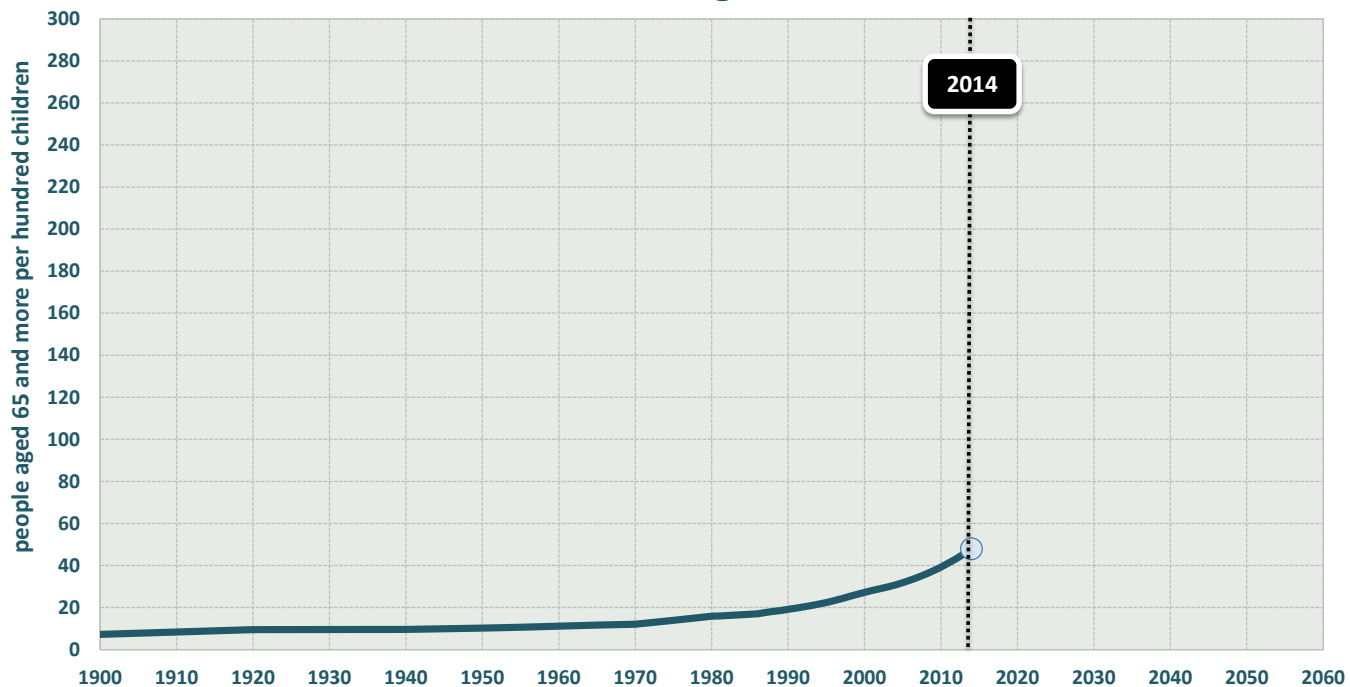
Evolution of the percentage of old-age population:
Brazil, 1990-2060



Source: SAE/PR based on population records and projections from IBGE

Population aging

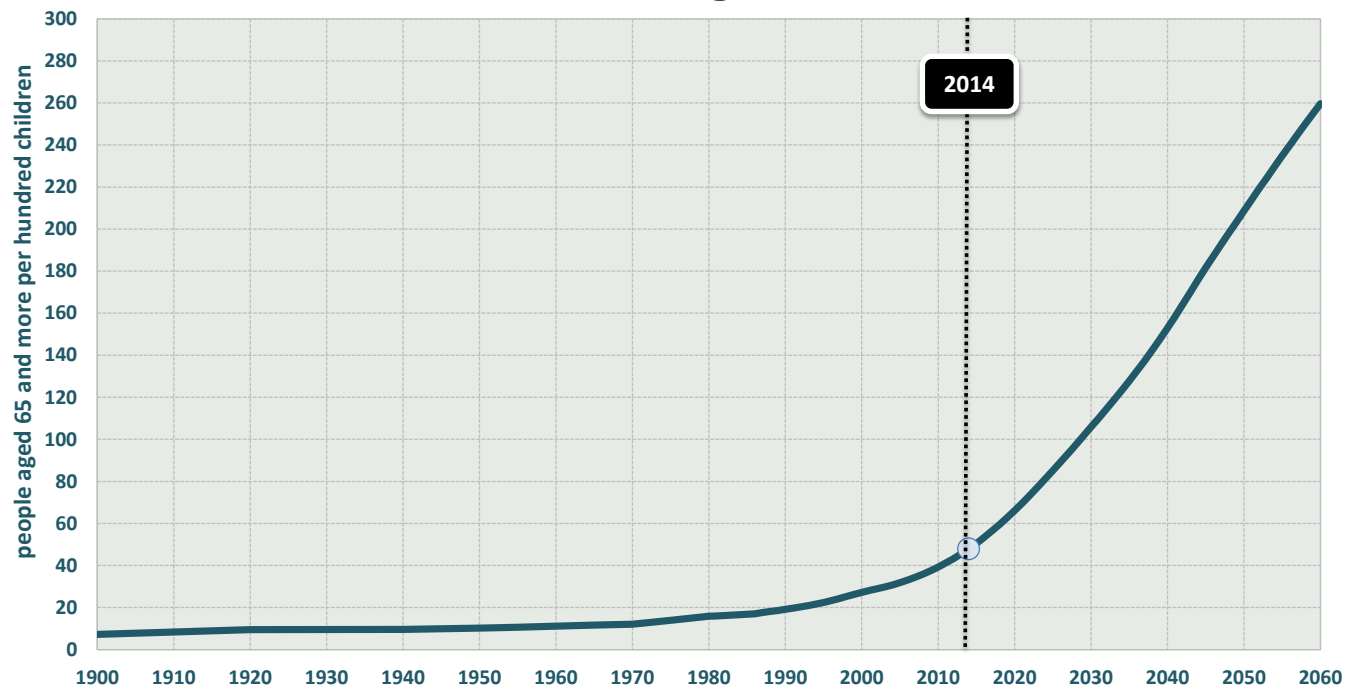
Evolution of the number of people aged 65 and above per hundred children under age 15: Brazil, 1900 to 2060



Source: SAE/PR based on population records and projections from IBGE

Population aging

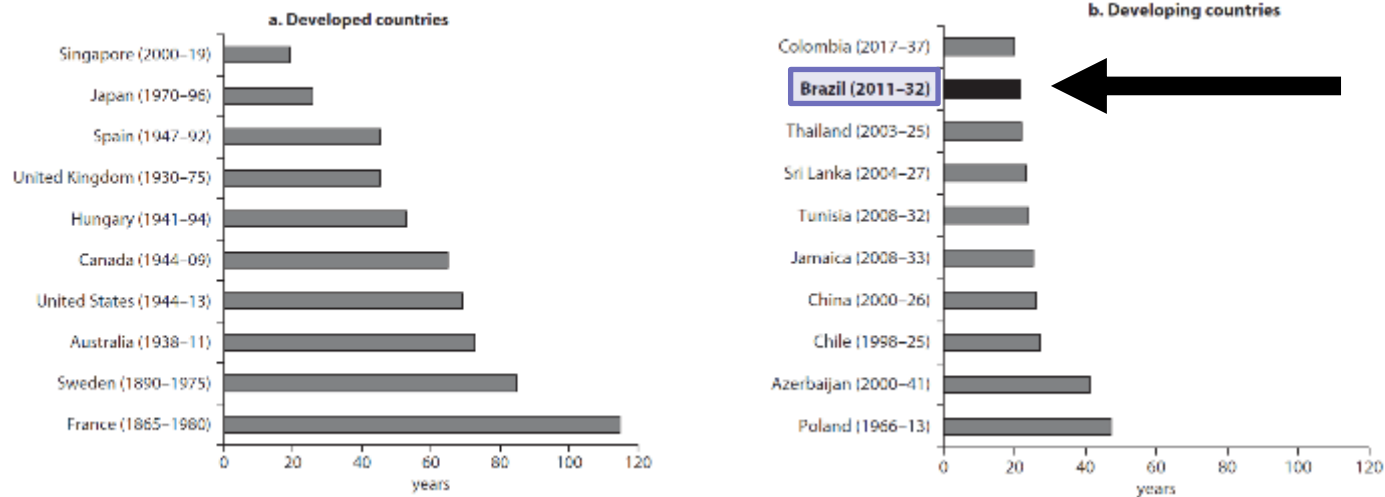
Evolution of the number of people aged 65 and above per hundred children under age 15: Brazil, 1900 to 2060



Source: SAE/PR based on population records and projections from IBGE

Speed of the population aging

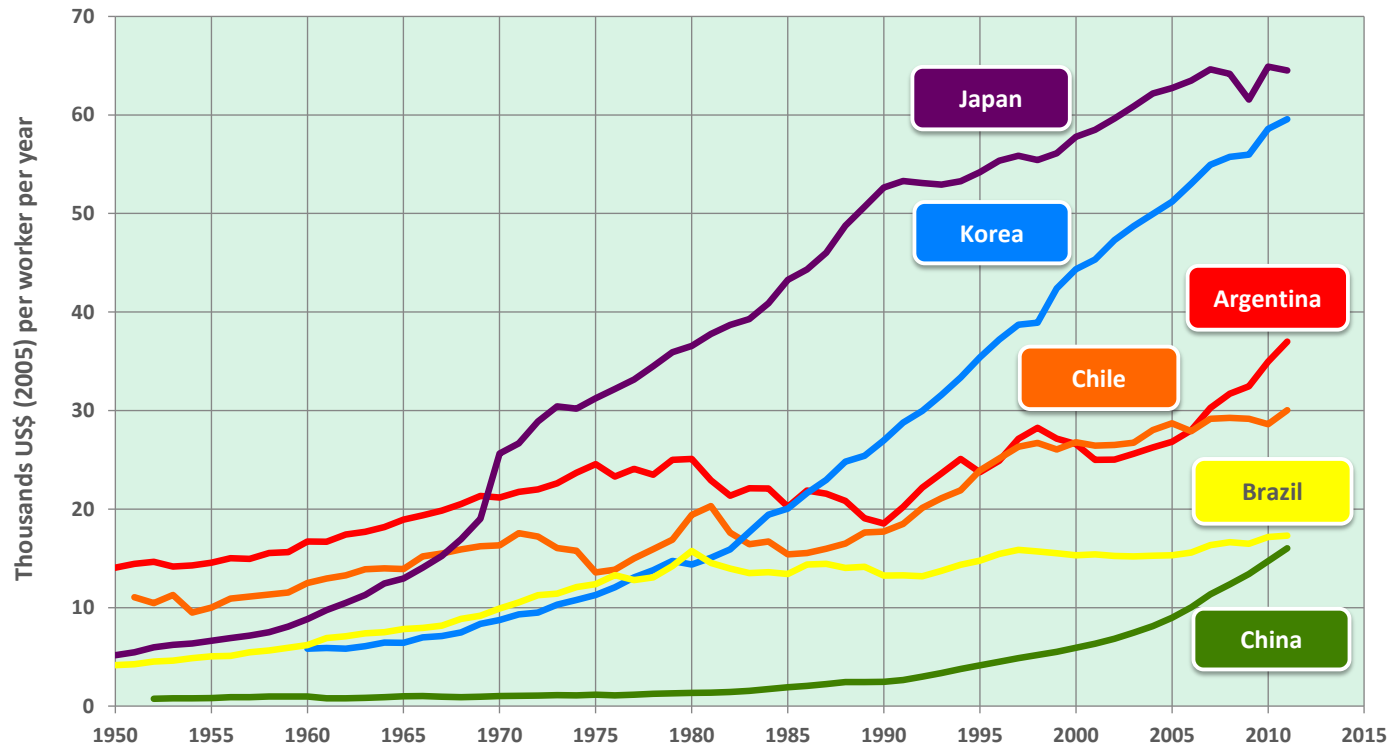
Number of years for population 65+ to increase from 7% to 14%



Fonte: Growing old in an older Brazil : implications of population aging on growth, poverty, public finance and service delivery / Michele Gragnolati, et al. Washington D.C.: The World Bank, 2011. p. 12.

