Productivity as the key to sustainable growth in Brazil

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Ministério da Fazenda
Productivity as the key to sustainable growth

Background

• Looking backwards to set up the context for looking forward
Productivity as the key to sustainable growth

Brazil v. USA
(Relative GDP per capita, PPP in US constant dollars)
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Brazil v. USA

*(Relative GDP per capita, PPP in US constant dollars)*

25% of the US

25% of the US
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Background

- No convergence

• Why?

  • Looking at the mechanics...
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Four ways to grow

Four sources of growth

1. Increase the number of people working (labor force)
2. Increase human capital
3. Increase the stock of capital
4. Improve the mix of 1, 2 and 3 (so-called Total Factor Productivity or TFP)
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GDP per capita
Relative to the US

- GDP per capita
- Human Capital
- TFP
- Stock of Capital
- Labor Force

The diagnostic

- The first three factors contributed to growth. Relative to the US:
  1. We put people to work, especially after 2002
  2. We increased human capital
  3. We increased physical capital

- But the mixture (TFP) did terribly ...
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World Bank (preliminary). Brazil productivity flagship report: policy options for private investment-driven inclusive job growth

Source: Caselli (2015) and author’ calculations.
Note: counterfactual refers to output per worker that countries would have had if their TFP were equal to that of the US.
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Diagnosis

• The productivity issue: inter sector or intra sector?
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Source: Bazzi, Muendler and Rickey (2014)
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Source: Bazzi, Muendler and Rickey (2014)
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Distribution of Firms by Labor Productivity

Source: Barbosa Filho & Corrêa (2016)
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Contrafactuals: intra and inter sector

TABELA 8
Produtividade da economia brasileira substituindo a estrutura de ocupações desta pela dos países de referência (US$ 1.000,00/trabalhador)

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Elaborado pelos autores.
Nota: ¹Diferença da produtividade cruzada em relação à produtividade efetiva do Brasil no respectivo ano.

Contrafactuals: intra and inter sector

TABELA 9
Produtividade da economia brasileira substituindo o nível de produtividade das atividades desta pelas dos países de referência (US$ 1.000,00/trabalhador)

<table>
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</table>

Elaborado pelos autores.
Nota: ¹Diferença da produtividade cruzada em relação à produtividade efetiva do Brasil no respectivo ano.

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Diagnosis

- Forensic economics: productivity issue mainly an intrasectoral problem

- Horizontal interventions
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Why has productivity stalled?

Mechanisms/Examples

• Centralized (mis)allocation of capital

• Weak *de facto* institution (Bankruptcy Law, for example)

• Labor market legislation distorting business decisions

• Excessive protection, captive demand, excessive local content

• Lack of infrastructure

• Tax system distorting business decisions

• Excessive bureaucracy

• Excess of state ownership of assets
Why has productivity stalled?

Mechanisms/Examples

- Centralized (mis)allocation of capital

- Some figures from Pazarbasioglu et al (2016)
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Government interventions

The fiscal sector

Savers

Firms

Public Admin

Households

Special funds
(FGTS, FAI, Constitutional funds etc.)

BNDES

Outstanding credit

Public owned commercial banks (Caixa, Banco do Brasil, etc)

Private Commercial Banks

Central Bank interventions

Borrowers

Firms

Public Admin

Households
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Quantities
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The fiscal sector

Savers

- Households
- Firms

Special funds (FGTS, FAT, Constitutional funds etc.)

Public owned commercial banks (Caixa, Banco do Brasil, etc.)

Private Commercial Banks

- % of outstanding credit
- % of GDP

Borrowers

- Households
- Firms

Public Admin

BNDES Outstanding credit R$ 680 bi * (21%)

16% 9%

13% 7%

9% 5%

24% 13%

9% 5%

37% 20%
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Cost of Funds and Interest Rates
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SELIC rate

Fiscal Sector’s Cost of Funds 14%

The fiscal sector

TJLP 7%

BNDES Outstanding credit R$ 680 bi (21%)

4.5% - avg. 9.5%

Public owned commercial banks (Caixa, Banco do Brasil, etc.)

Public Admin

Private Commercial Banks

Rural 2.5% - 10.5%
Housing 6.4% - 11.2%
Firms avg. 10.6%

0% - 7.8%

TR rate + fixed rate

Households

Savers

Firms

Dec/2015
TJLP rate 7%
TR rate 1.8%
Selic rate 14.15%
Inflation (IPC) 10.5%

Borrowers

Firms

Public Admin

Households
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Why has productivity stalled?

