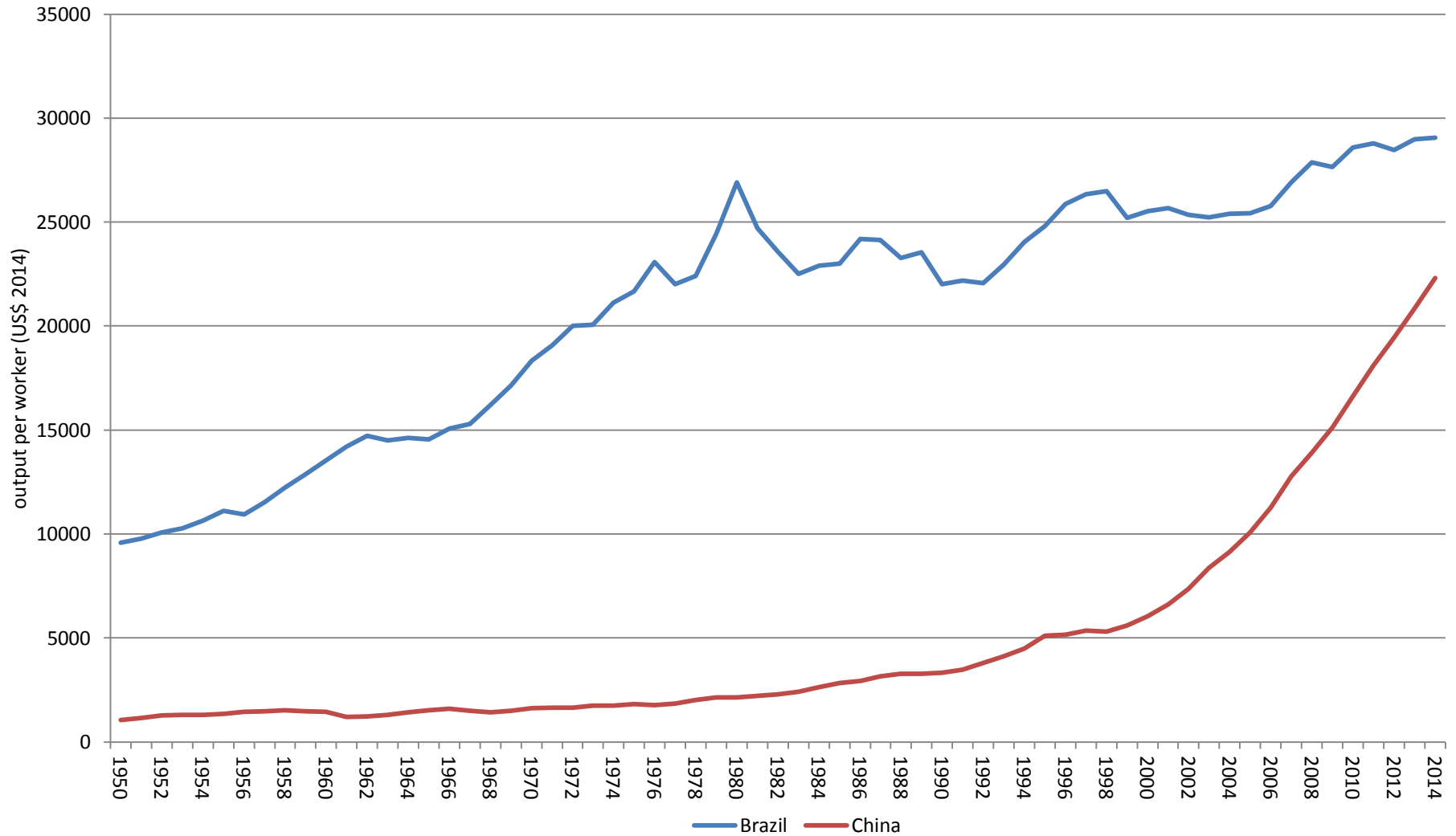


Brazil: Growth Challenges and Prospects

Fernando Veloso
FGV/IBRE

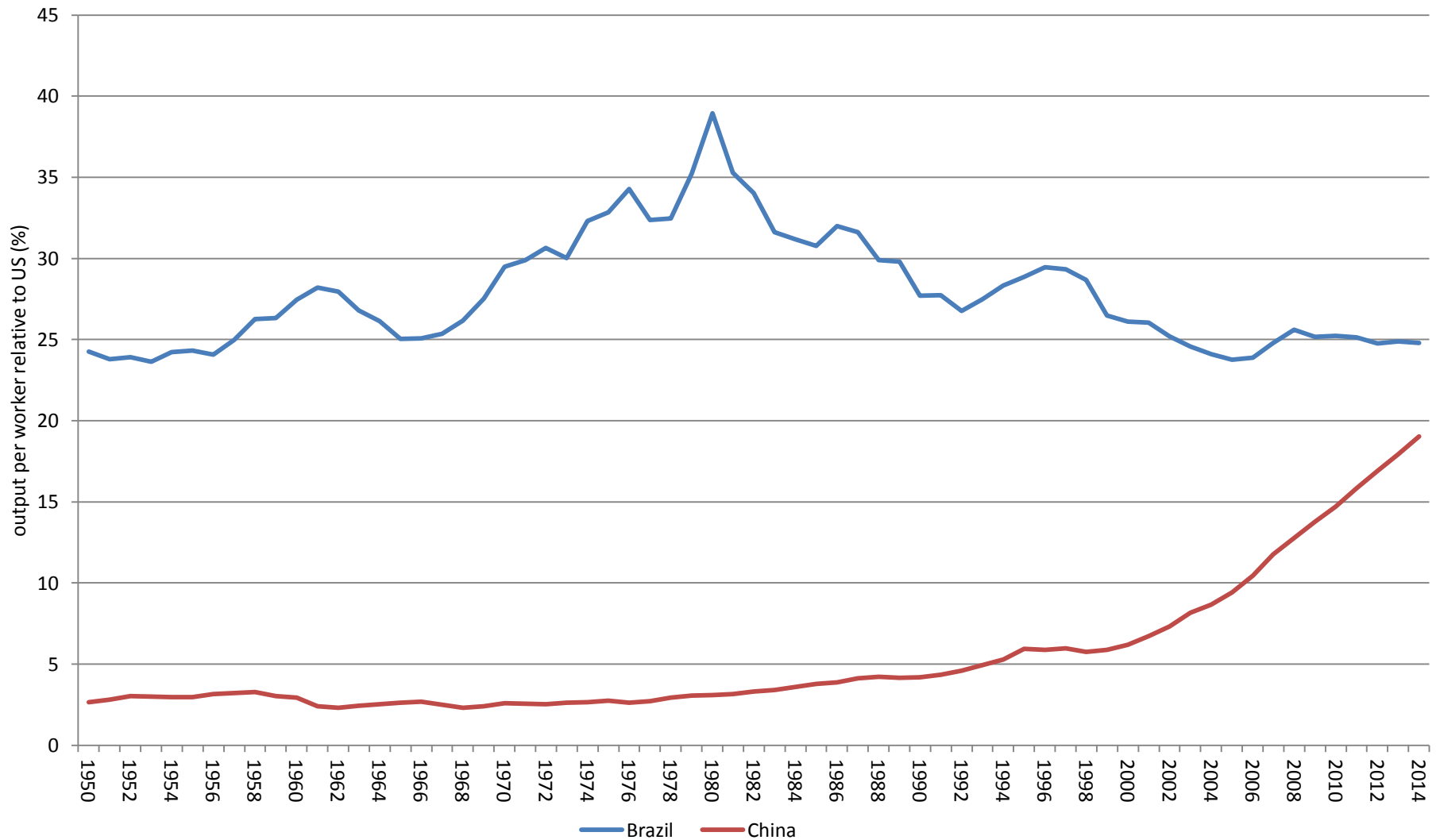
Seminar “BRICS: Challenges and Opportunities”
FGV, Rio de Janeiro, June 10, 2015

