

STI Policy evaluation in Brazil: the case of IPEA

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- 1** Keep it simple, there is too much information in the world!
- 2** Do not trap yourself into the precise number but in its signal!
- 3** The average impact is better than the success case.
- 4** Let there be some impact... $t+1$;
 $t+2$...



IPEA is a public Think Tank
that is data driven

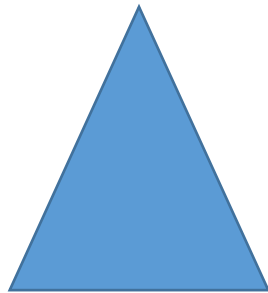
Access to all main federal
government databases

A huge pool of statisticians

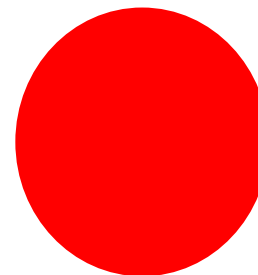
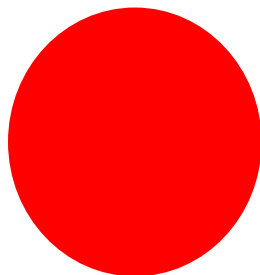
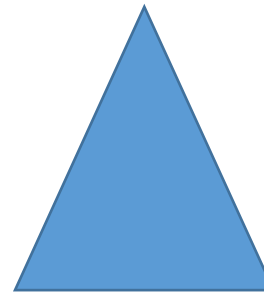
A long history of quantitative
policy evaluation