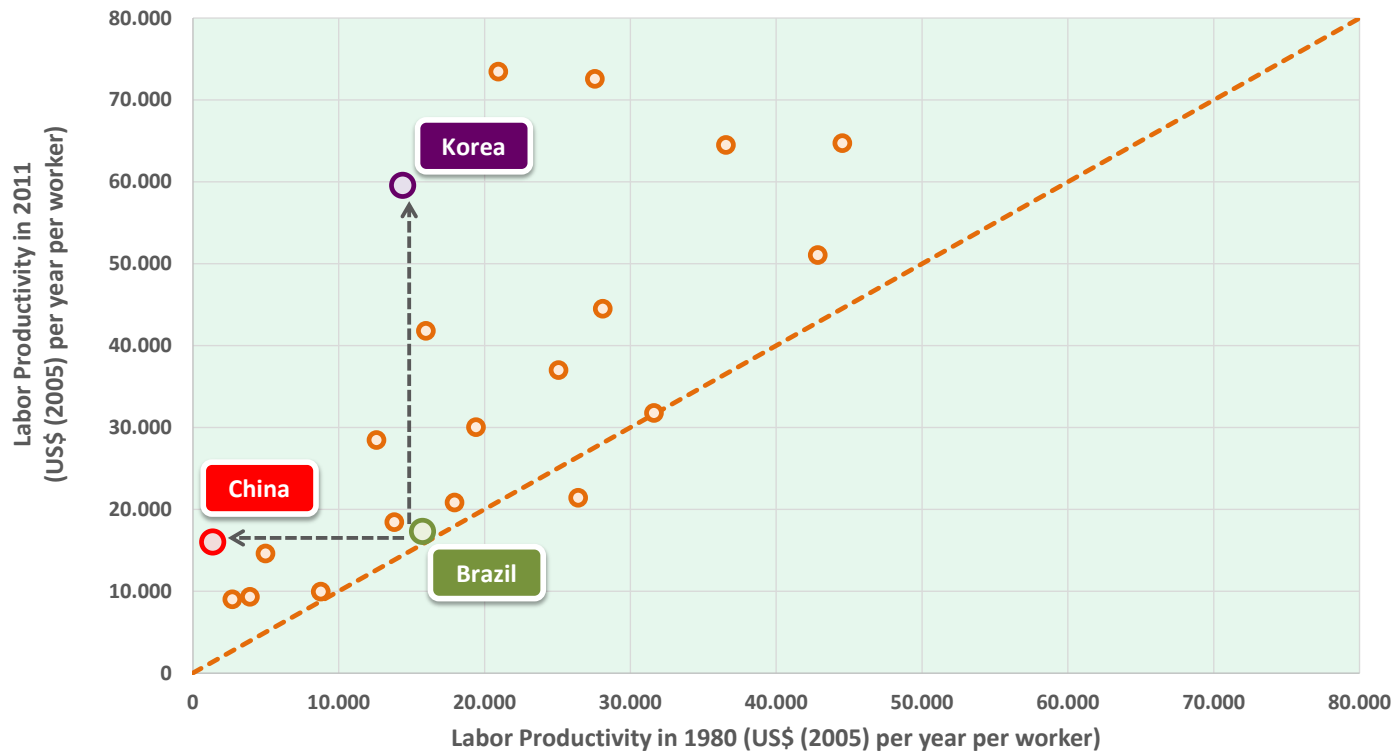
3. Sobre a importância de Reconhecer Fracassos

The Evolution of the Average Labor Productivity Selected countries: 1950-2011



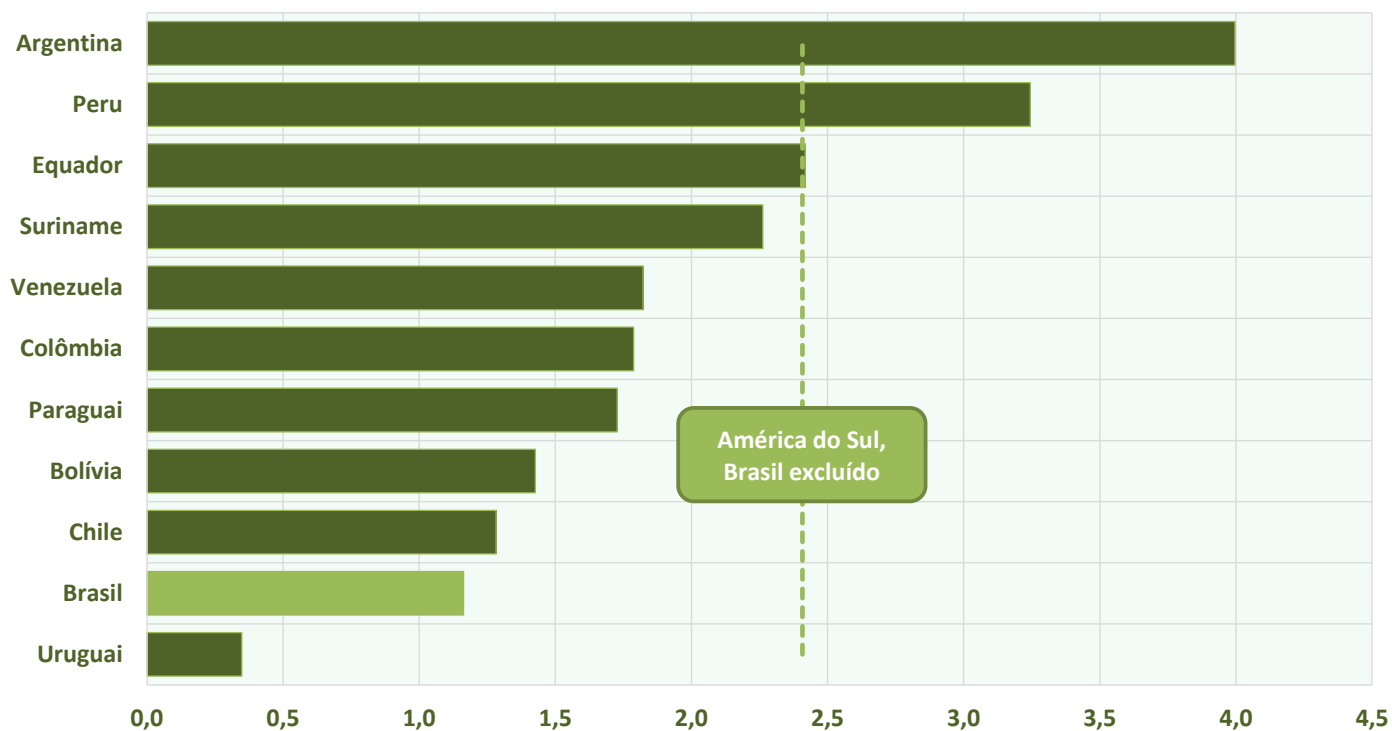
Source: SAE/PR based on the Penn World Tables.
Labor productivity as GDP/worker (Real GDP at constant 2005 national prices).

Ratio between labor productivity in 1980 and 2011

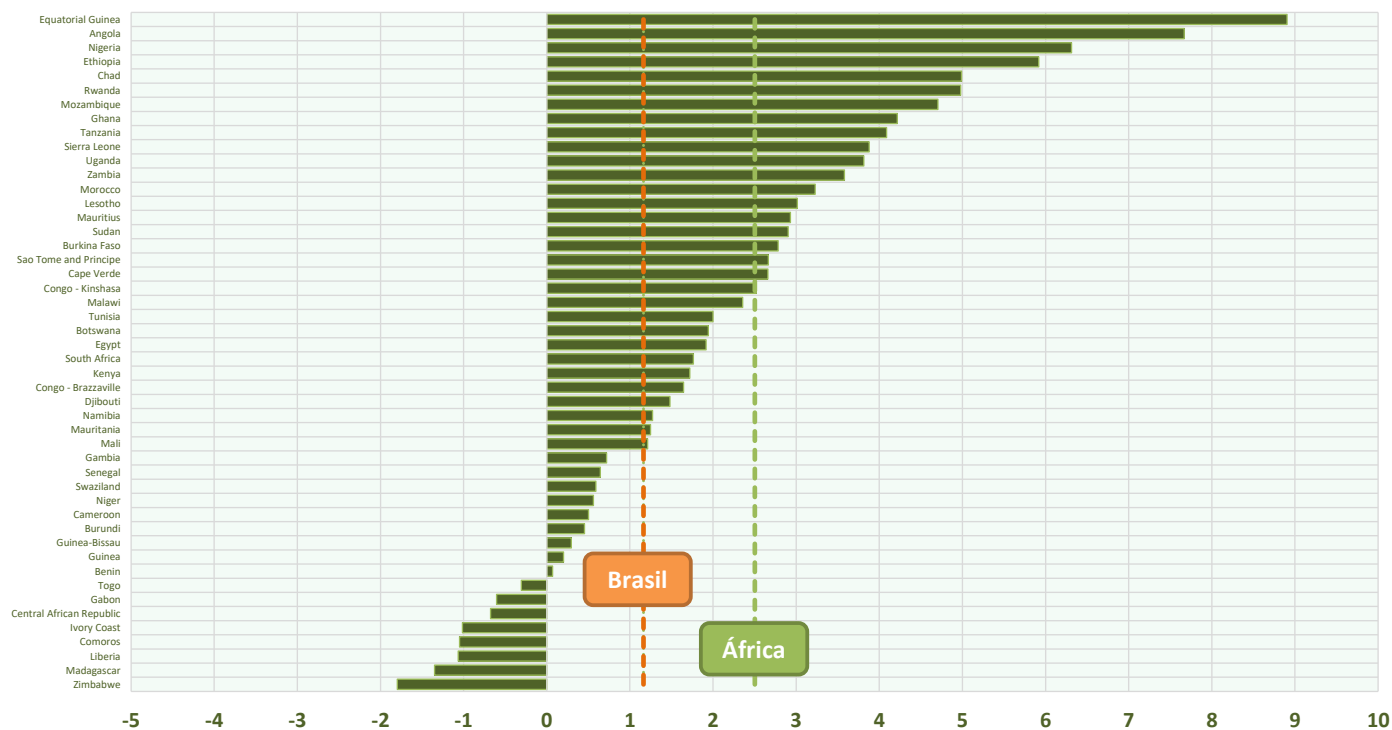


Source: SAE/PR based on the Penn World Tables.
Labor productivity as GDP/worker (Real GDP at constant 2005 national prices).