Evolution of Labor Productivity – Brazil and China



Source: Conference Board

Evolution of Labor Productivity Relative to US – Brazil and China

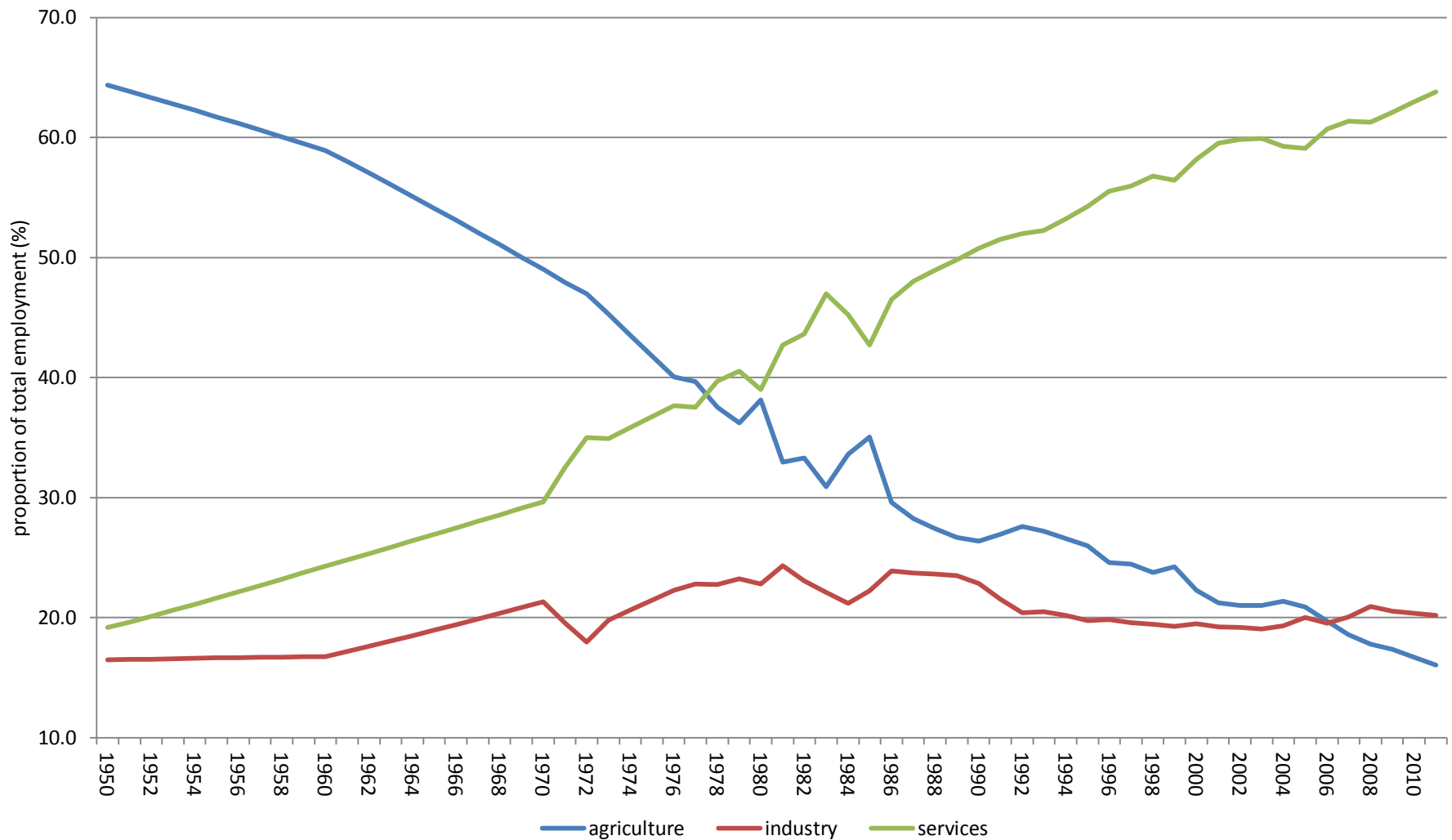


Source: Conference Board

Questions

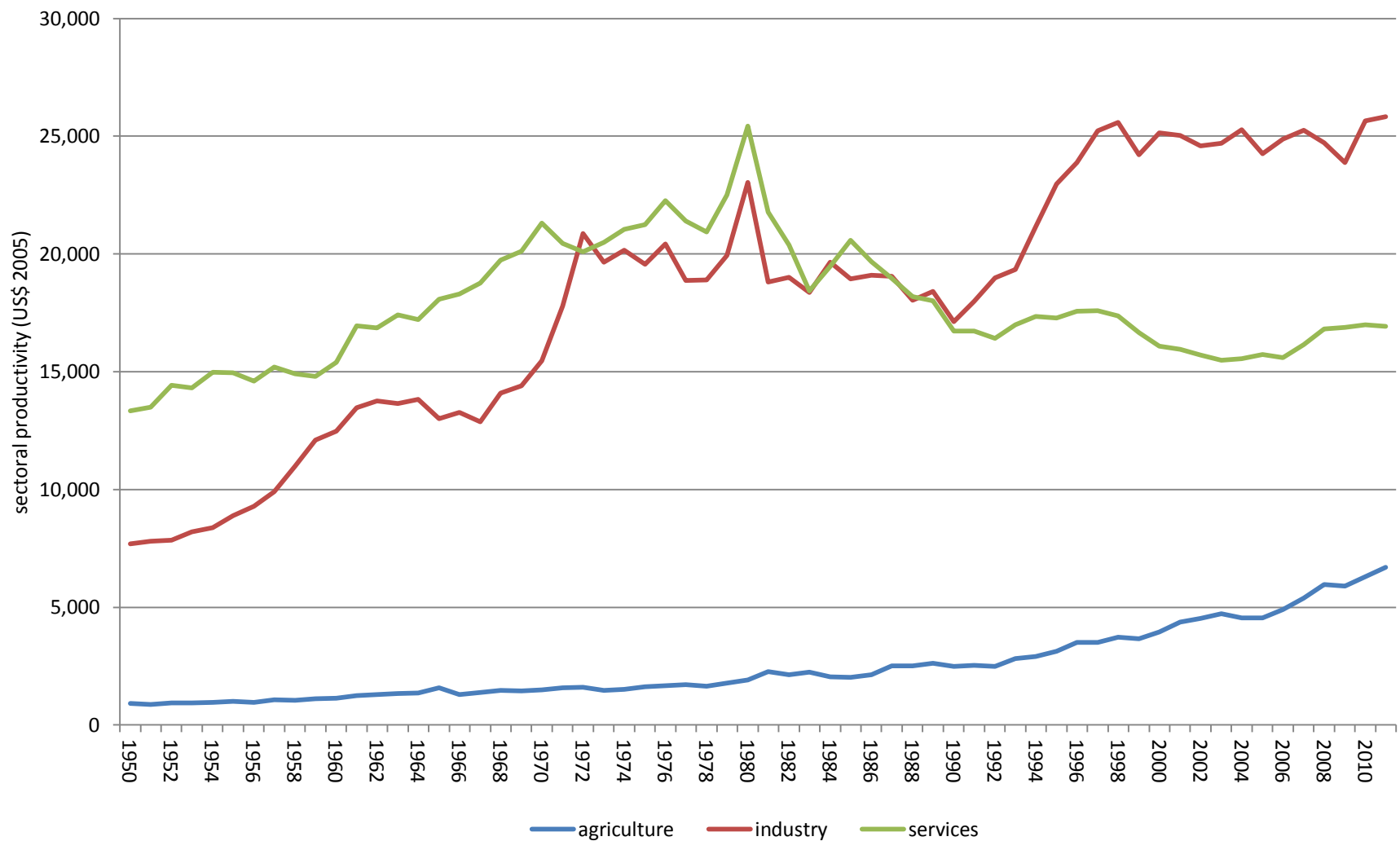
- Why did Brazilian productivity grow so little since the early eighties?
- Which reforms might have the largest impact on growth?
- What is the role of education in a growth strategy?
- What would be the main elements of an effective growth strategy?

Evolution of Sectoral Employment – Brazil, 1950-2011



Source: GGDC

Evolution of Sectoral Productivity – Brazil, 1950-2011

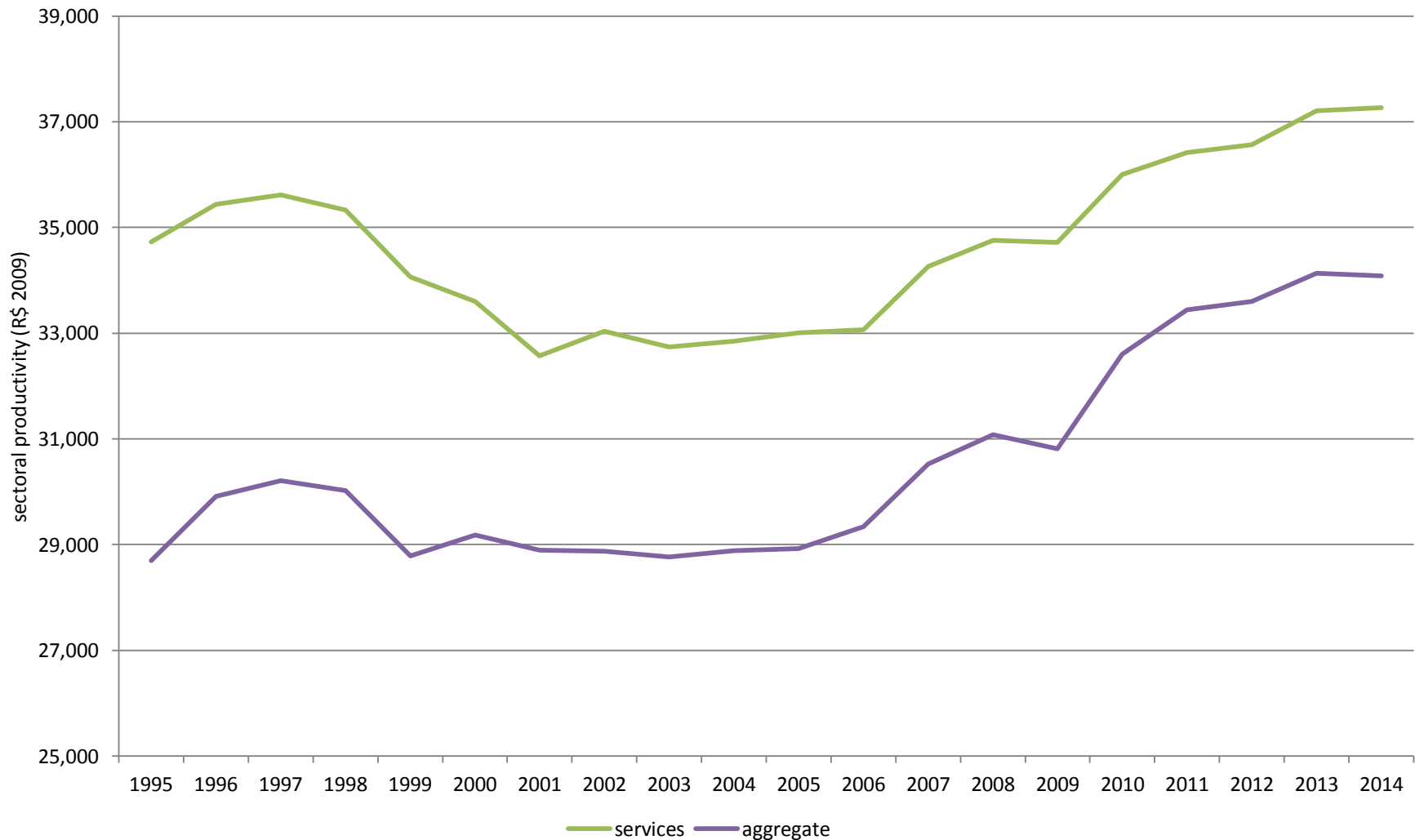


Source: GGDC

Structural Transformation

- In the initial stages of development, it is possible to obtain significant productivity gains by transferring workers from low-productivity activities, such as traditional agriculture, to high-productivity sectors, such as manufacturing
- However, these productivity gains tend to diminish as the process of structural transformation advances and economic activities become more complex
- Economic growth then becomes increasingly dependent on productivity increases within sectors, especially services, which becomes the main sector in terms of employment and value added