In ST&I policy impact assessments quasi-experiment is the norm

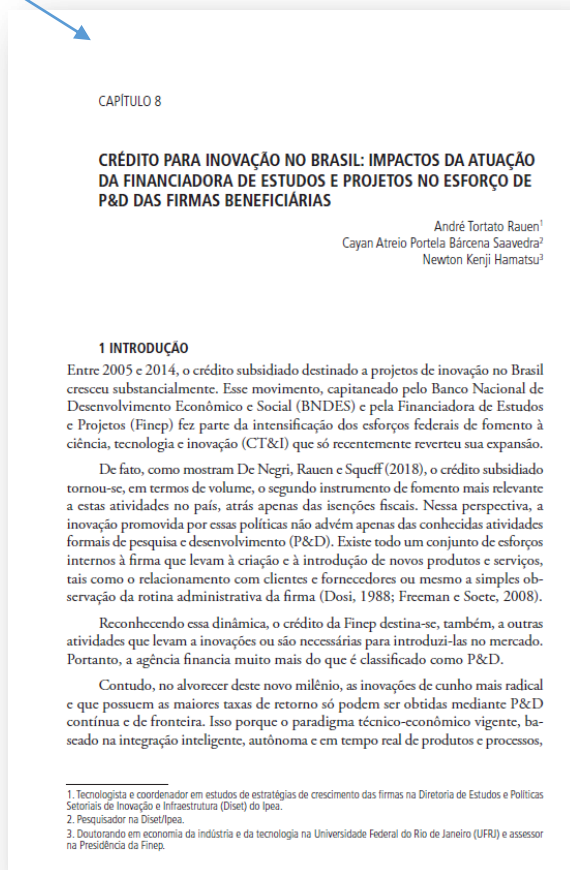
Treatment



Control



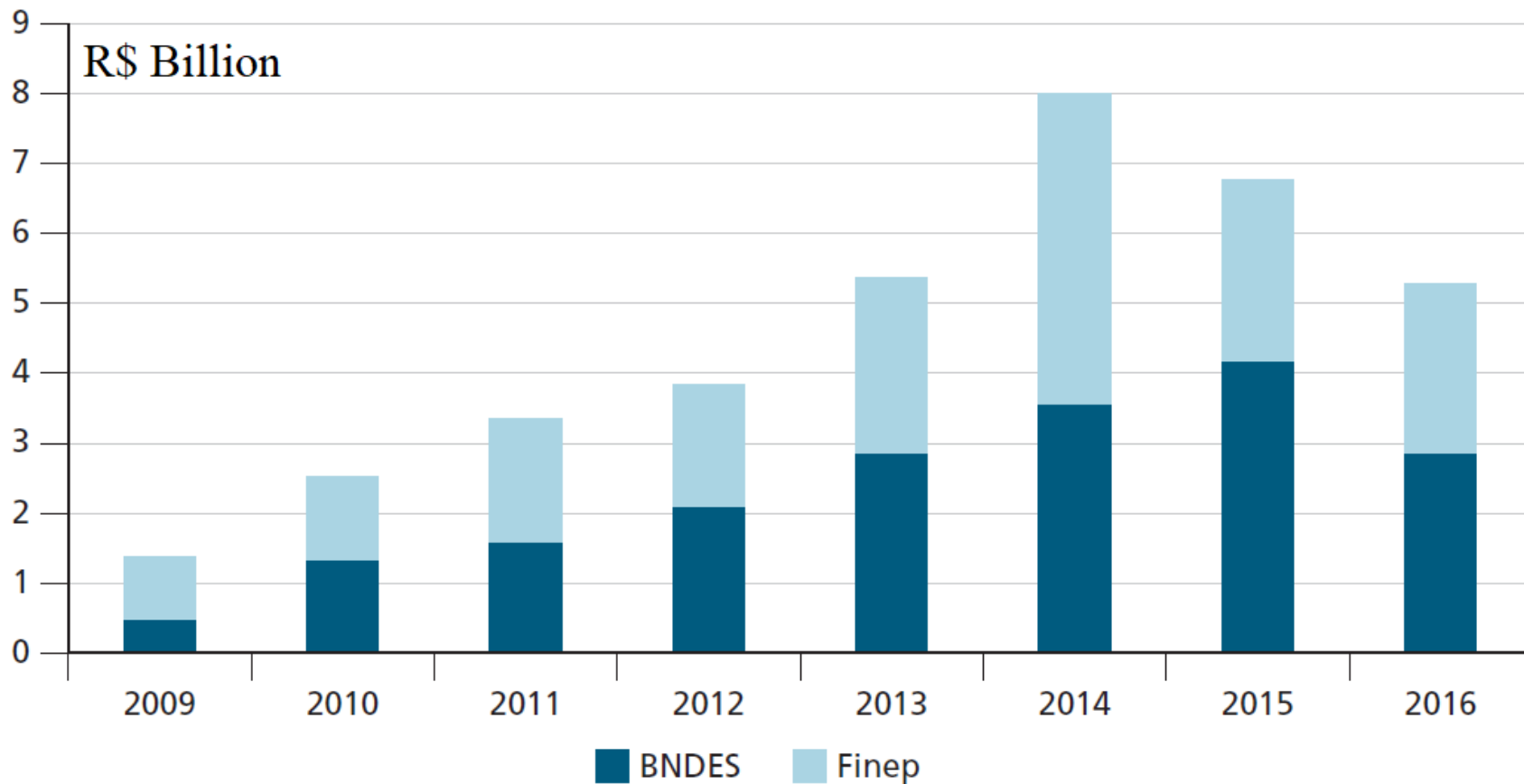
Firms vs firms



Brazil vs Sintetic Brazil



Credit disbursement for innovation in Brazil



A regular/simple quasi-
experiment

We looked up for crowding-out in
R&D efforts

But we don't know the right
amount of R&D expenditure (firm
level)

Keeping simple...