Taxa anual de crescimento da produtividade média do trabalho na América do Sul (2001-2011)

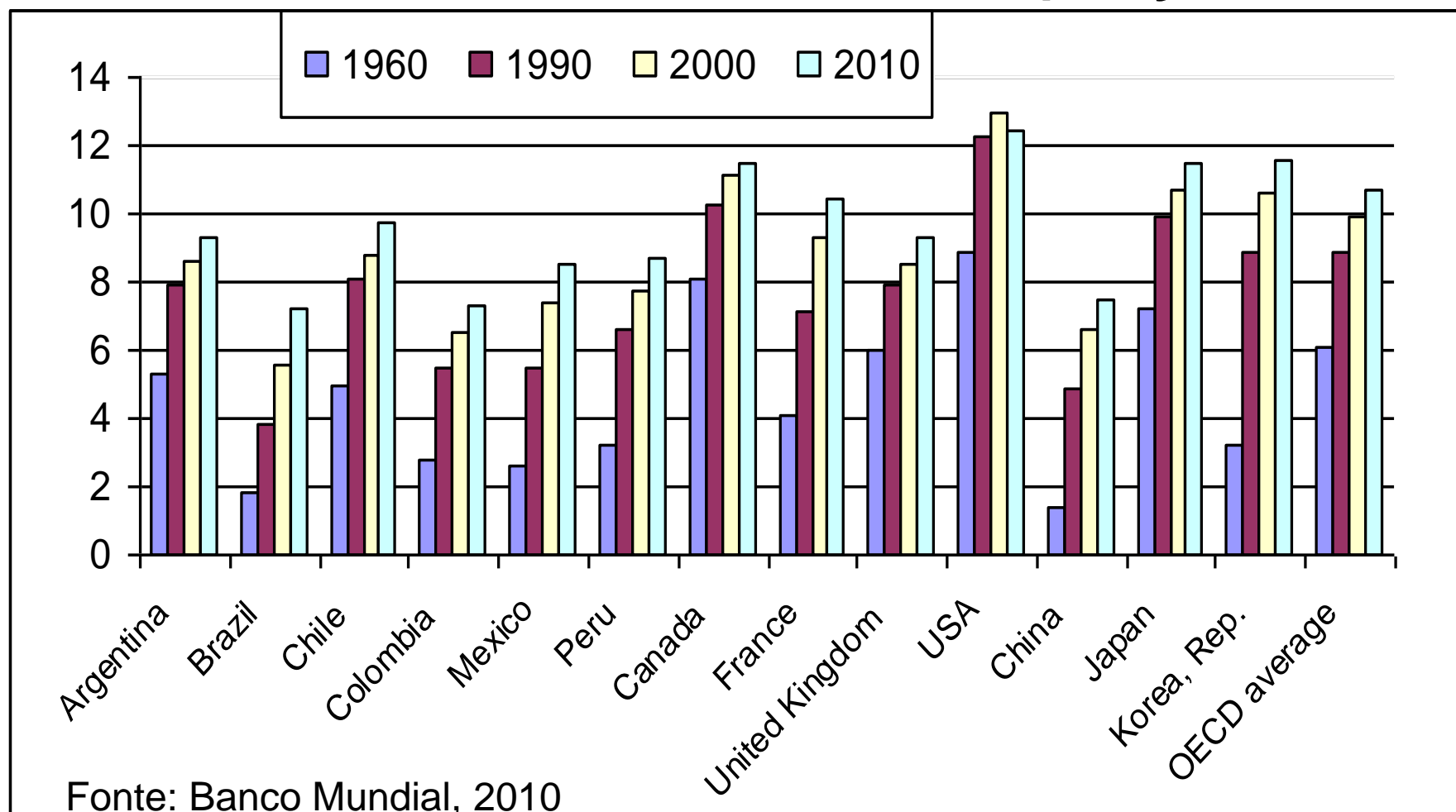


Taxa anual de crescimento da produtividade média do trabalho na África (2001-2011)