Aggregate and Services Productivity – Brazil, 1995-2014



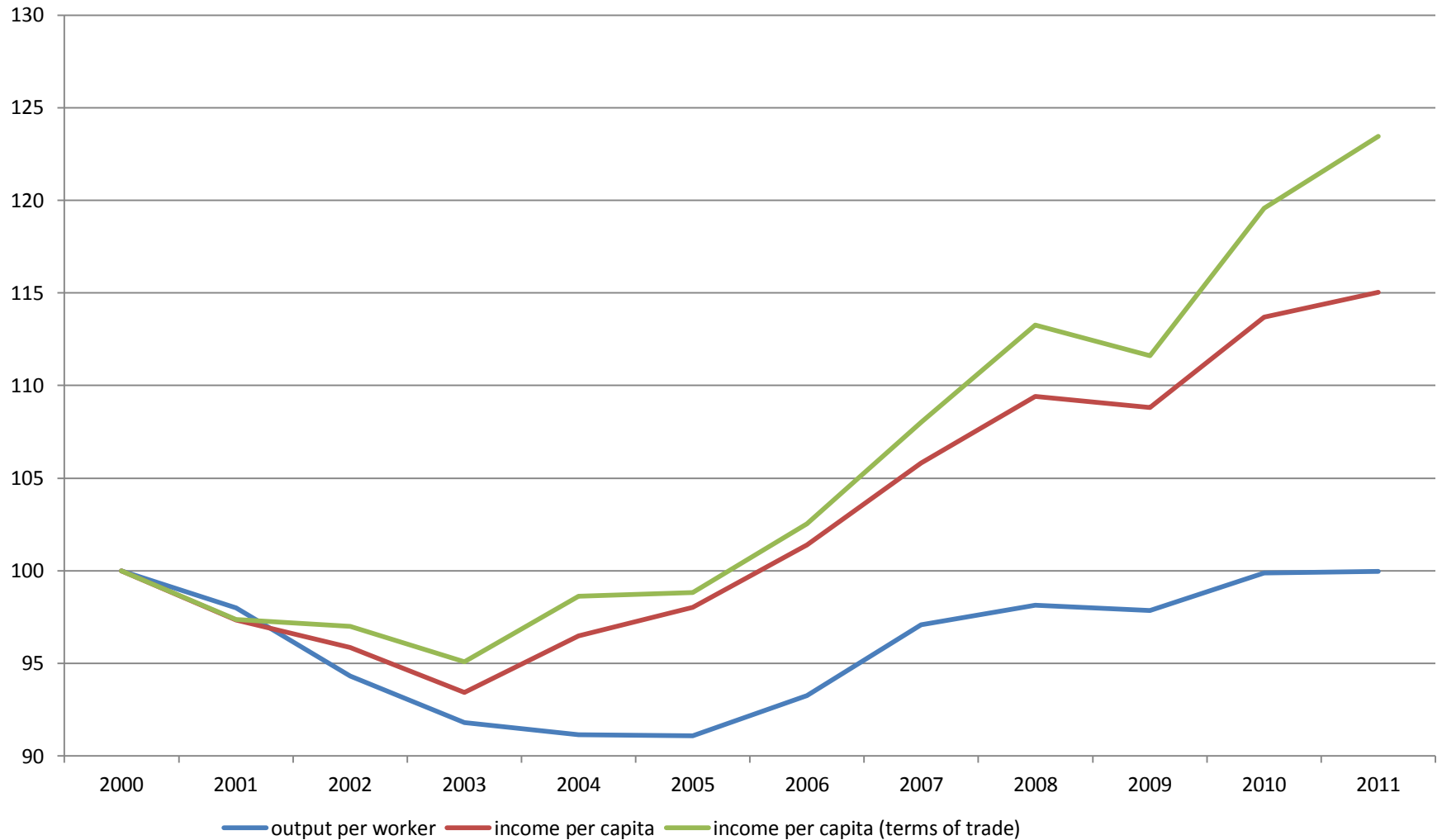
Source: FGV/IBRE

Aggregate and Sectoral Productivity Growth – Brazil

	Agriculture	Industry	Services	Aggregate
1996-2002	5.7%	-2.0%	-0.7%	0.1%
2003-2006	2.2%	0.1%	0.0%	0.4%
2007-2010	6.1%	0.5%	2.2%	2.7%
2011-2014	5.3%	-0.6%	0.9%	1.1%

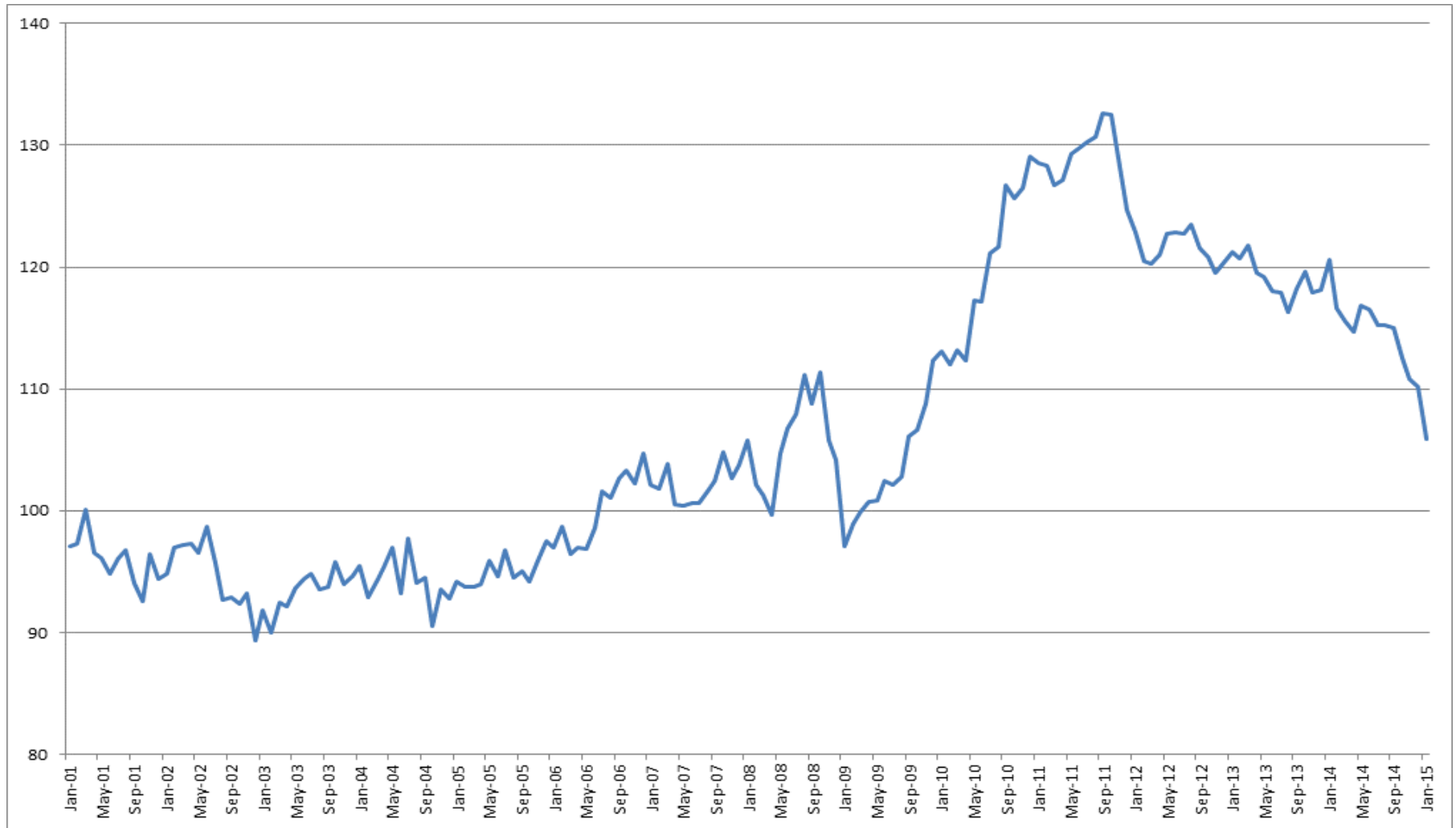
Source: FGV/IBRE

Effect of Employment Growth and Favourable Terms of Trade – Brazil, 2000-2011



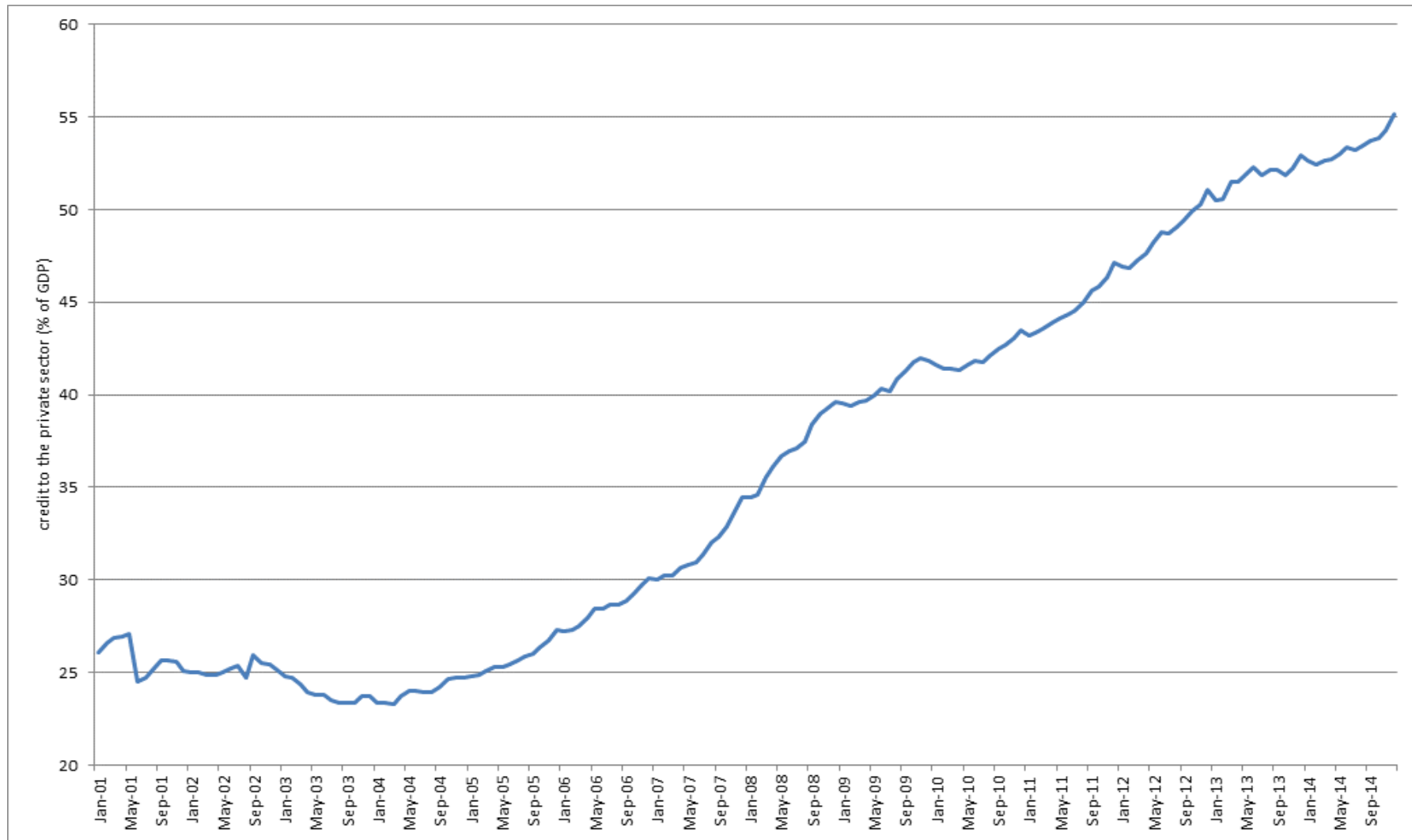
Source: PWT 8.0

Evolution of Terms of Trade



Source: Funcex/lpeadata

Evolution of Credit (% of GDP)