A single aggregate result – we piled the years

$$((PoTec_{t+1} - PoTec_{t-1}) / (PoTec_{t-1}))$$

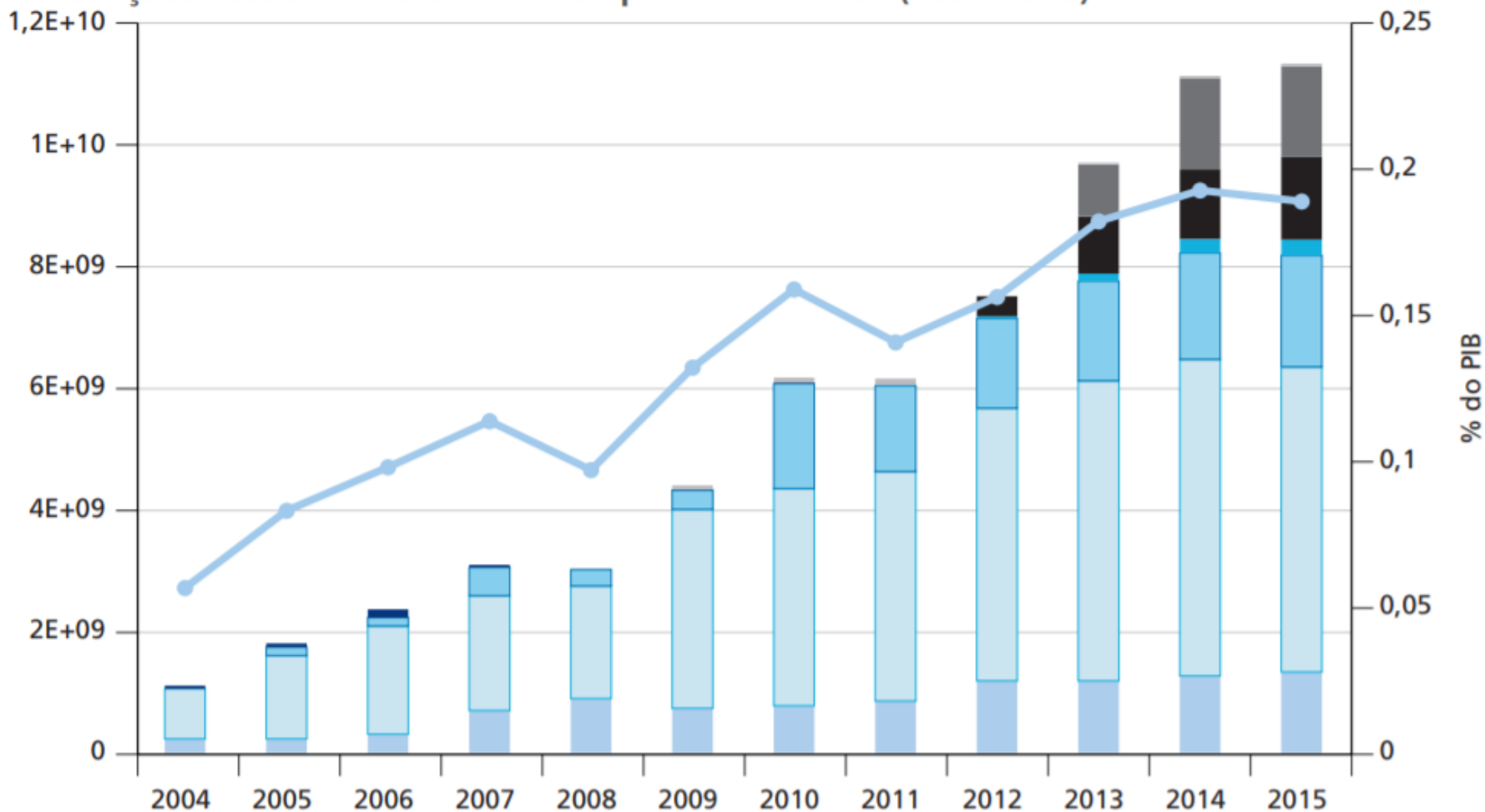
$$((PoTec_{t+1} / po_{t+1}) - (PoTec_{t-1} / po_{t-1}))$$

FINEP's credit is responsible for
increasing the technological effort
of firms by 76% in $t+1$

But it was not enough to increase the firm's
technological intensity. There was a growth
of scientific staff, but non-scientific staff
grew at the same rate

GRÁFICO 4

Isonções fiscais federais a PD&I empresarial – Brasil (2004-2015)



More tax breaks for R&D = more R&D?

Again we looked up for crowding
out effect

But as a counterfactual, we built a
Synthetic Brazil in which there
was no tax break increase

A weighted combination of countries like Brazil

TABELA 1
Variáveis de interesse e de controle no período de pré-tratamento

	Brasil	Brasil sintético	México	Alemanha	Média dos países do grupo de controle
Dispêndio empresarial em P&D (% do PIB)	0,51	0,51	0,16	1,79	1,25
PIB (US\$ trilhões)	1,48	1,43	0,97	3,09	0,99
Crescimento anual do PIB (%)	2,93	2,14	2,37	1,29	1,86
Taxa bruta de matrícula, terciária, de ambos os sexos (%)	33,61	32,66	24,72	61,78	57,38
Total de aplicações em patentes	22.878	24.688	14.755	61.148	17.354