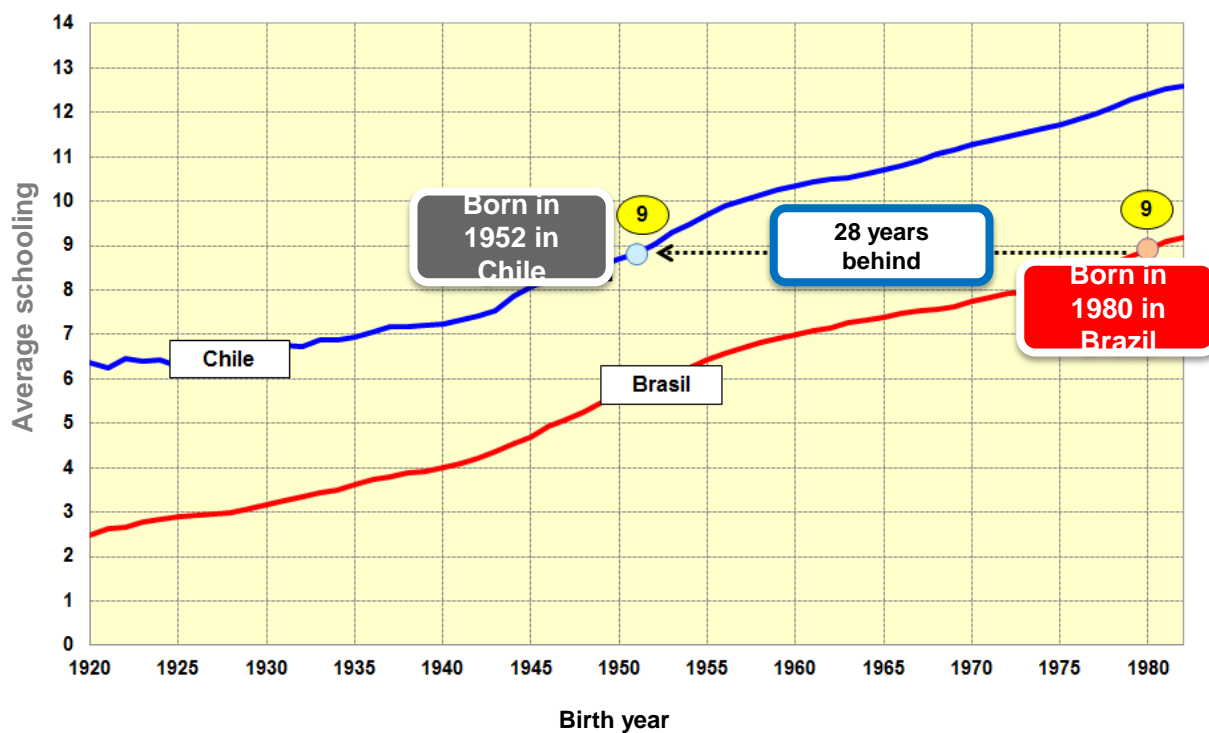
Educação no Brasil: Quantidade

Médias de Anos de Escolaridade da População Adulta



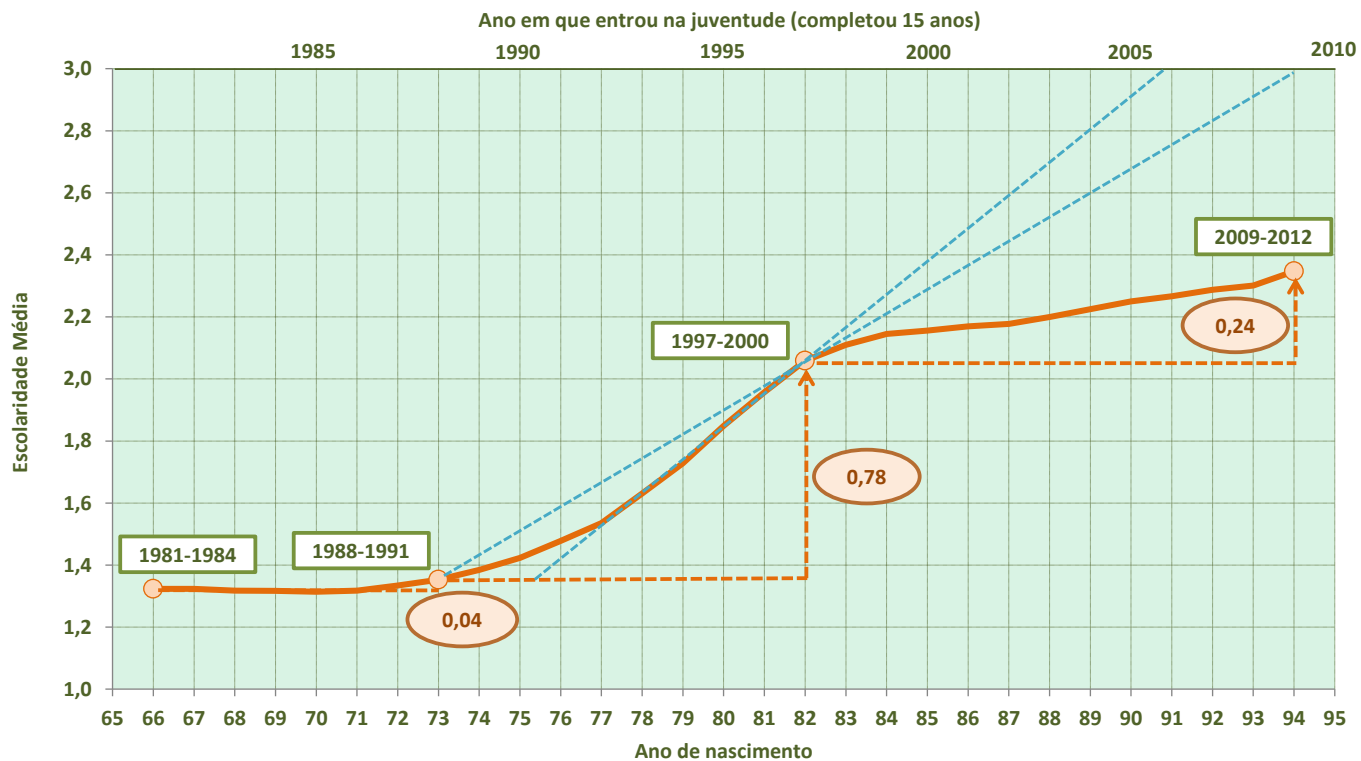
Fonte: Banco Mundial, 2010

Evolution of average schooling by birth cohort: Brazil



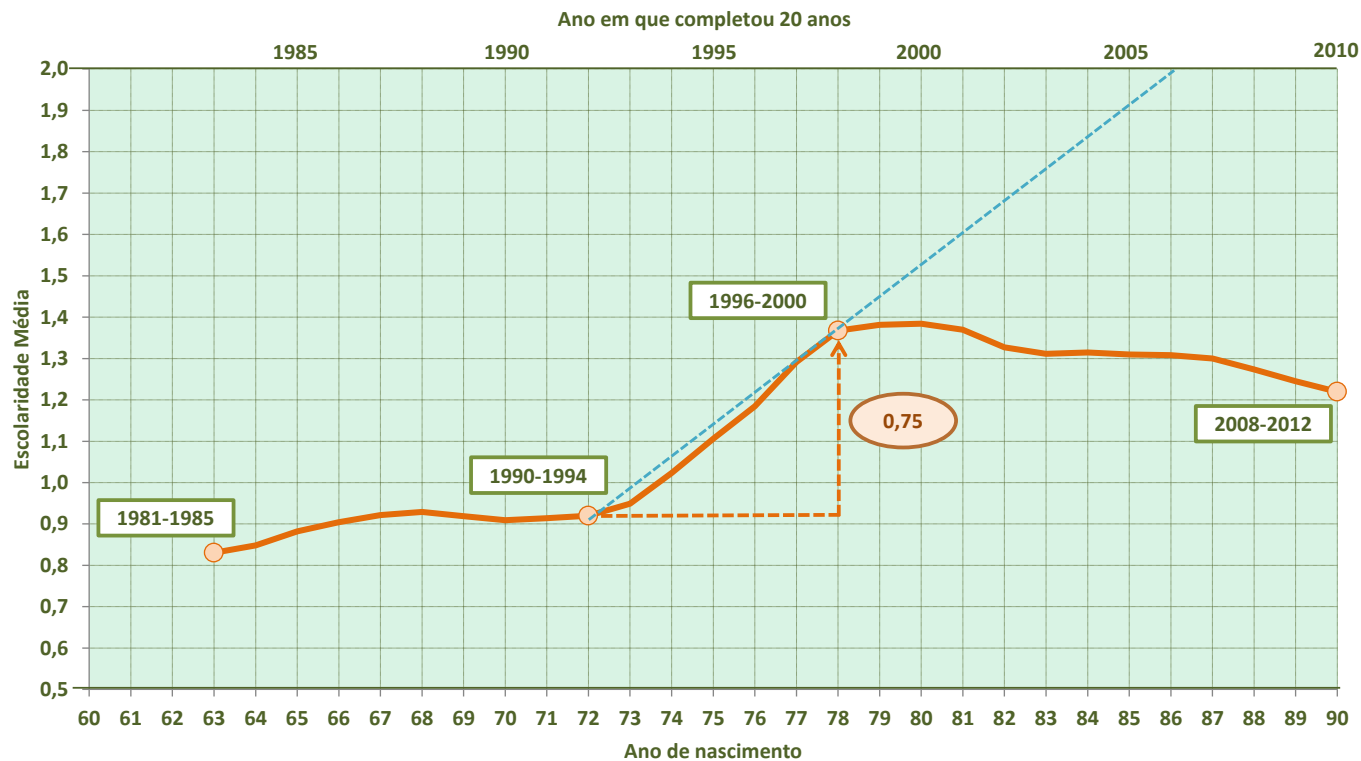
III. Acumulando Escolaridade na Juventude

Evolução da escolaridade adquirida durante adolescência na juventude (15 aos 18 anos) segundo o ano de nascimento ou ano em que entrou na juventude



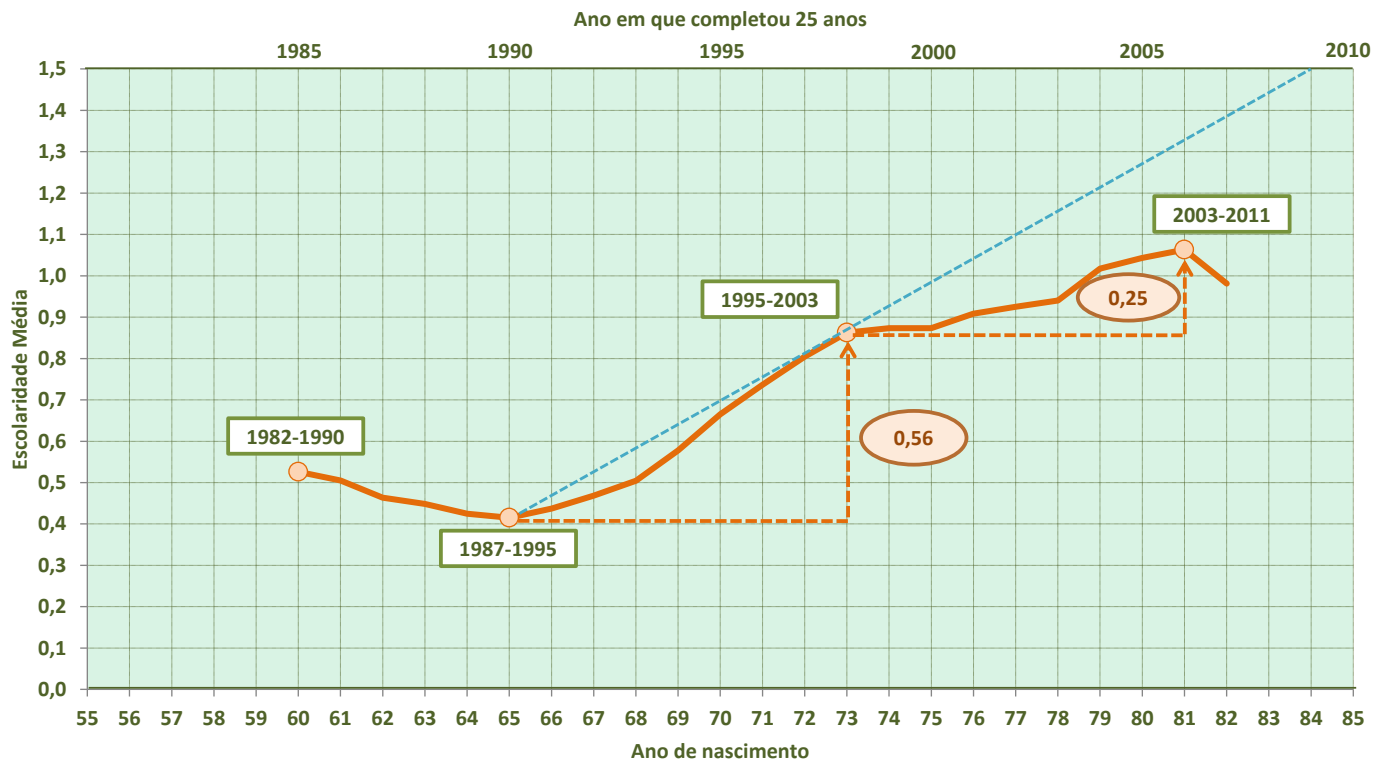
III. Acumulando Escolaridade na Juventude

Evolução da escolaridade adquirida dos 18 aos 22 anos, segundo o ano de nascimento e o ano em que completou 20 anos



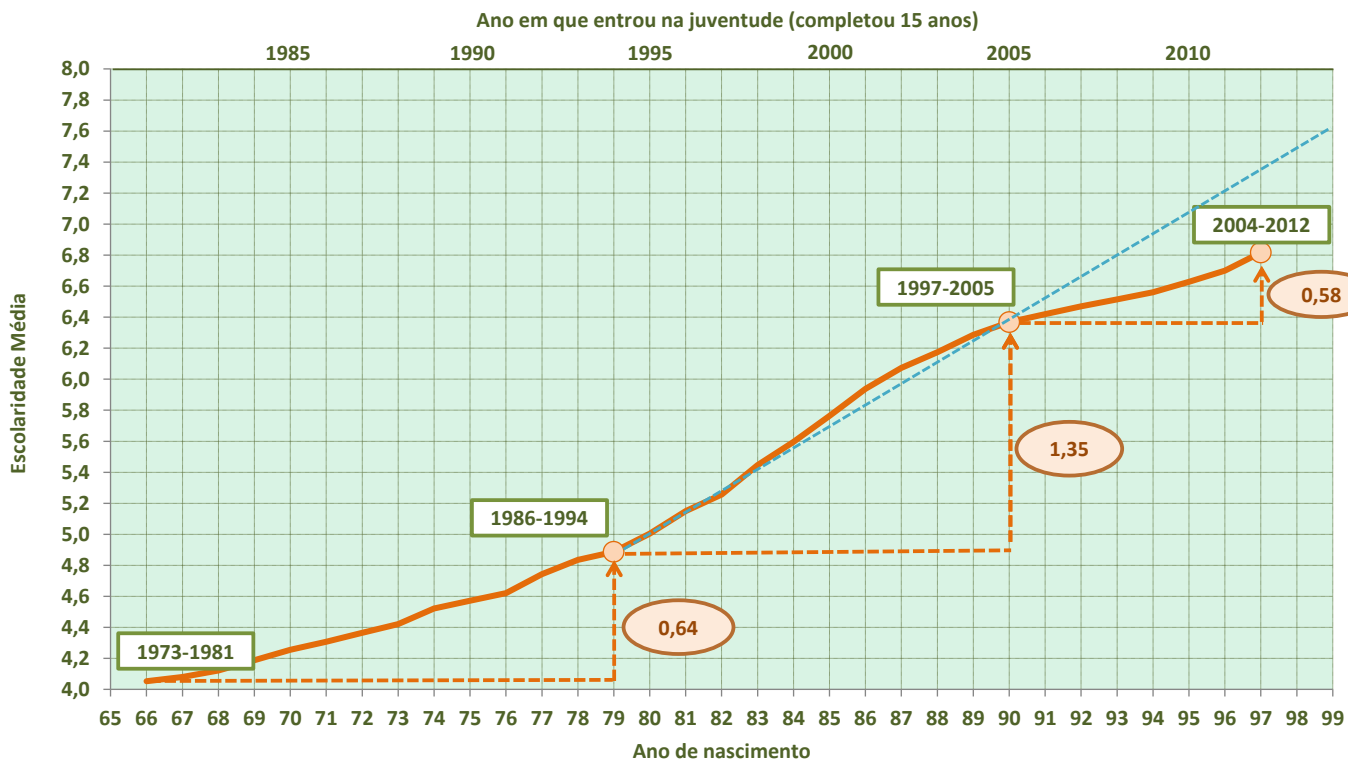
III. Acumulando Escolaridade na Juventude

Evolução da escolaridade adquirida dos 22 aos 30 anos, segundo o ano de nascimento e o ano em que completou 25 anos



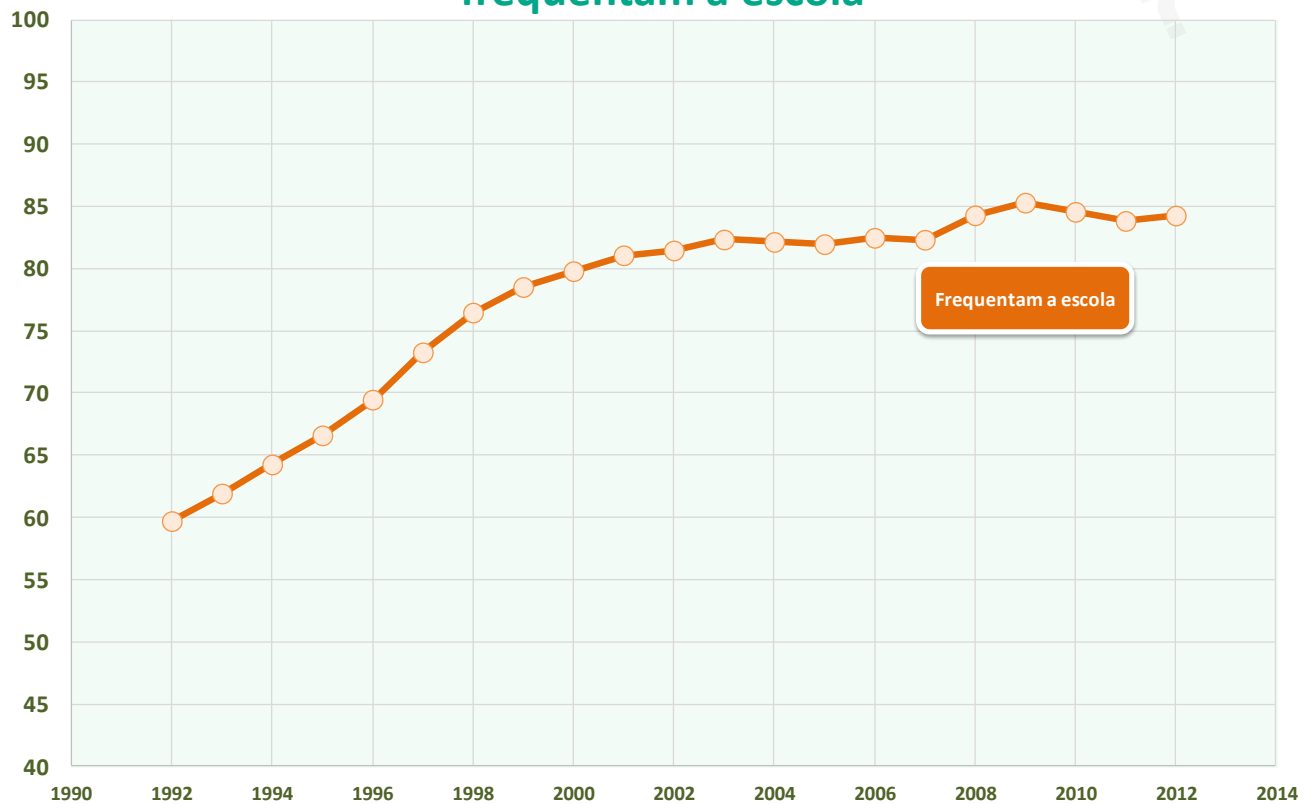
III. Acumulando Escolaridade na Juventude