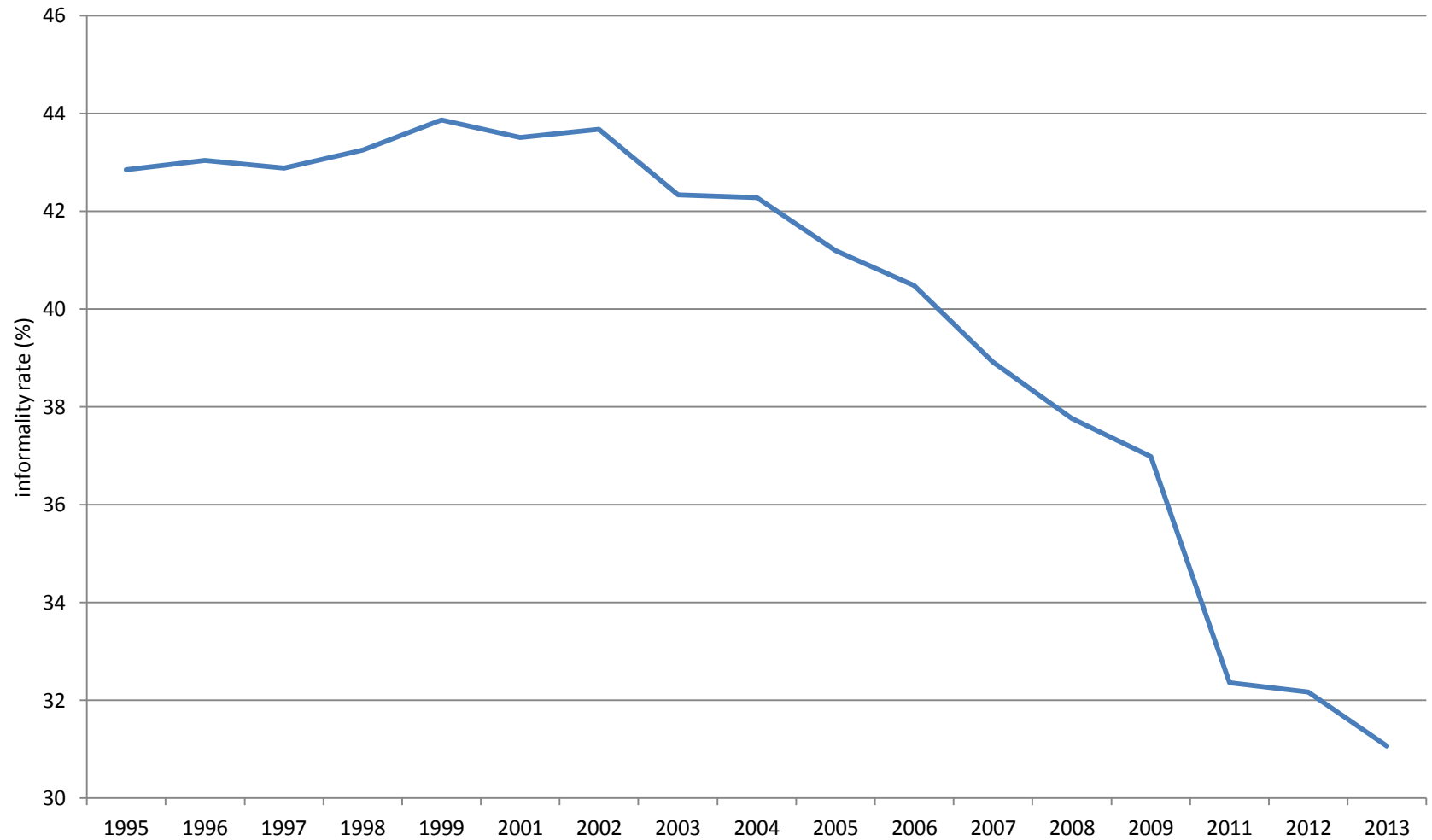


Source: Central Bank of Brazil

Formalization and Inequality Decline

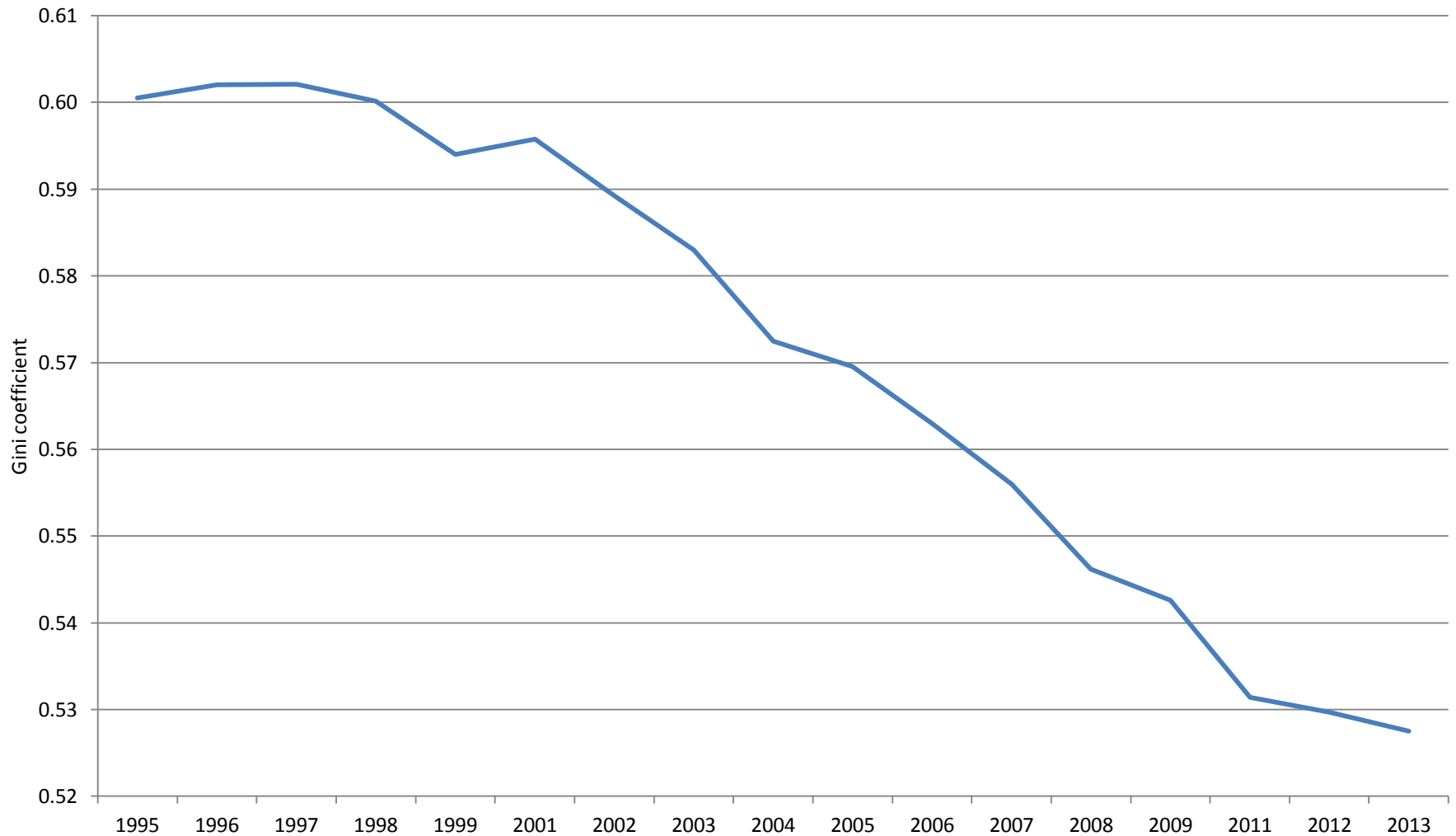
- The expansion of the service sector increased the demand for low skilled workers and their relative wage
- This reduced informality and was an important determinant of the decline in inequality
- Hence the expansion of the service sector, especially in credit-related activities, had an important economic and social role