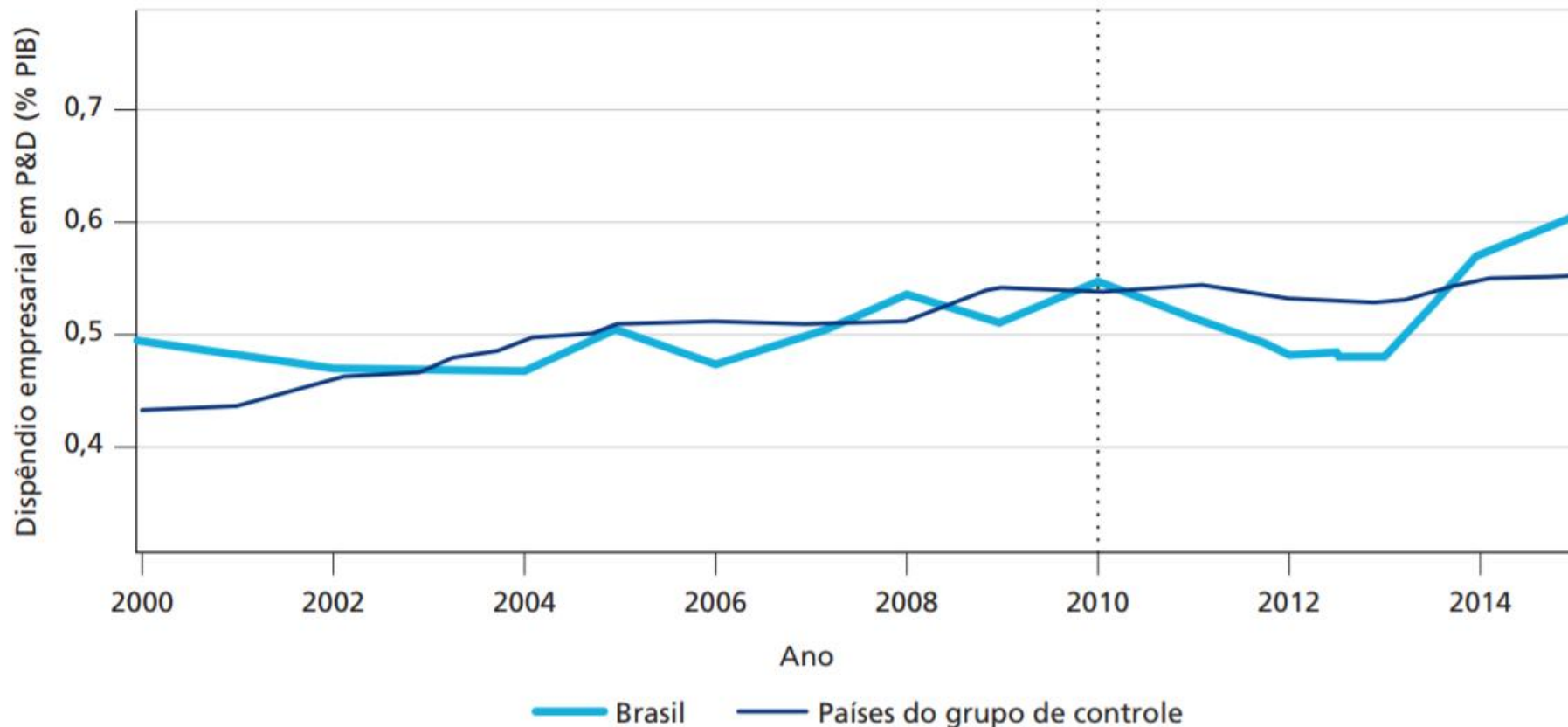
Elaboração dos autores.

Obs.: Para a obtenção dos dados, foi utilizado o Synth R Package.

GRÁFICO 9

Evolução do dispêndio empresarial em P&D – Brasil e grupo de controle sintético (2000-2015)

(Em % do PIB)



Elaboração dos autores.

Obs.: Para a obtenção dos dados, foi utilizado o Synth R Package.

There are problems in both
methodologies. But they are
better than a simple comparison

These results must be seen in the
light of many other pieces of
evidence

No single study or technique has
the power to end a public
intervention