Evolução da escolaridade média ao passar à juventude (completar 15 anos), segundo o ano de nascimento ou ano em que passou à juventude



8. A porcentagem de jovens adolescentes fora da escola é elevada e não tem declinado ao longo da última década.

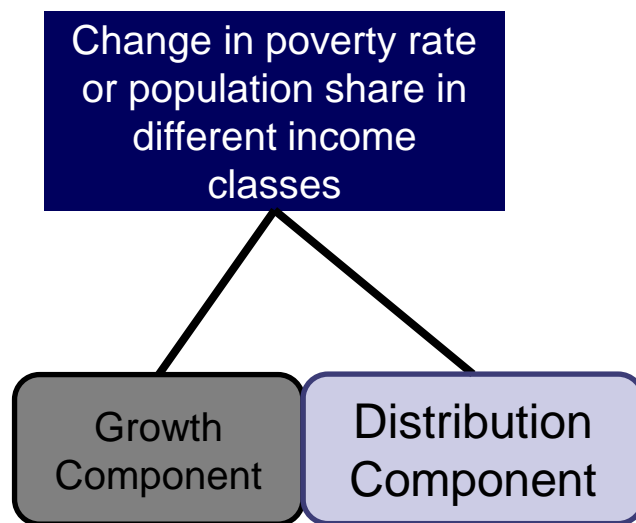
Evolução da porcentagem de jovens adolescentes que frequentam a escola



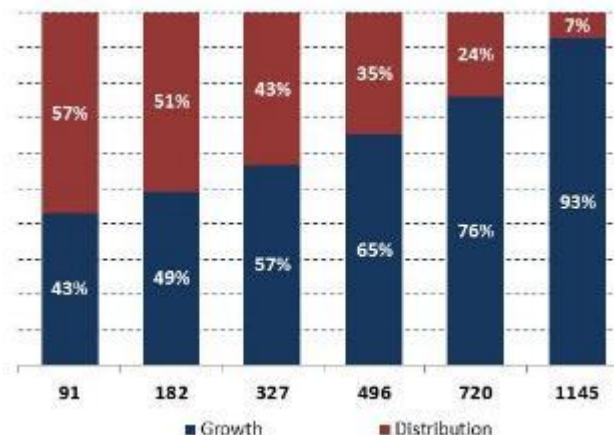
Fonte: SAE/PR com base na Pesquisa Nacional por Amostra de Domicílios (PNAD).

4. Sobre a Importância de Identificar os Determinantes do Progresso e das Novas Tendências

Decomposition Exercise 1

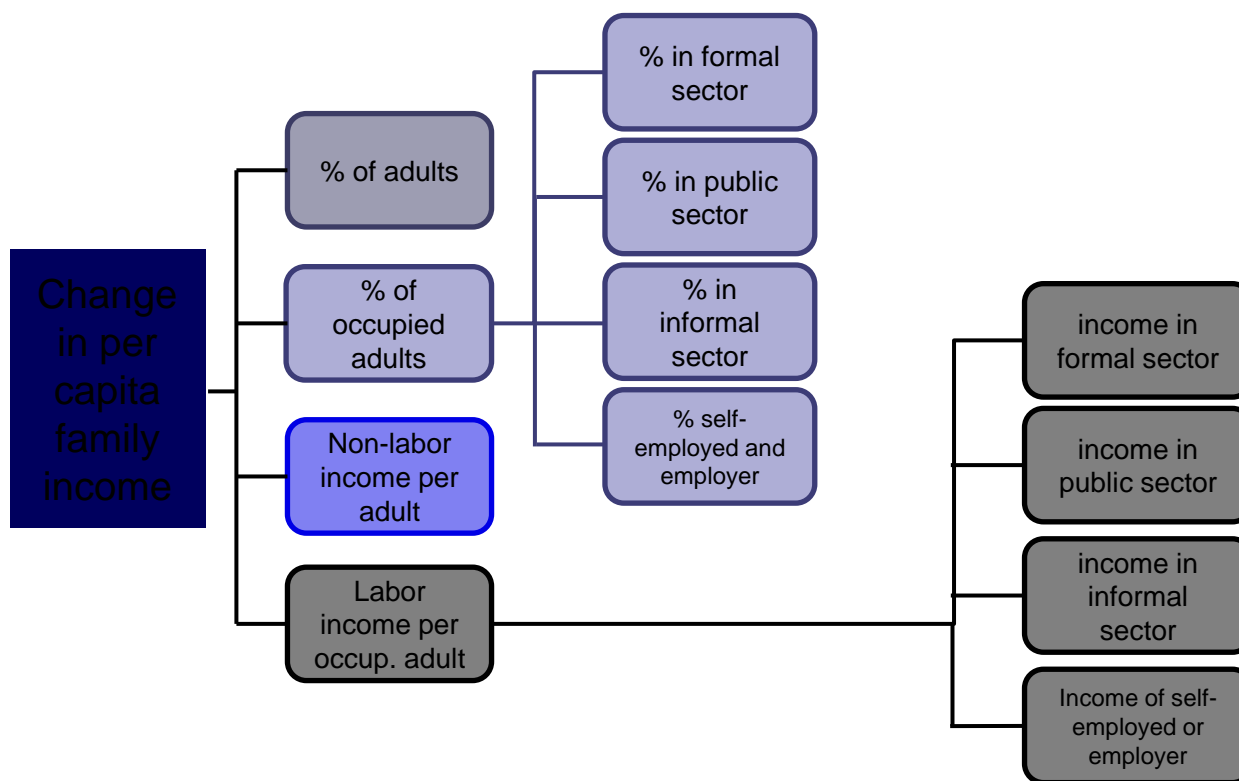


Decomposition Exercise Results



Redistribution policies implemented in the period seem to be more important than economic growth in reducing extreme poverty. However, the relative importance of the growth component increases as the income cut-off levels increases.

Decomposition Exercise 2



The decline of poverty rate is due to the income growth together with policy redistributions in the period. The labor income growth is associated with labor productive increase in the informal and self-employed sector

The rise of the middle class in Brazil observed in the recent past is mainly due to the economic growth of the period. The labor income growth is associated with the increase in occupation in the **formal sector** as well as the increase in the labor productivity.

Results: Decomposition Exercise 2

Factor Contribution to Income Change by Income Groups

	Extreme			Lower	Middle	Upper	Upper
	Poor	Poor	Vulnerable	Middle	Middle	Middle	Class
Percentage of Adults	3%	10%	14%	17%	21%	27%	20%
Non-Labor Income per Adult	41%	28%	19%	12%	7%	3%	2%
Percentage of Adults Occupied	-7%	-15%	-14%	5%	34%	53%	48%
Labor Income per Occupied Adult	62%	77%	81%	66%	39%	17%	30%
Total	100%	100%	100%	100%	100%	100%	100%

Occupation Factor

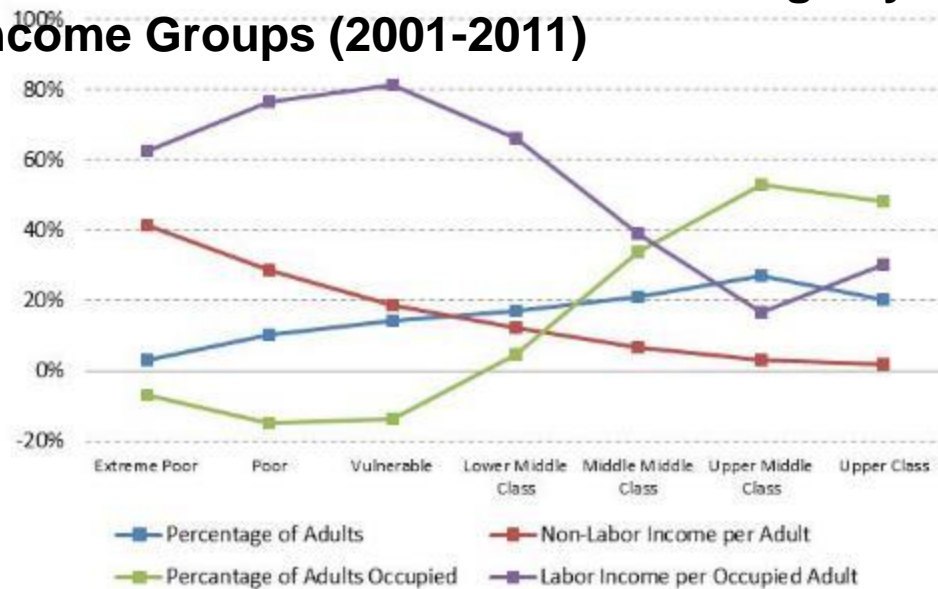
	Extreme			Lower	Middle	Upper	Upper
	Poor	Poor	Vulnerable	Middle	Middle	Middle	Class
Private Sector	0%	29%	-70%	10%	72%	107%	8%
Public Sector	0%	0%	-1%	0%	0%	-15%	17%
Informal Sector	0%	-25%	46%	-4%	-19%	-19%	-4%
Employer or Self-Employed	-7%	-19%	12%	-2%	-19%	-20%	27%
Total	-7%	-15%	-14%	5%	34%	53%	48%

Income Factor

	Extreme			Lower	Middle	Upper	Upper
	Poor	Poor	Vulnerable	Middle	Middle	Middle	Class
Private Sector	13%	20%	24%	20%	11%	5%	8%
Public Sector	12%	18%	19%	15%	9%	4%	8%
Informal Sector	17%	19%	19%	15%	9%	4%	7%
Employer or Self-Employed	20%	19%	19%	16%	9%	4%	7%
Total	62%	77%	81%	66%	39%	17%	30%

The decline of poverty rate is due to income growth together with policy redistributions in the period.