Informality Decline



Source: PNAD

Inequality Decline



Source: PNAD/Ipeadata

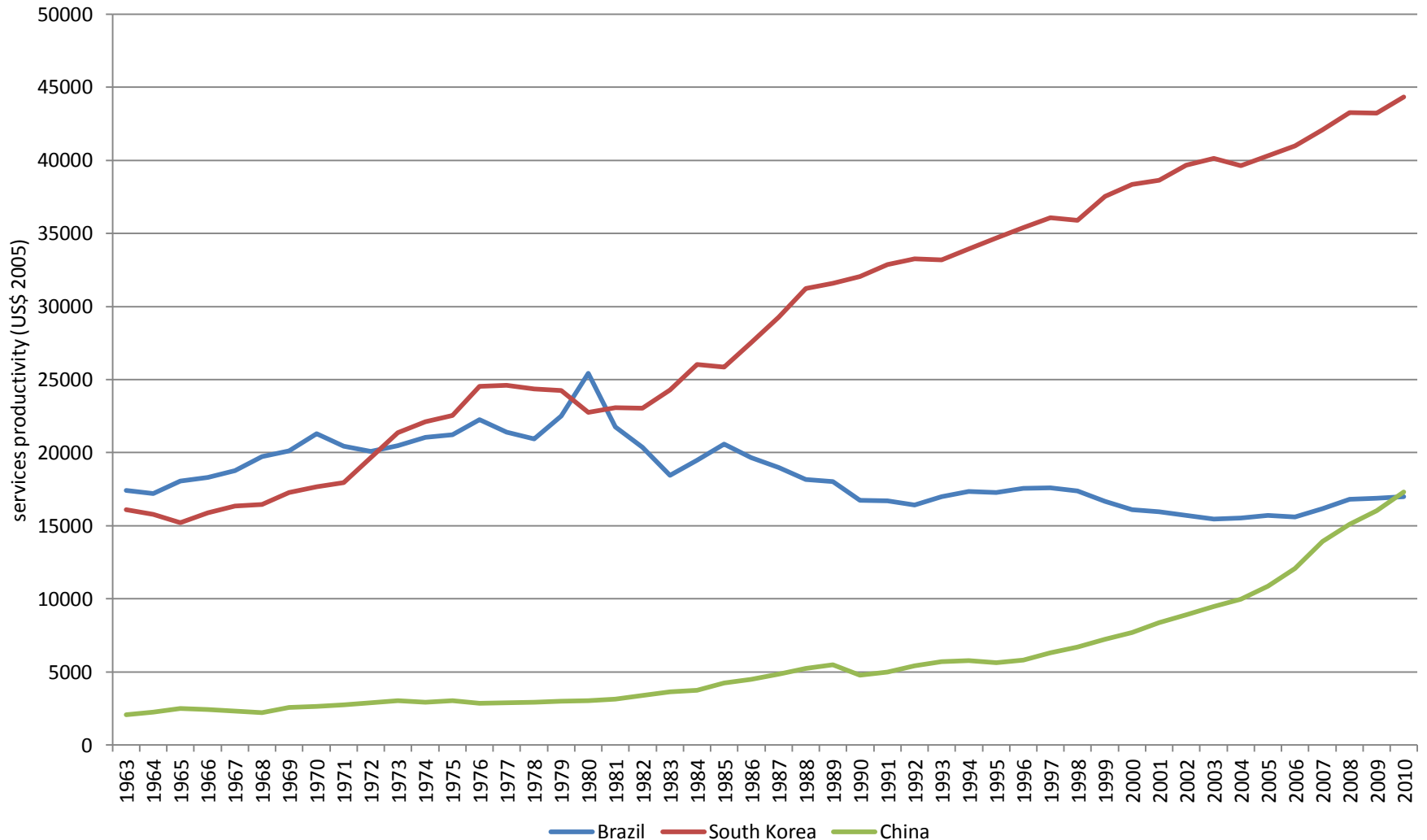
Convergence of Living Standards Growth To Productivity Growth

- Due to the demographic bonus, the decline of the unemployment rate and favourable terms of trade, living standards improved faster than productivity in the 2000s
- Moreover, the credit expansion contributed for an increase in consumption above income
- In the next years improvements in living standards will depend on productivity growth due to lower employment growth, worsening of terms of trade and credit deceleration
- Hence it is crucial to increase productivity growth, especially in services

Service Sector

- Services are predominantly nontradable and labor intensive
- There is evidence of convergence in manufacturing (Rodrik, 2013a); convergence is faster in machines and equipments than in textiles and garment
- Differences in productivity among countries are due in large part to differences in services productivity (Duarte and Restuccia, 2010)
- Services are particularly dependent on quality of education and institutions (Rodrik, 2013b)
- There is great heterogeneity in the services sector

Evolution of Services Productivity – Brazil, China and South Korea



Source: GGDC

Distribution of Schooling in the Service Sector – Brazil, China and South Korea

	Low Skilled	Medium Skilled	High Skilled
Brazil	33.0%	43.7%	23.3%
China	30.7%	53.8%	15.5%
South Korea	8.2%	40.3%	51.4%

Source: Social Economic Accounts (WIOD)

Proportion of Youth Below Basic Proficiency Level - PISA 2012 (%)

	Reading	Mathematics	Science
Brazil	49.2	67.1	53.7
Shanghai - China	2.9	3.8	2.7
South Korea	7.6	9.1	6.6
Finland	11.3	12.3	7.7
United States	16.6	25.8	18.1
Chile	33.0	51.5	34.5
Mexico	41.1	54.7	47.0
Argentina	53.6	66.5	50.9

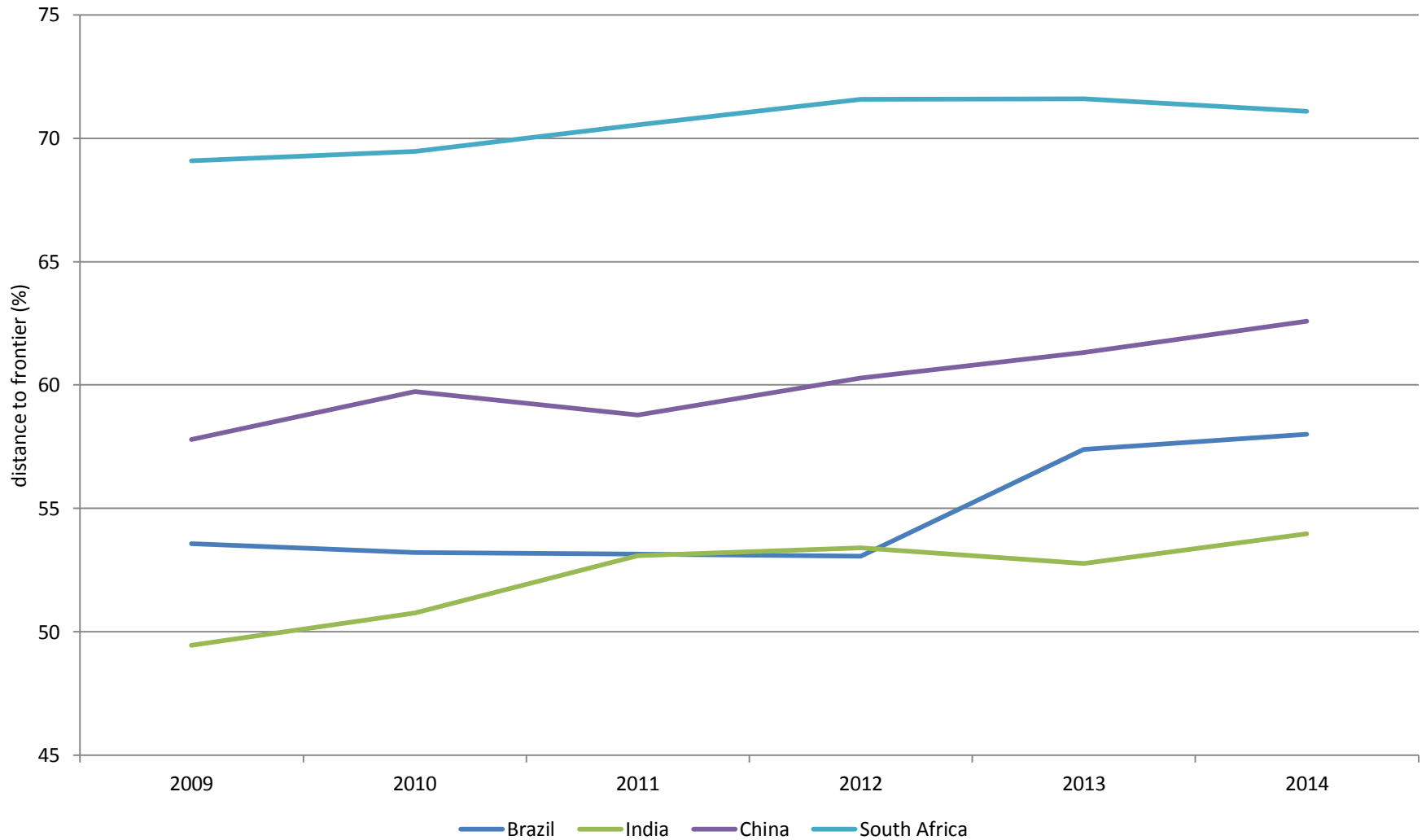
Source: OECD (2012)

Human Capital Index – World Economic Forum 2015

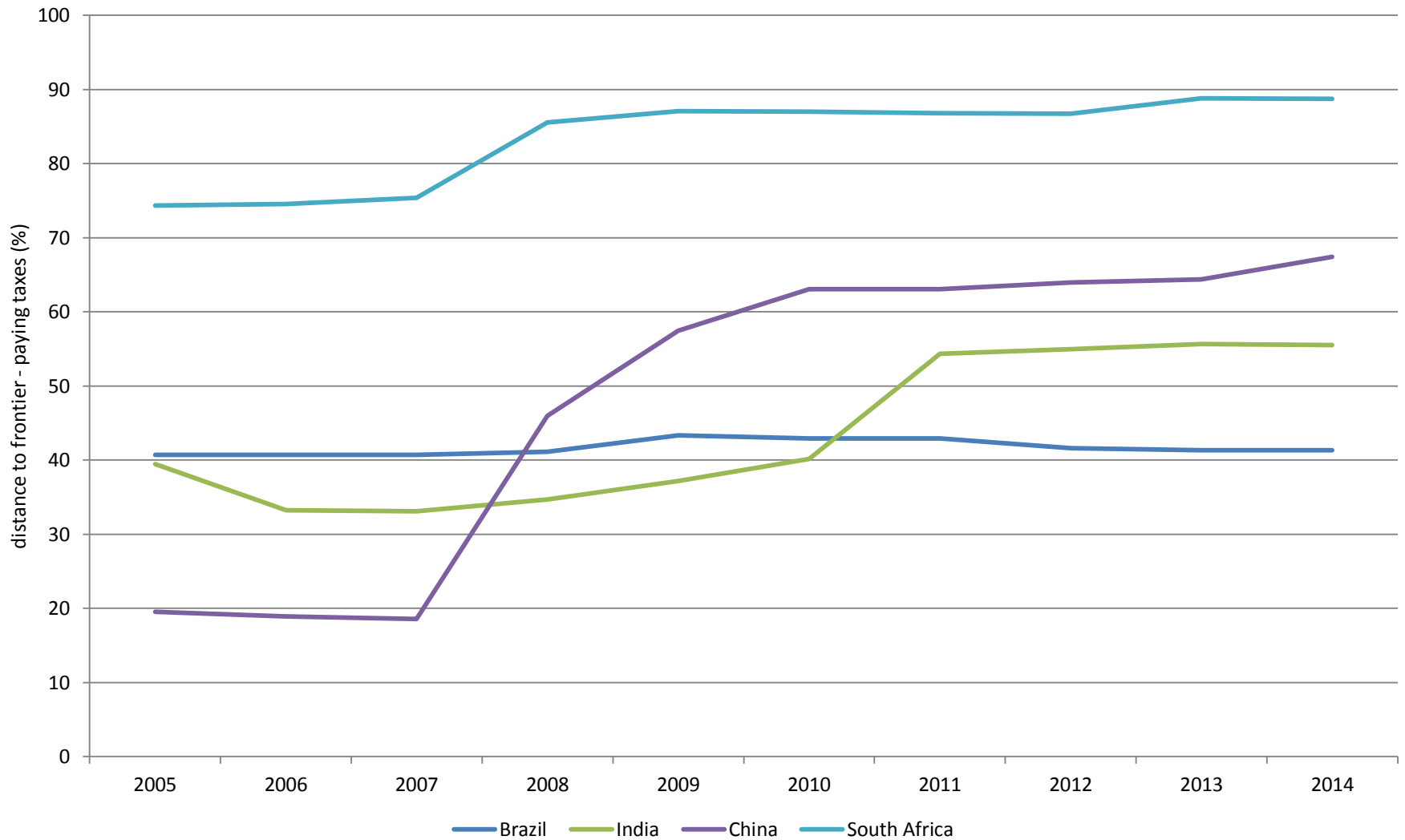
	Overall Index	Under 15 Age Group
Brazil	78	95
China	64	55
South Korea	30	20
Finland	1	1
United States	17	40
Chile	45	53
Mexico	58	72
Argentina	48	58
India	100	67
Russia	26	44
South Africa	92	88