Mechanisms/Examples

• Centralized (mis)allocation of capital

• The perennial and the recent increase
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The fiscal sector

- **Savers**
  - Household
  - Firms
  - Special funds (FGTS, FAT, Constitutional funds etc.)

- **Borrowers**
  - Household
  - Firms
  - Public Admin

**Public owned commercial banks**
- (Caixa, Banco do Brasil, etc.)
- 2015
- 24% 13%
- 37% 20%

**Private Commercial Banks**
- 9% 5%
- 37% 20%

**BNDES Outstanding credit**
- R$ 680 bi *
- (21%)
- 16% 9%

**% of outstanding credit**
- % of GDP

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The fiscal sector

Savers

Special funds (FGTS, FAT, Constitutional funds etc.)

15% 5%

Private Commercial Banks

Public owned commercial banks (Caixa, Banco do Brasil, etc.)

14% 5%

Households

10%

Firms

15%

Firms

1.5%

BNDES Outstanding credit R$ 680 bi *(21%)

1.5% 0.5%

Households

2007

30%

Public Admin

9% 2%

9%

Private Commercial Banks

% of outstanding credit % of GDP

% of outstanding credit

24% 8%

Households

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The fiscal sector

Savers
- Households
- Firms

Special funds (FGTS, FAT, Constitutional funds etc.)
- Savers
- Borrowers

Public owned commercial banks (Caixa, Banco do Brasil, etc.)
- Savers
- Borrowers

Private Commercial Banks
- Savers
- Borrowers

BNDES Outstanding credit
R$ 680 bi * (21%)

- Savers
- Borrowers

Households
- Savers
- Borrowers

Firms
- Savers
- Borrowers

Public Admin
- Savers
- Borrowers

% of outstanding credit
- Savers
- Borrowers
% of GDP
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The fiscal sector

- **Savers**
  - Households
  - Firms

- **Borrowers**
  - Households
  - Firms
  - Public Admin

**Special funds** (FGTS, FAT, Constitutional funds etc.)

- **Public owned commercial banks** (Caixa, Banco do Brasil, etc.)
  - 30% 10%

- **Private Commercial Banks**
  - 24% 8%
  - 9% 3%
  - 14% 5%

**BNDES Outstanding credit**
- R$ 680 bi *
- (21%)

- **% of outstanding credit**
- **% of GDP**

1.5% 0.5%
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“Half-ticket” in credit markets

Credit Outstanding – Breakdown by Type (%)

Source: Central Bank.

Spreads (p.p.)

Source: Central Bank.
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Distribution of credit between Earmarked and Non-earmarked

Source: Brazilian Central Bank Time Series (August/2016)
Why has productivity stalled?

Mechanisms/Examples

- Centralized (mis)allocation of capital

- Direct and implied fiscal cost of credit subsidies in 2015: 3.5% of GDP (Pazarbasioglu et al, 2016)

- Total government expenditure in
  - education: 5% of GDP
  - health: 4% of GDP
Why has productivity stalled?

Mechanisms/Examples

- Centralized (mis)allocation of capital

- National Champions (meatpacking giant JBS just the leading example), both through equity and debt

- Subsidized credit for service exports (Brazilian contractors in LAC and Africa)

- Programa de Sustentação do Investimento (PSI): ProCaminhoneiro with 2.5% nominal rates

- FINAME and local content
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Why has productivity stalled?

Mechanisms/Examples

- Weak *de facto* institutions
  - Example: Bankruptcy Law
Why has productivity stalled?

Mechanisms/Examples

- Weak *de facto* institutions (Bankruptcy Law, for example)
  - Bankruptcy Law (2005): good law, room for improvement in the judiciary. From the *Doing Business*:
    - Recovery rate (cents on the dollar)
      - Brazil: 16. LAC average: 31
    - Time to resolve
      - Brazil: 4 years. LAC average: 2.4 years
    - Cost (% of the estate)
      - Brazil: 12%. LAC average: 14.5%
  - Position in the *DB*: 67th (but *de facto* probably worse)
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Why has productivity stalled?

Mechanisms/Examples

• Labor market legislation distorting business decisions

• Labor legislation from the 1940s, inspired by Mussolini’s labor law

• State regulates and mediates almost all dimensions of the employee-employer relationship
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Labor market in Brazil is overregulated

Labor Market Regulation Index
(10 means highest degree of freedom)

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Why has productivity stalled?

Mechanisms/Examples

• Labor market legislation distorting business decisions

• Social security design incentivizes early termination of labor relationship

• Judicialization and ex-post negotiation before judges
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Why has productivity stalled?