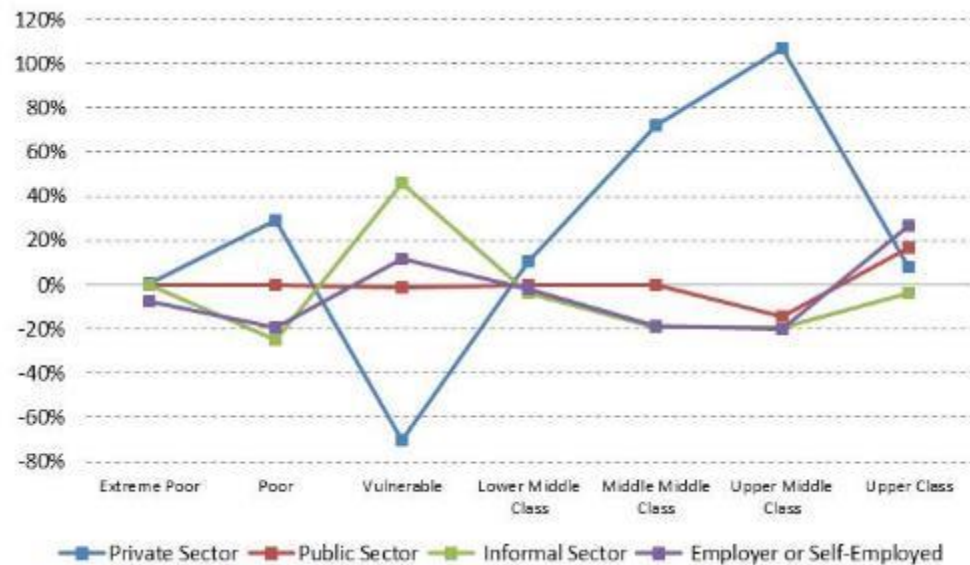
Factor Contribution to Income Change by Income Groups (2001-2011)



Source: Authors

The labor income growth is associated with the increase in occupation in the formal sector

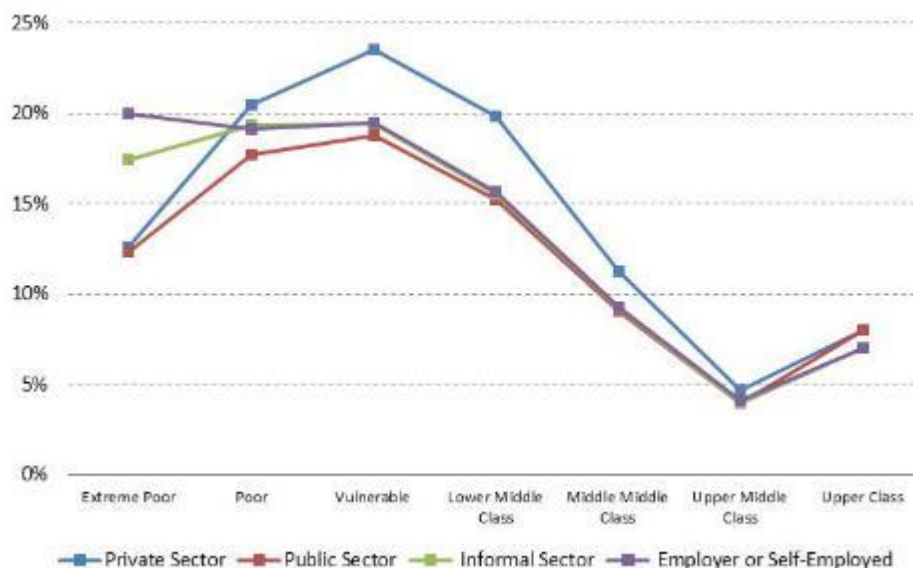
Explaining Factors to The Occupation Factor



Source: Authors

All sectors experienced changes in labor income, but the magnitude among income classes vary

Explaining Factors to The Occupation Factor

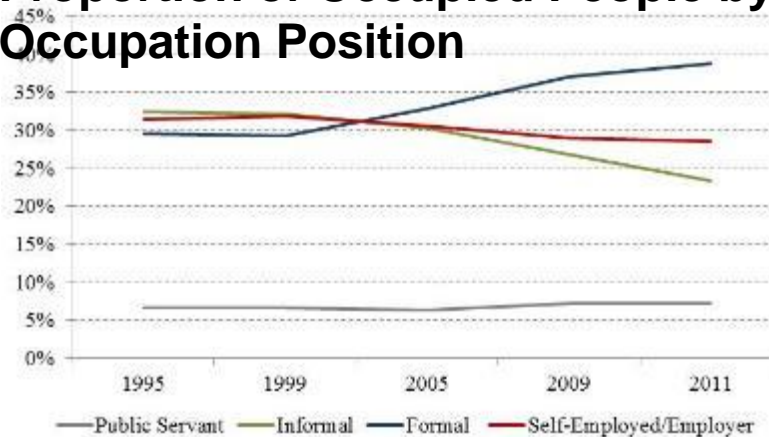


Source: Authors

The growth of the Middle Class in Brazil is partly due to the increase in the formal private sector jobs

Understanding the expansion of the formalization of the labor relations in Brazil can give us important clues to the understanding of the rise of the middle class

Proportion of Occupied People by Occupation Position



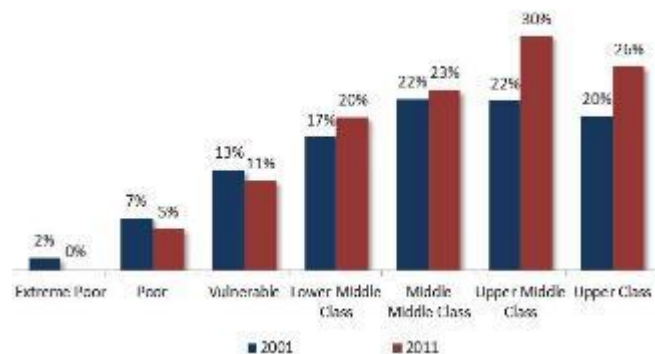
Source: PNAD

expansion of the middle class as we experienced so far are in part the limits of the expansion of the formal jobs in

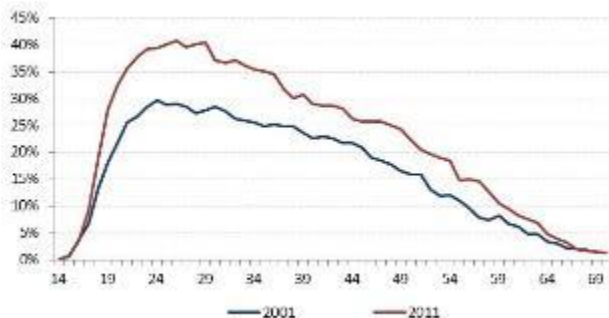
There are more young and high school or college educated individuals among the formal workers than before

The expansion of the human capital accumulation of the workforce is paramount for the formalization of labor force

Distribution of Formal Workers across income classes

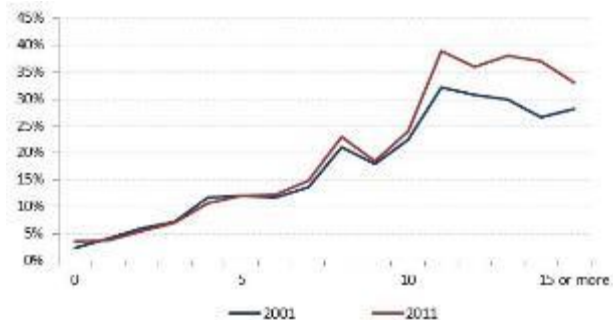


Proportion of Formal Workers by Age



Source: PNAD

Proportion of Formal Workers by Years of Schooling



5. Sobre a Importância de Avaliações Ex-Ante

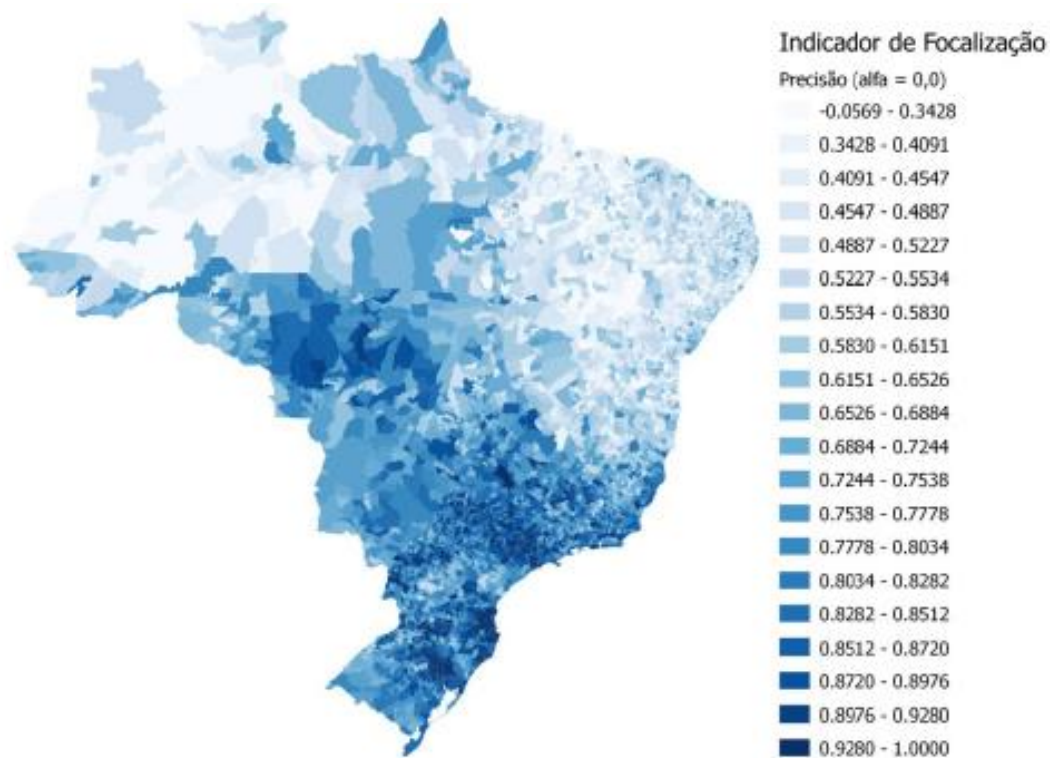
Indicador de Focalização

$$IF = \alpha \underbrace{[P_I - P_E]}_{=alcance} + (1 - \alpha) \underbrace{[NP_E - NP_I]}_{=precisão} \quad (1)$$

em que P_I , P_E , NP_I e NP_E são as variáveis de focalização (*targeting*) da política de redução da pobreza, sendo definidas da seguinte forma:

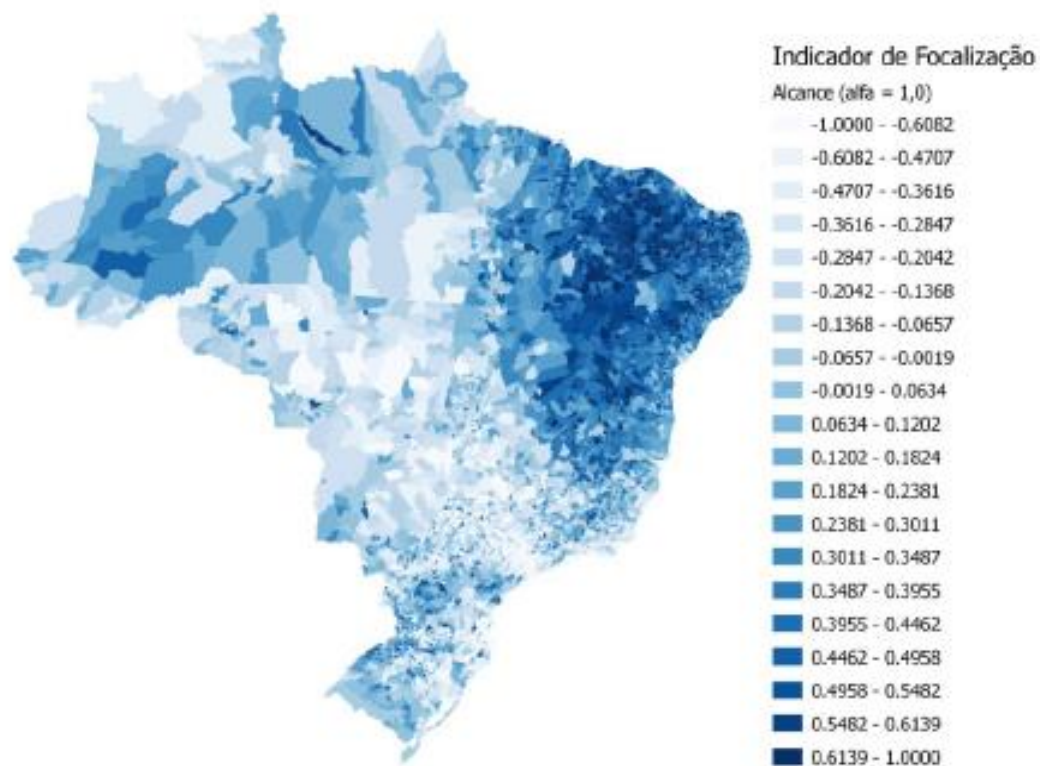
- i. $P_I = \tilde{P}_I/E$ corresponde à proporção de domicílios pertencentes ao público-alvo (quantidade de famílias elegíveis, E) corretamente incluídos no programa, ou seja, trata-se de inclusão correta ou cobertura do PBF.
- ii. $P_E = \tilde{P}_E/E$ corresponde à proporção de domicílios pertencentes ao público-alvo erroneamente excluídos do programa, conhecida também como exclusão indevida ou erro tipo I.
- iii. $NP_I = \tilde{N}P_I/NE$ corresponde à proporção de domicílios não pertencentes ao público-alvo (quantidade de famílias inelegíveis, NE) erroneamente incluídos no programa, conhecida também como inclusão indevida, vazamentos ou erro tipo II.
- iv. $NP_E = \tilde{N}P_E/NE$ corresponde à proporção de domicílios não pertencentes ao público-alvo corretamente excluídos no programa, ou seja, a exclusão correta.
- v. $\alpha \in [0; 1]$ é uma variável discricionária que, uma vez escolhida, atribuirá pesos ao alcance e à precisão.





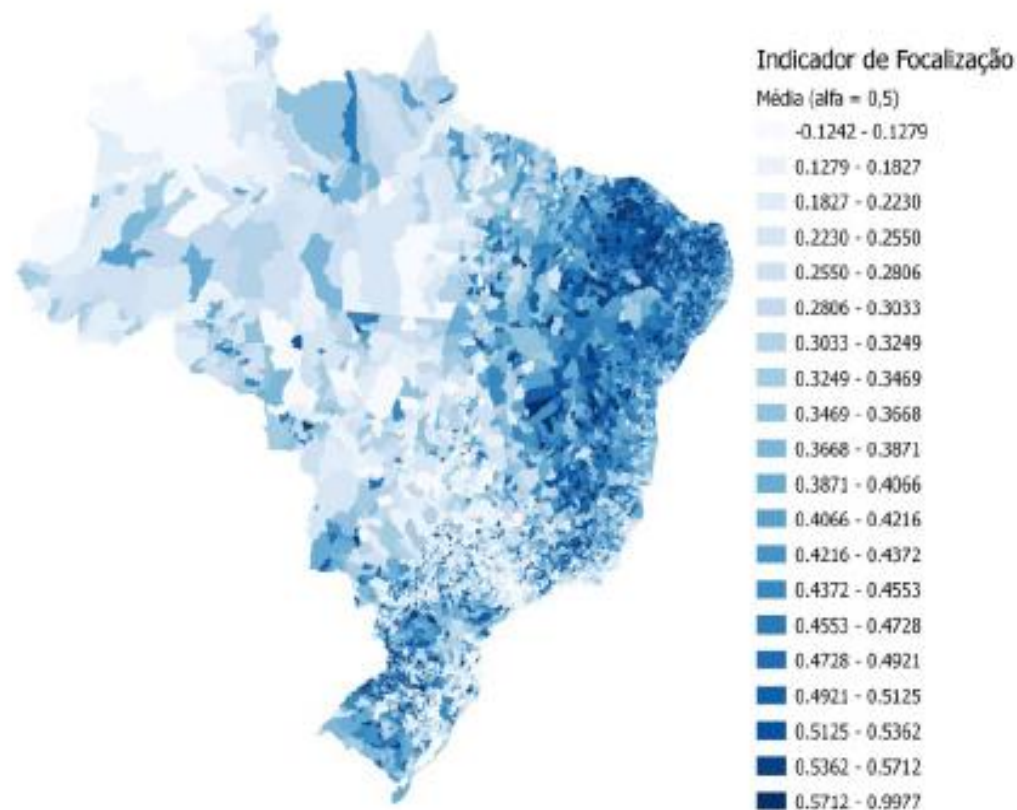
Fonte: elaboração dos autores, com base nos dados do Censo 2010.

FIGURA 2 – PRECISÃO DO PROGRAMA BOLSA FAMÍLIA, 2010



Fonte: elaboração dos autores, com base nos dados do Censo 2010, divulgado em 2012.

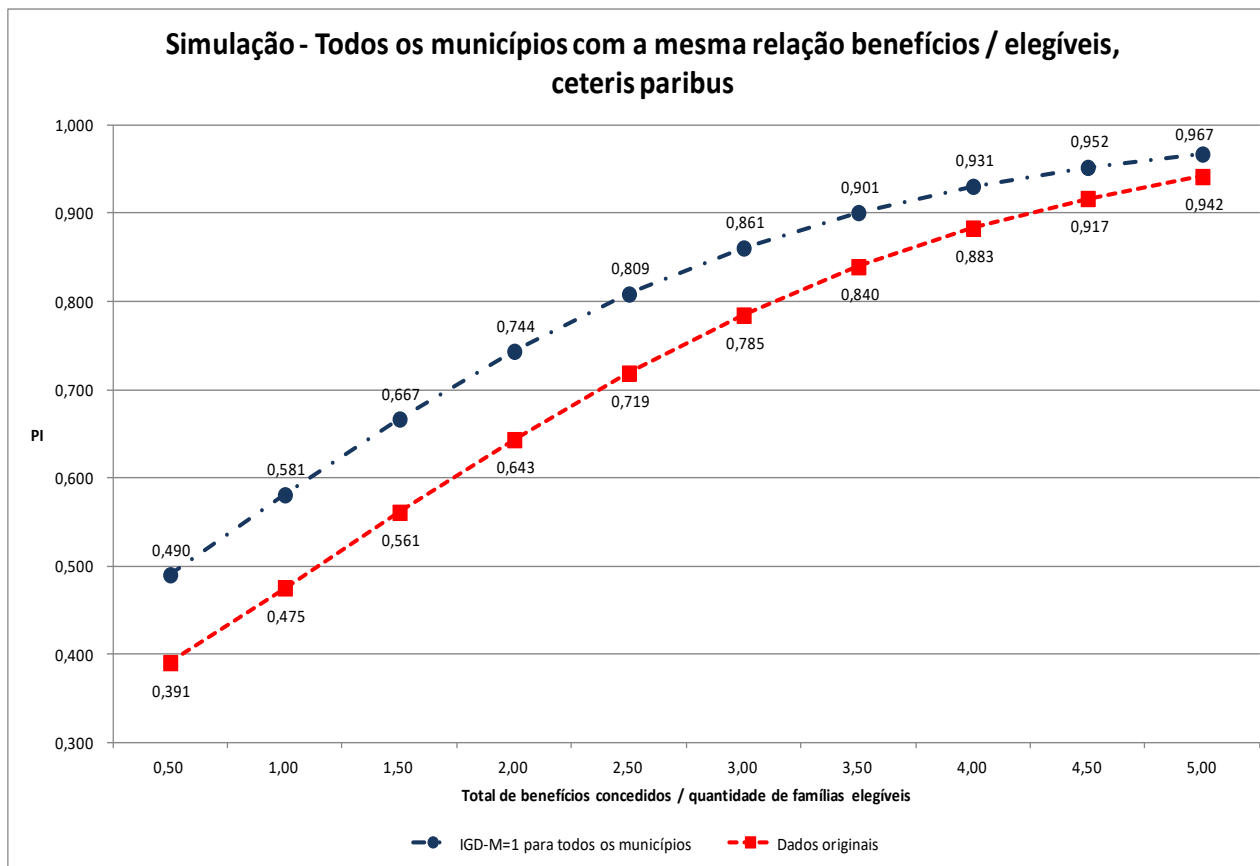
FIGURA 3 – ALCANCE DO PROGRAMA BOLSA FAMÍLIA, 2010



Fonte: elaboração dos autores, com base nos dados do Censo 2010, divulgado em 2012.

FIGURA 4 – MÉDIA ENTRE ALCANCE E PRECISÃO DO PBF, 2010

Variações da relação Beneficiários/Elegíveis e previsões correspondentes de probabilidade de cobertura do PBF



6. Sobre a Importância de Avaliações de Impacto Ex-Post

Avaliações de Impacto

- Comparações:
 - Resultados em situação sob a intervenção
 - Resultados em situação contra factual
- Métodos experimentais
- Métodos não-experimentais

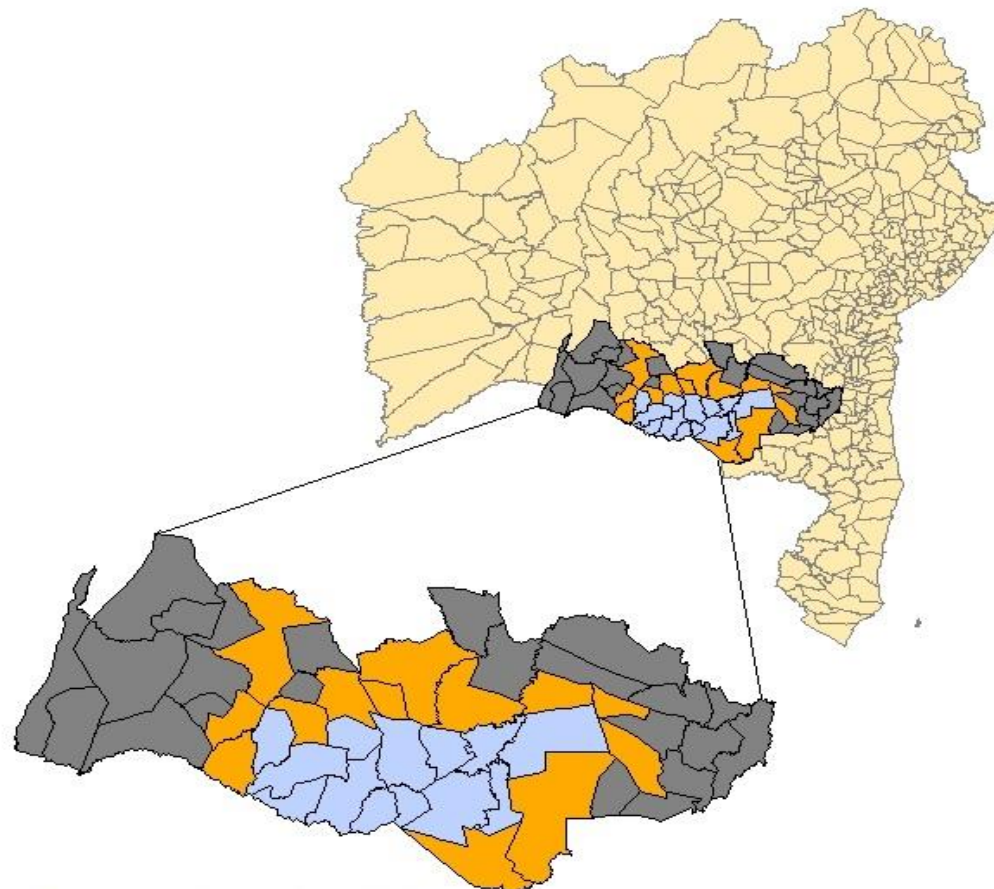
Conditional Cash Transfers and Rural Development Policies in Brazil: Exploring Potential Synergies between Pro-Gavião and Bolsa Família