Source: World Economic Forum (2015)

Evolution of Distance to Frontier - Doing Business 2015



Evolution of Distance to Frontier – Paying Taxes – Doing Business 2015



Doing Business 2015 Ranking

	Doing Business Ranking
Brazil	120
Argentina	124
Chile	41
Mexico	39
Colombia	34
Peru	35
China	90
India	142
Russia	62
South Africa	43
United States	7

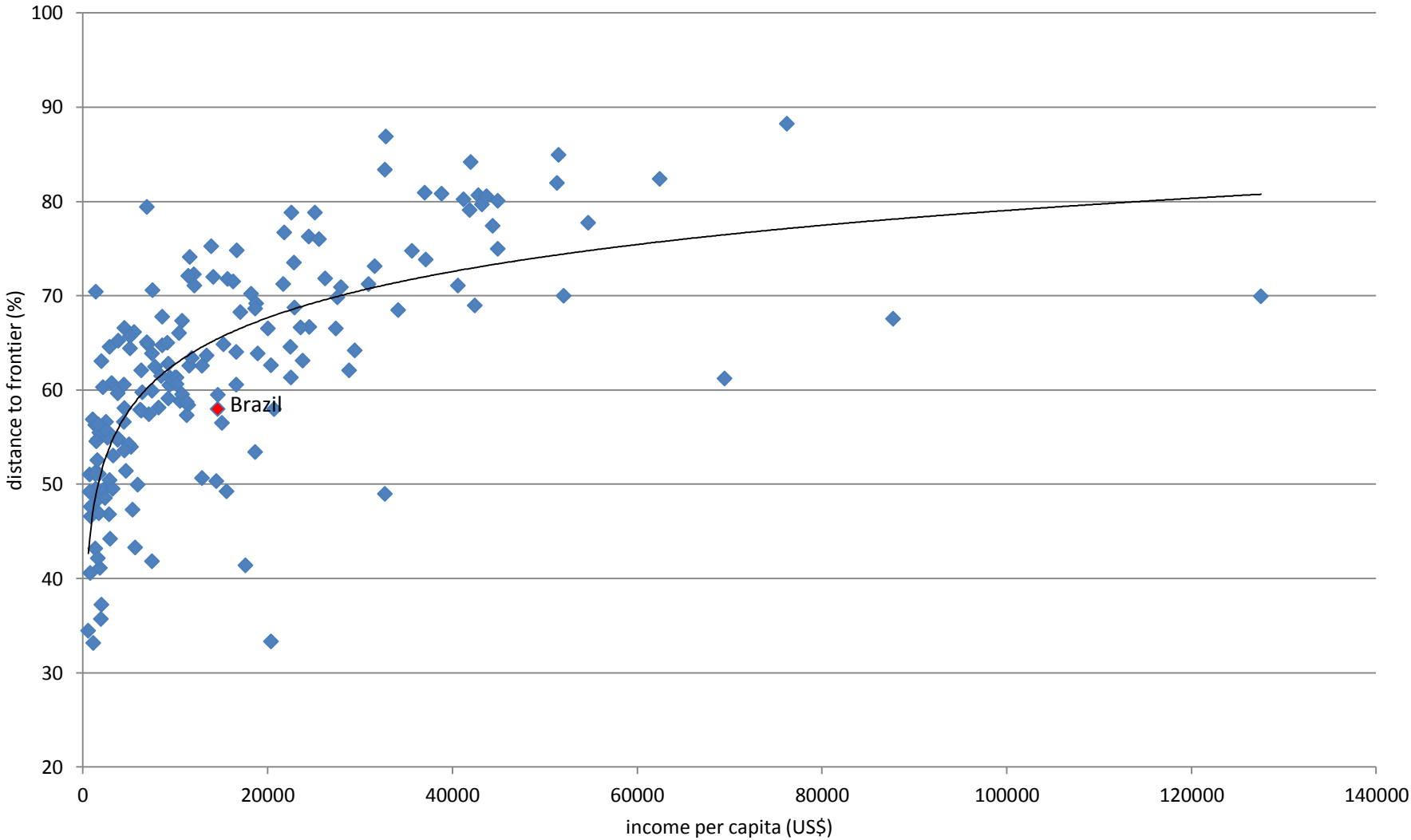
Doing Business 2015 Ranking– Complexity and Cost of Regulatory Processes

	Starting a Business	Dealing with Construction Permits	Getting Electricity	Registering Property	Paying Taxes	Trading Across Borders
Brazil	167	174	19	138	177	123
Argentina	146	181	104	119	170	128
Chile	59	62	49	45	29	40
Mexico	67	108	116	110	105	44
Colombia	84	61	92	42	146	93
Peru	89	87	86	26	57	55
China	128	179	124	37	120	98
India	158	184	137	121	156	126
Russia	34	156	143	12	49	155
South Africa	61	32	158	97	19	100
United States	46	41	61	29	47	16

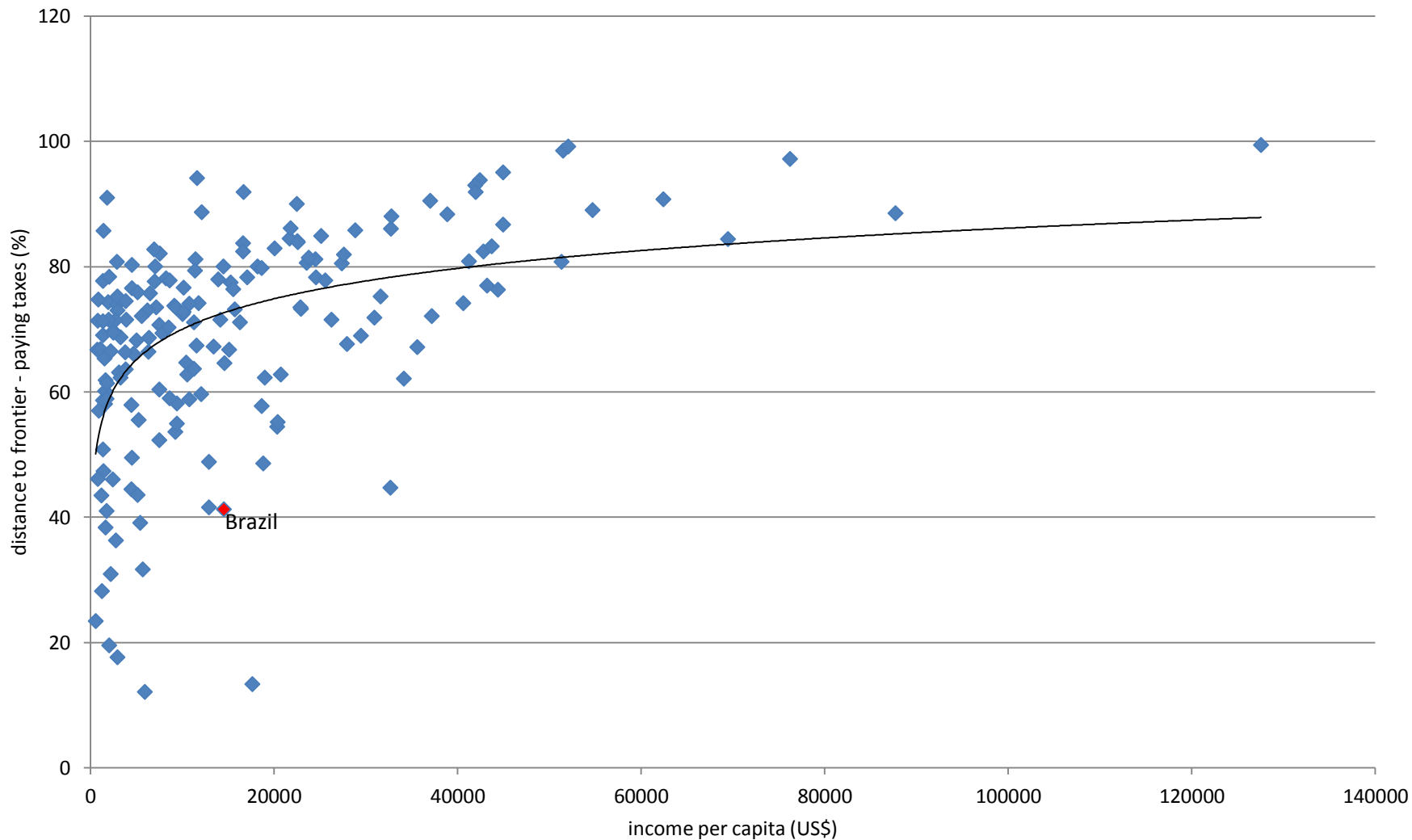
Doing Business 2015 Ranking – Quality of Legal Institutions