Mechanisms/Examples

• Labor market legislation distorting business decisions
  • Gerard and Gonzaga (2016)
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Why has productivity stalled?

Mechanisms/Examples

- Labor market legislation distorting business decisions

- Camargo and Gonzaga (2015)
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Why has productivity stalled?

Mechanisms/Examples
- Labor market legislation distorting business decisions

Camargo and Gonzaga
Why has productivity stalled?

Mechanisms/Examples

• Labor market legislation: excessive judicialization

• 2017: 2.8 million new labor lawsuits (740,000 executed)

• US: in 2015, 91,000 law suits (statistic from the Equal Employment Opportunity Commission)
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Why has productivity stalled?

Mechanisms/Examples

- Excessive protection, captive demand
Why has productivity stalled?

Mechanisms/Examples

• Excessive protection, captive demand

• Example: Local content policies in O&G and Petrobras
Why has productivity stalled?

Mechanisms/Examples

- Excessive protection, captive demand: local content in O&G
Why has productivity stalled?

Mechanisms/Examples

- Excessive protection, captive demand: local content in O&G
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Why has productivity stalled?

Mechanisms/Examples

- Excessive protection, captive demand: local content in O&G
Why has productivity stalled?

Mechanisms/Examples

• Excessive protection, captive demand: local content in O&G

• 13th round in 2015

• Mexico and Canada help significant auctions 2015

• Canada: 64% blocs sold, USD 623 million in investments

• Mexico: 100% blocs sold, USD 12 billion in investments
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Brazil: Proven Reserves (billions of boe), ANP
Why has productivity stalled?

Mechanisms/Examples

• Excessive protection, captive demand: local content in O&G

• Petrobras/O&G sector paid a heavy cost

• Production increased much less than expected
  • Expected by Petrobras in 2015: 3.07 million barrels/day. Actual production: 2.13

• Frequent delays in delivering platforms
  • Since 2010, Petrobras commissioned 10 platforms from local suppliers. None on time. Delays over three years are common.
Employment: Shipbuilding Industry
Construction, Maintenance and Repair of Floating Structures

Source: RAIS
Why has productivity stalled?

Mechanisms/Examples

• Excessive protection, captive demand: local content in O&G. Petrobras paid a heavy cost

• Difference in projected and actual production between 2012 and 2017
  • Example: for 2015 3.07 million barrels/day. Actual: 2.13

• Attribute half the shortcoming to the LC policy

• Unit cost per barrel: USD35

• Jobs in the shipbuilding industry: 33,000

• Cost per job: USD 422,000
Why has productivity stalled?

Mechanisms/Examples

• Tax system distorting business decisions
Why has productivity stalled?

Mechanisms/Examples

- Tax system distorting business decisions
  - Brazil has four taxes (or “contributions”) on production and consumption of goods and services
    - Imposto sobre Produtos Industrializados (IPI), Imposto sobre Circulação de Bens e Serviços (ICMS), Imposto sobre Serviços (ISS) and PIS/Cofins (firms’ revenues)
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Why has productivity stalled?

Mechanisms/Examples

• Tax system distorting business decisions

  • ICMS is a IVA-type like, state-level tax
    • Very imperfect, depends on the origin of production
    • “Tax wars” distort location decisions

  • PIS/Cofins has two different regimes (cumulative and non-cumulative)

• Multiplicity of rates and no less than 40 Special Regimes

• Produces major distortions
Why has productivity stalled?

Mechanisms/Examples

- Tax system distorting business decisions
  - The construction sector is illustrative
    - If value is added at site, tax incidence is ISS (5% maximum), PIS/Cofins cumulative (3.65%)
    - If value is added at a plant (prefabricated): ICMS (12% in SP), PIS/Cofins cumulative (9.75%) and IPI (rates varies a lot)
Why has productivity stalled?

Mechanisms/Examples

• Tax system distorting business decisions

• Huge judicialization

• R$ 4 trillion in tax litigation
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Why has productivity stalled?

Mechanisms/Examples

• Excessive bureaucracy
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Why has productivity stalled?

Mechanisms/Examples

- Excessive bureaucracy
  - Tax system extremely hard to comply with (judicialization)
- Excessive difficulty in opening and closing firms
- Burdensome notary system
- Burdensome patenting system (judicialization)
- Burdensome licensing system (judicialization)
- Burdensome expropriation system (judicialization)
Why has productivity stalled?