Lorena Vieira Costa Leis
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Steven M. Helfand
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André Portela Souza
Fundação Getulio Vargas, São Paulo

The State of Bahia, Pro-Gavião Municipalities, Neighboring Municipalities, and Municipalities in the Same Microregions



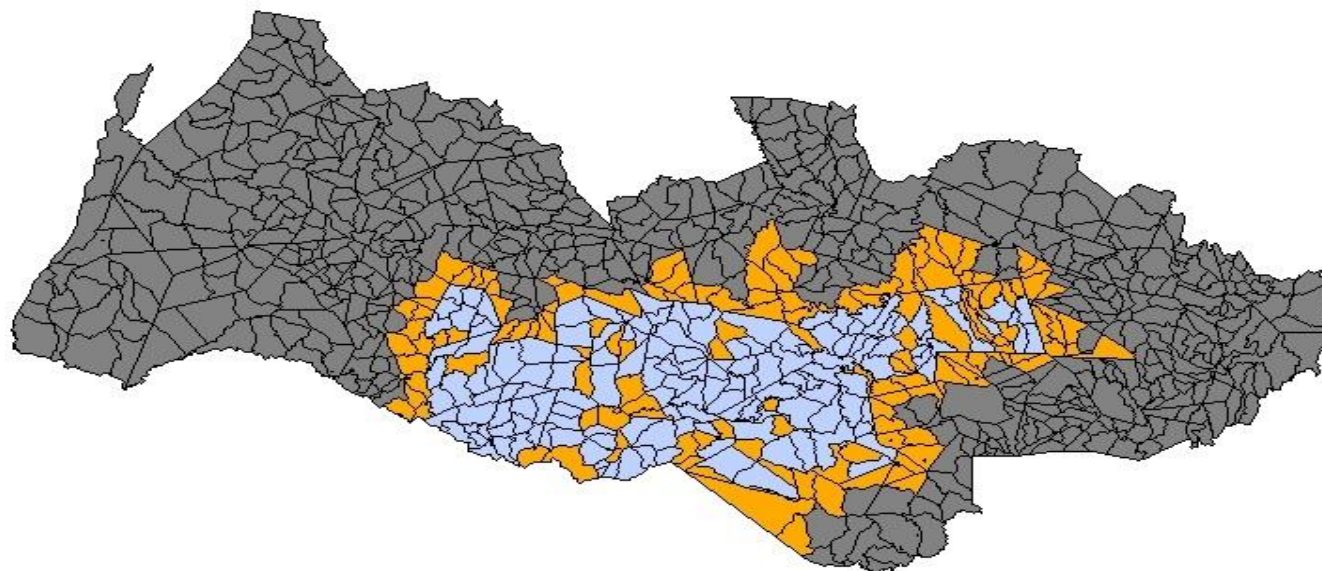
Legend

- Non-Neighboring Municipalities in the Same Microregions
- Neighboring Municipalities
- PG Municipalities

Table 1: Number of Census Tracts and AMCs in Each Census Year

	1996	2006
Census tracts in the 13 municipalities	186	254
- Treated census tracts	102	129
- Untreated census tracts	84	125
Census tracts in the other 36 municipalities in the same microregions	615	877
AMCs in the 13 municipalities	154	
- Treated AMCs	101	
- Untreated AMCs	53	
Census tracts in the other 36 municipalities in the same microregions	422	
Pool for control group 1: Neighboring AMCs	105	
Pool for control group 2: Non-neighboring AMCs	334	

Treated, Neighboring and Non-Neighboring Census Tracts



Legend

-  Treated
-  Neighbors
-  Non-Neighbors

■ Pro-Gavião – FIDA

- 1996 a 2005

- 13 municípios, 210 comunidades, 17 mil beneficiários

■ Dados:

- Censos agropecuários 1996 e 2006

■ Metodologia

- Pareamento com escore de propensão

- Diferenças em diferenças

**Table 8: Effects on Land Productivity of the Interaction Between PG and Social Programs
Control Group 1 (Neighbors)**

	(1)	(2)	(3)
Pro-Gavião Dummy	19.98 (20.79)	- -	41.86 (42.60)
Social Programs Incidence	- -	-24.44 (45.17)	2.91 (59.55)
Interaction (PG and Social Programs)	- -	- -	-69.29 (91.37)
Year (2006)	112.83*** (14.74)	130.43*** (21.24)	111.94*** (27.68)
Constant	6.87 (5.19)	6.87 (5.28)	6.87 (5.20)
R-Squared	0.22	0.24	0.23
N. of Obs.	336	336	336
AMC Fixed Effect	Yes	Yes	Yes

Note: AMC clustered standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

All regressions use weights based on the matching with 5 nearest neighbors. The weights indicate the frequency with which each control observation is used as a match. Treated observations are unweighted.

**Table 9: Effects on Income per Family Worker of the Interaction Between PG and Social Programs
Control Group 1 (Neighbors)**

	(1)	(2)	(3)
Pro-Gavião Dummy	-68.43 (151.93)	- -	-66.28 (258.98)
Social Programs Incidence	- -	-355.54 (253.90)	-353.96 (354.55)
Interaction (PG and Social Programs)	- -	- -	4.21 (497.28)
Year (2006)	368.66*** (96.18)	445.11*** (127.95)	477.10*** (165.13)
Constant	31.83 (37.96)	31.83 (38.05)	31.83 (38.24)
R-Squared	0.04	0.05	0.05
N. of Obs.	336	336	336
AMC Fixed Effect	Yes	Yes	Yes

Note: AMC clustered standard errors in parentheses. *p<0.10, **p<0.05, ***p<0.01

All regressions use weights based on the matching with 5 nearest neighbors. The weights indicate the frequency with which each control observation is used as a match. Treated observations are unweighted.

Table 10: Effects on Child Labor of the Interaction Between PG and Social Programs
Control Group 1 (Neighbors)

	(1)	(2)	(3)
Pro-Gavião Dummy	0.05 (0.11)	- (0.27)	0.17 (0.19)
Social Programs Incidence	-	-0.22 (0.27)	-0.07 (0.39)
Interaction (PG and Social Programs)	-	-	-0.37 (0.54)
Year (2006)	-0.48*** (0.08)	-0.38*** (0.09)	-0.46*** (0.13)
Constant	0.61*** (0.02)	0.61*** (0.02)	0.61*** (0.02)
R-Squared	0.17	0.17	0.18
N. of Obs.	336	336	336
AMC Fixed Effect	Yes	Yes	Yes

Note: AMC clustered standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

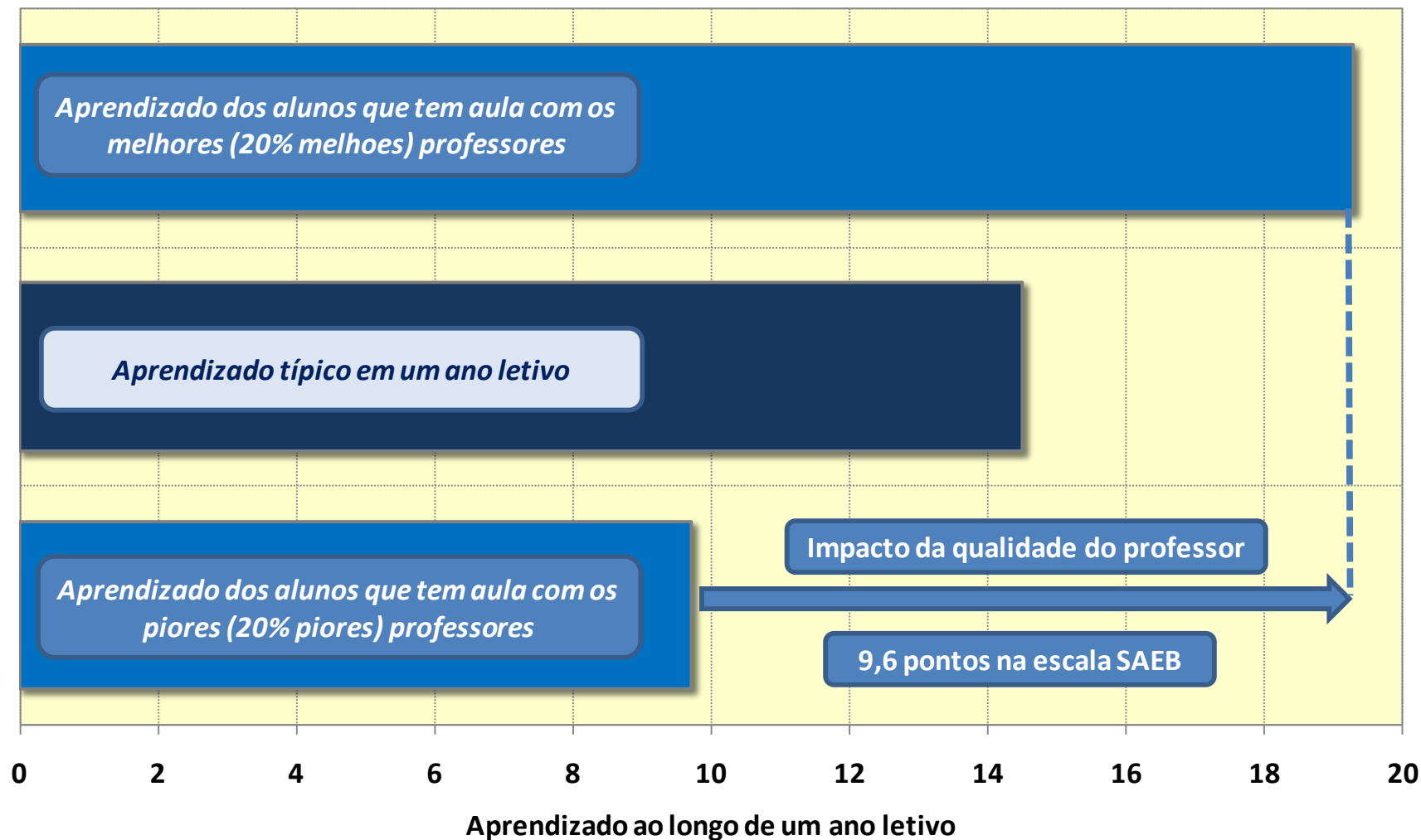
All regressions use weights based on the matching with 5 nearest neighbors. The weights indicate the frequency with which each control observation is used as a match. Treated observations are unweighted.

Conclusões

- Ausência de impactos médios nas dimensões investigadas
- Cautelas:
 - Efeitos heterogêneos?
 - Comparações adequadas?

6. Sobre a Importância de Aprender com os Outros (meta-análise)

Magnitude do impacto da qualidade do professor sobre o aprendizado dos alunos



Magnitude do impacto da qualidade do professor sobre o aprendizado dos alunos