	Getting Credit	Protecting Minority Investors	Enforcing Contracts	Resolving Insolvency
Brazil	89	35	118	55
Argentina	71	62	63	83
Chile	71	56	64	73
Mexico	12	62	57	27
Colombia	2	10	168	30
Peru	12	40	100	76
China	71	132	35	53
India	36	7	186	137
Russia	61	100	14	65
South Africa	52	17	46	39
United States	2	25	41	4

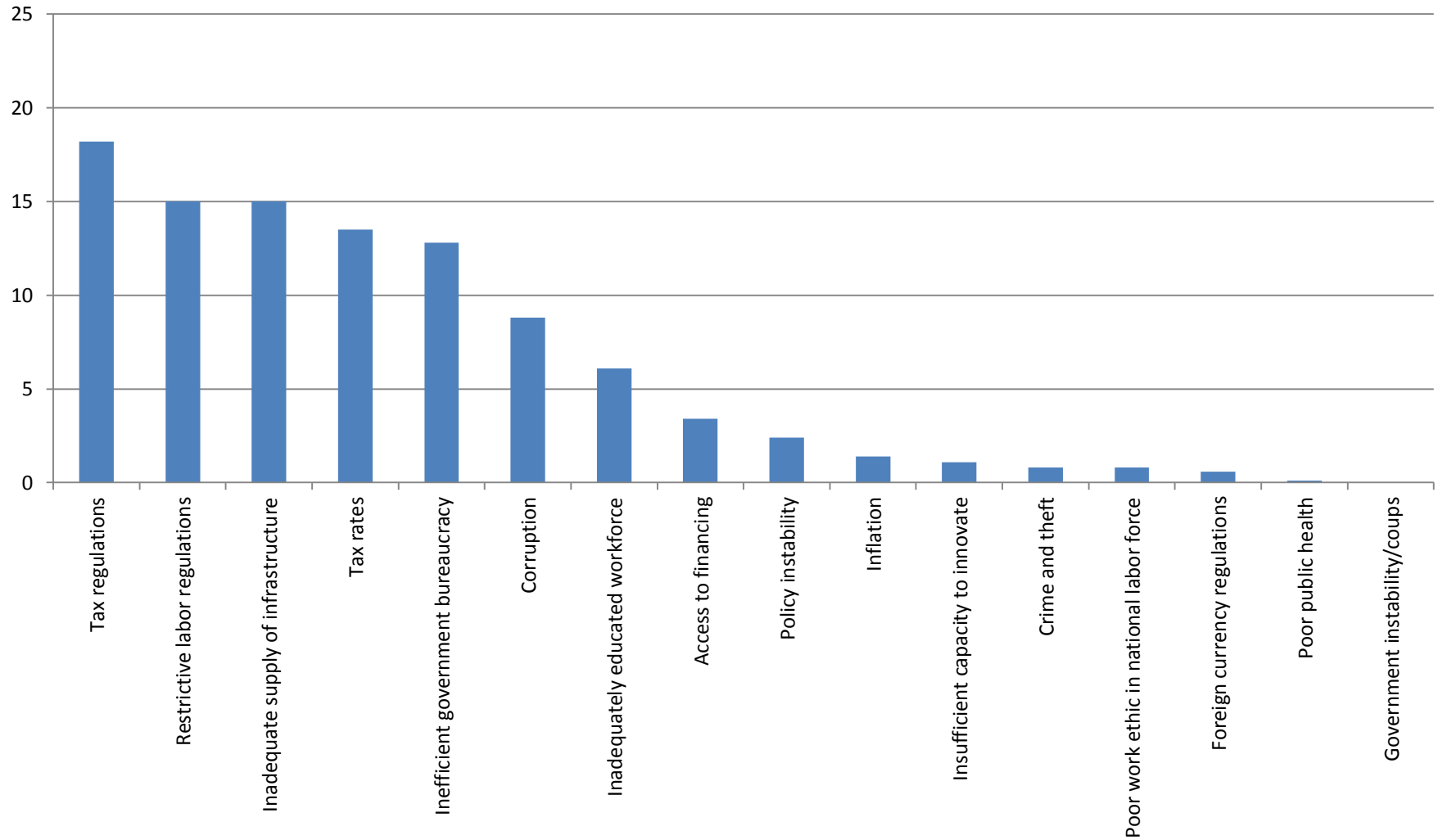
Relationship Between Income per Capita and Distance to Frontier - Doing Business 2015



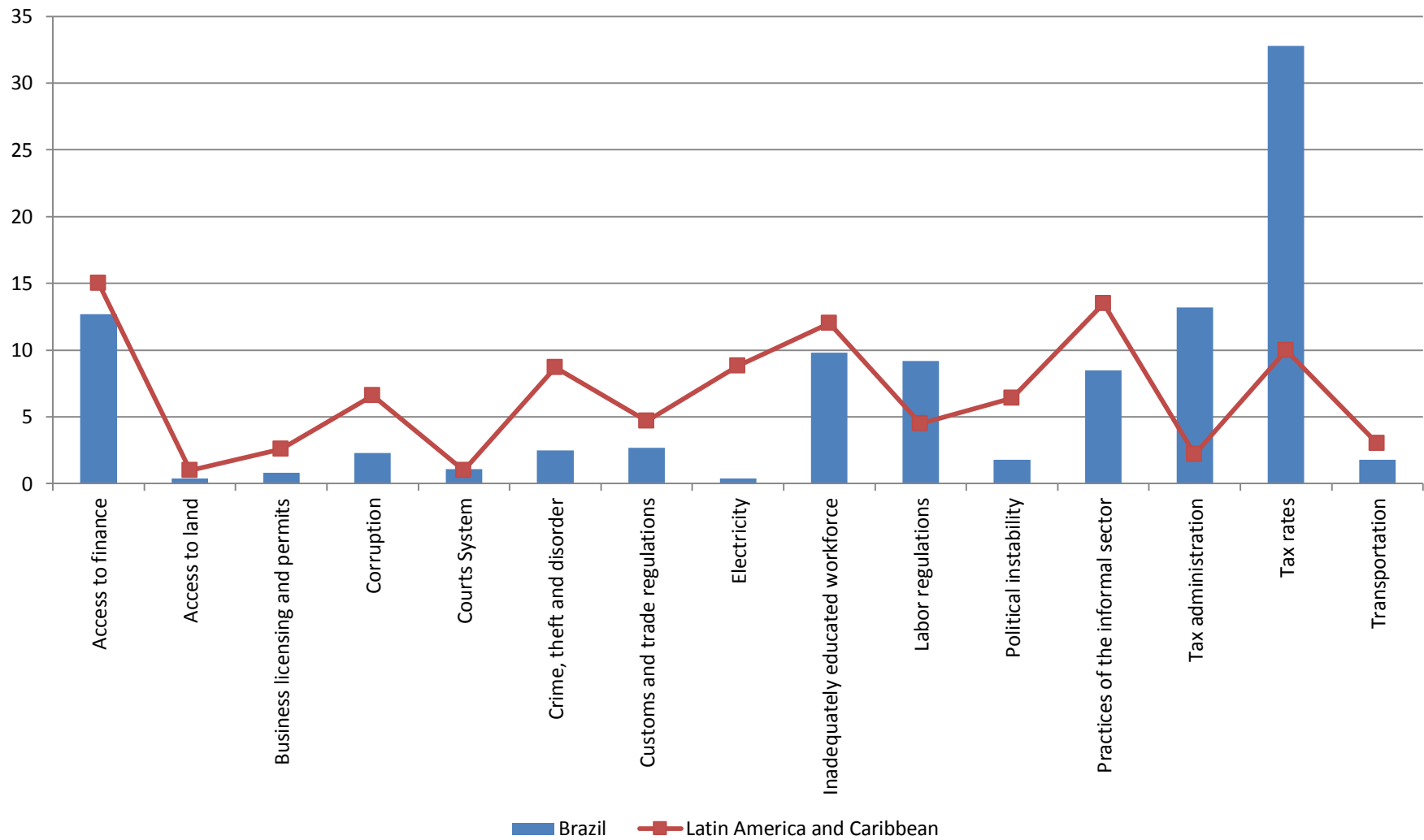
Relationship Between Income per Capita and Distance to Frontier – Paying Taxes – Doing Business 2015



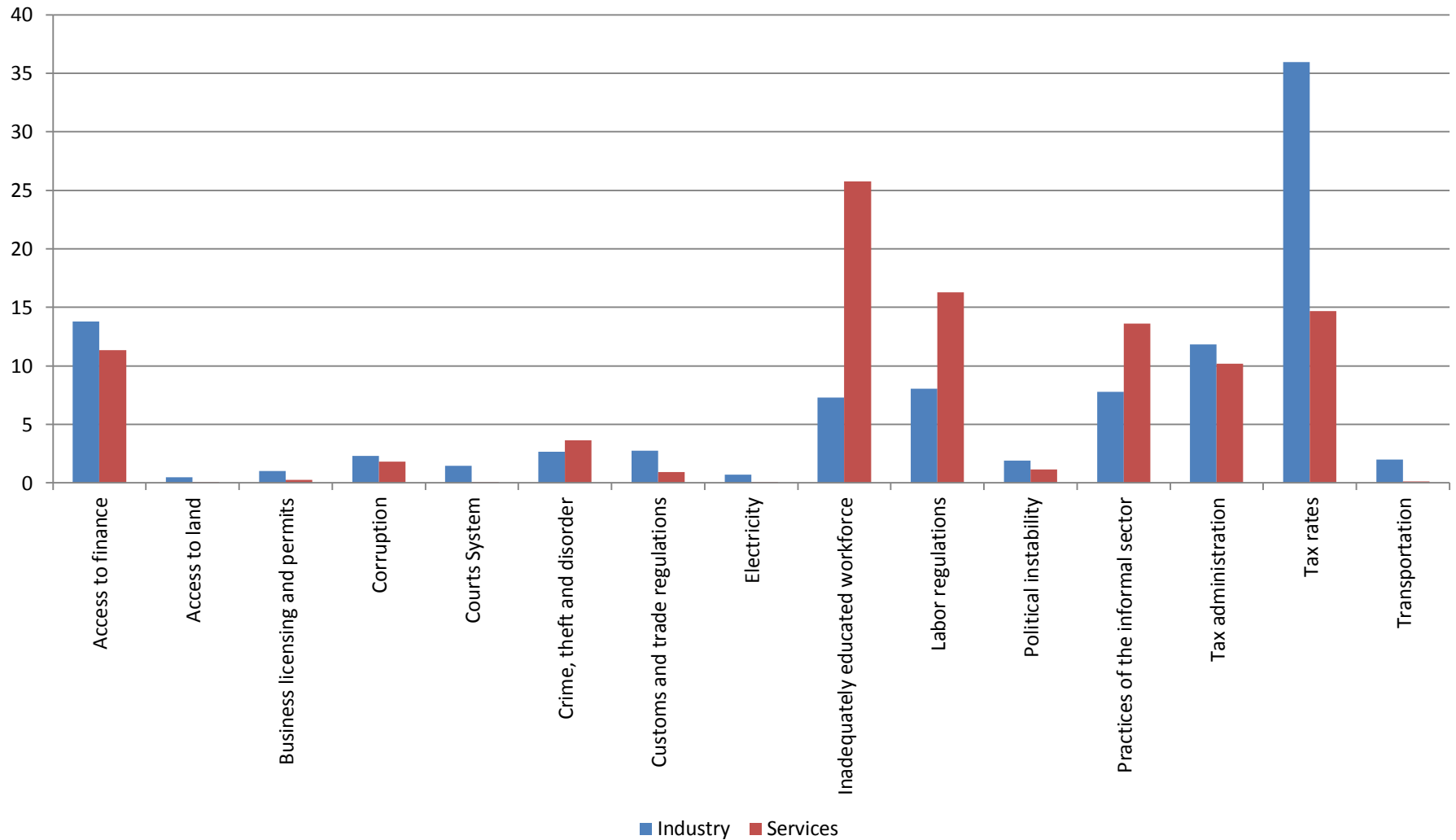
Main Obstacles to Doing Business – Brazil - Global Competitiveness Report 2014-2015 (%)