Mechanisms/Examples

- Excessive bureaucracy. The consequence (Mation, 2016)
Desempenho do Brasil no Doing Business

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The consequences

Manifestation

- Bad allocation of capital, human capital and labor force
- High entry costs, reduced competition
- Less product with the same amount of capital, human capital and labor force
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**Brazil v. USA**

*(Relative GDP per capita, PPP in US constant dollars)*
Brazil v. Emerging Countries

*Synthetic Control Group Exercise*

**GDP per capita (constant 2005 US$)**

1995-2014

Source: WDI. Thailand (0.206), Turkey (0.577), Ukraine (0.146) and South Africa (0.071).
**Good news**

- The agenda on productivity is not new
  
  - Mid-1990s through the mid/late 2000s
  
  - And the long agenda of productivity has now returned
Good news

• Labor market reforms (The Outsourcing Law, Labor Reform and Immigration Law)

• New BNDES operational policies; correction of BNDES’ funding (TLP)

• Revision of local content policies in O&G

• Credit market reforms

• Privatization
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Productivity agenda

• Create conditions to compete

• Expose to competition

• Reduce factors that induce distortions
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Economic Policy Strategy

Productivity

Efficiency
Reducing judicial risk
Credit market
Openness
Business environment
Productivity as the key to sustainable growth

Economic Policy Strategy

Productivity

Efficiency
Reducing judicial risk
Credit market
Openness
Business environment

- Labor market reforms (labor code, outsourcing and immigration)
- Privatization, concessions
Productivity as the key to sustainable growth

**Economic Policy Strategy**

**Productivity**

- **Efficiency**
- **Reducing judicial risk**
- **Credit market**
- **Openness**
- **Business environment**

- Cancellation law in home building
- Regulatory changes in O&G and energy
- New insolvency law

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Economic Policy Strategy

Productivity

Efficiency

Reducing judicial risk

Credit market

Openness

Business environment

- BNDES funding (TLP)
- Electronic registry of receivables
- Convered bonds for housing finance
- Credit bureaus
- Price discrimination among means of payment
- New insolvency law
Productivity as the key to sustainable growth

Economic Policy Strategy

Productivity

- Efficiency
- Reducing judicial risk
- Credit market
- Openness
- Business environment

- Candidacy to OECD;
- Membership Paris Club;
- Opening of commercial aviation markets;
- Land acquisition by foreigners;
- Revision of programs (WTO).
Productivity as the key to sustainable growth

Economic Policy Strategy

Productivity

Efficiency
Reducing judicial risk
Credit market
Openness
Business environment

- Authorized Economic Operation/Single window
- Simplification of compensation and tax collection;
- Electronic invoice for services;
- New mining code
- Simplification of licensing procedures for opening firms (REDESIM);
- Improvements in the patenting process;
- New O&G policy.
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Good news

Bureaucracy and Doing Business

- Revision of tax compliance procedures

- Local-level, federally supported revision of procedures to open and close firms

- Facilitation of trade
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Good news

Financial intermediation (improving capital allocation)

• Introduction of information sharing and credit bureaus

• Establishing and regulating modern secured transactions system, including the framework for centralized registry of receivables

• Revision of the Bankruptcy Law

• Creation of European Covered Bond instrument for housing credit
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**Good news**

Reducing labor market distortions

• Labor code reform

• Outsourcing law

• Migration law
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**Good news**

Privatization and Concessions

- Energy transmission
- Airports
- Lottery
- Eletrobras
- Mint
Good news

Full revision of local content policies

• BNDES and FINAME

• Oil and Gas

• Reduction of minimum requirements
• Reduction of categories
• Local content no longer a criteria on auctions
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Good news

Opening and trade liberalization

   Reduction of tariffs for intermediate goods and machinery

Application to OECD

Membership in the Paris Club

Opening of the commercial aviation market
Productivity agenda

• Change in the mindset of the private-public interactions

• From rent-seeking to problem solving

• “Off the table” at the margin: tax exemptions, subsidies, demand guarantees (e.g., local content), protection

• Scope for intervention is ample, but a different type
  • Social returns > private returns (in line with BNDES new operational policy)
  • Coordination and appropriation problem
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Business Environment - Distance from the Border

- Brazil
- Peers (Mexico, Colombia, Peru, Chile)

(100 = frontier)

- RedeSIM (from 101 to 3 days)
- Centralized registry of receivables
- Single window for external trade (From 5 to 3 days)
- Sped, eSocial (from 2600 to 600 hours)
- Credit bureaus/Registry of receivables (45% reduction in bank rate spread)

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Productivity agenda

Long and hard road

• Resistance is concentrated

• Results accrue slowly over time

• No silver bullet but a roadmap
Deputy Finance Minister
João Manoel Pinho de Mello