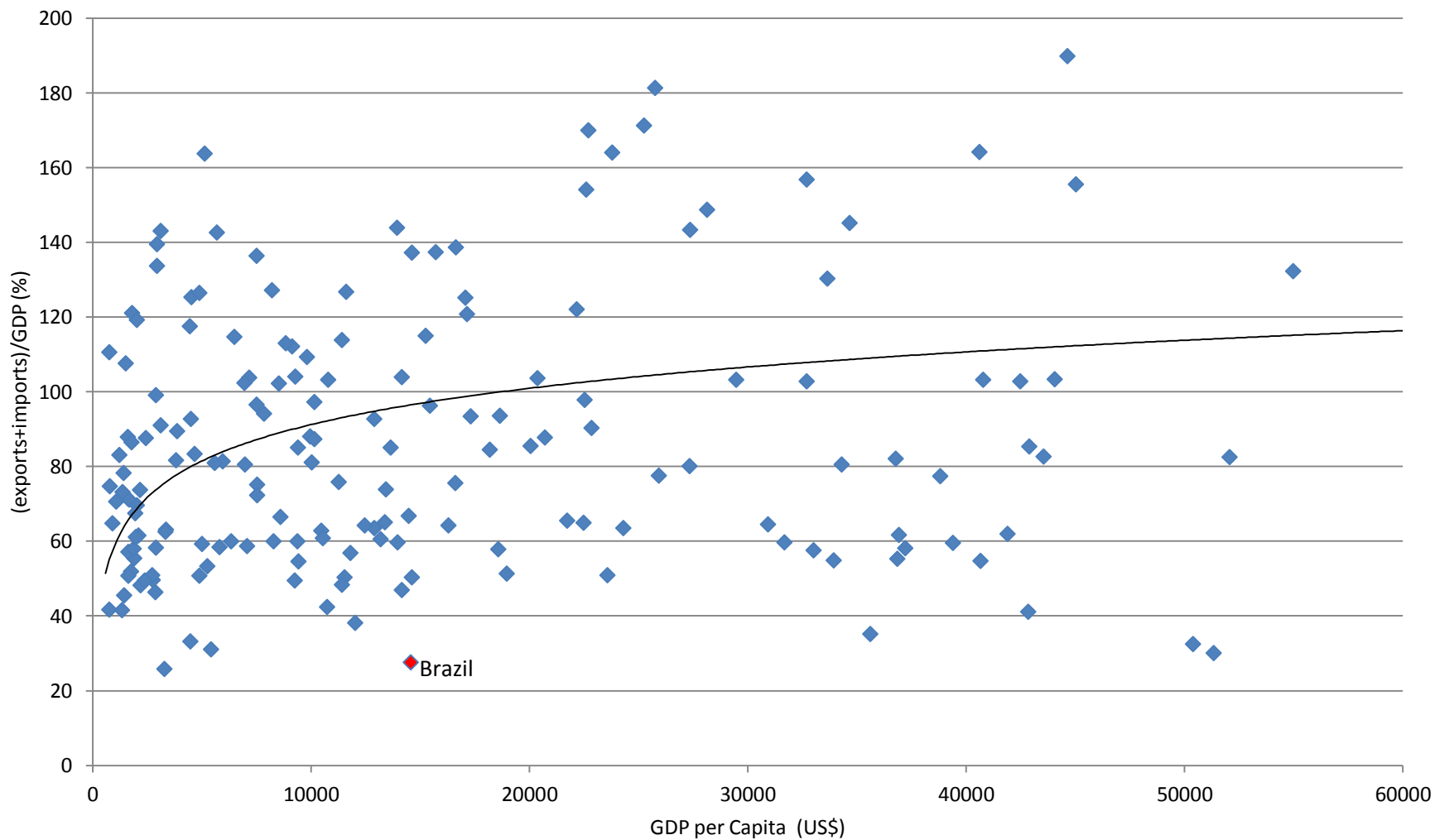
Main Obstacles to Doing Business – Brazil and Latin America - World Bank Enterprise Surveys (%)



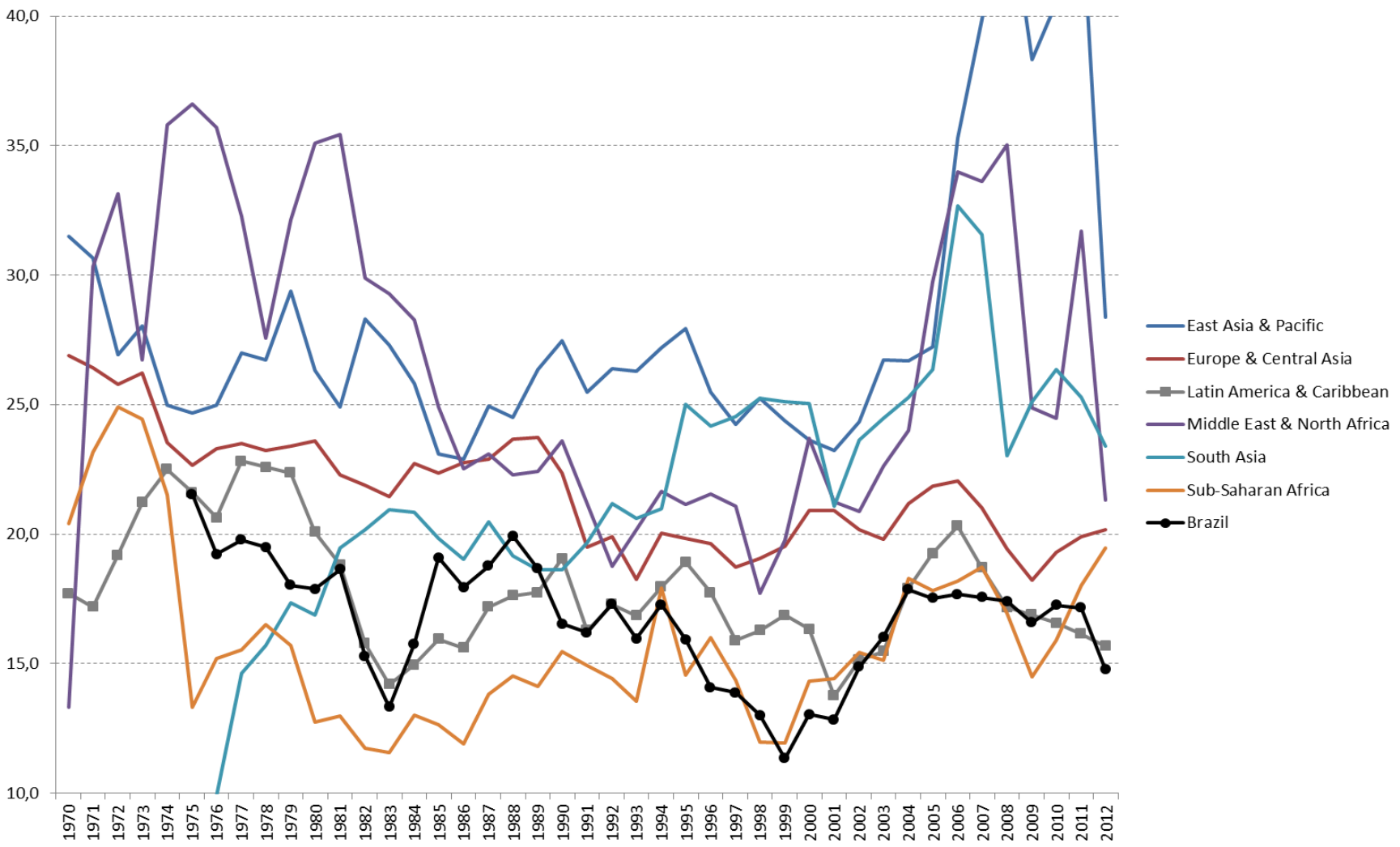
Main Obstacles to Doing Business— Manufacturing and Services – Brazil – World Bank Enterprise Surveys (%)



Low Degree of Openness



Low Savings Rate



Primary Expenditure of Federal Government (% of GDP)

	Subsidies	Social Expend+ INSS	Total
1991	0.3	5.5	11.0
1994	0.3	7.4	13.9
1998	0.3	8.3	15.0
2002	0.2	8.7	15.7
2006	0.4	10.2	17.0
2010	0.3	10.6	17.4
2014	1.0	12.3	20.1
Var	0.7	6.8	9.1
Var per year	0.03	0.30	0.39

Source: Mansueto Almeida

Challenges of Transition to High Income

- Growth decelerations at the middle income level are associated with the difficulty in making the transition to a new development model that adapts the economy and its institutions to the new challenges and opportunities
- Brazil made significant progress in the last two decades, but the transition to a new development model is still incomplete in several dimensions, including:
 - Unfavourable business environment
 - Low quality of education
 - Deficient infrastructure
 - Low degree of openness to foreign trade

Growth Strategies

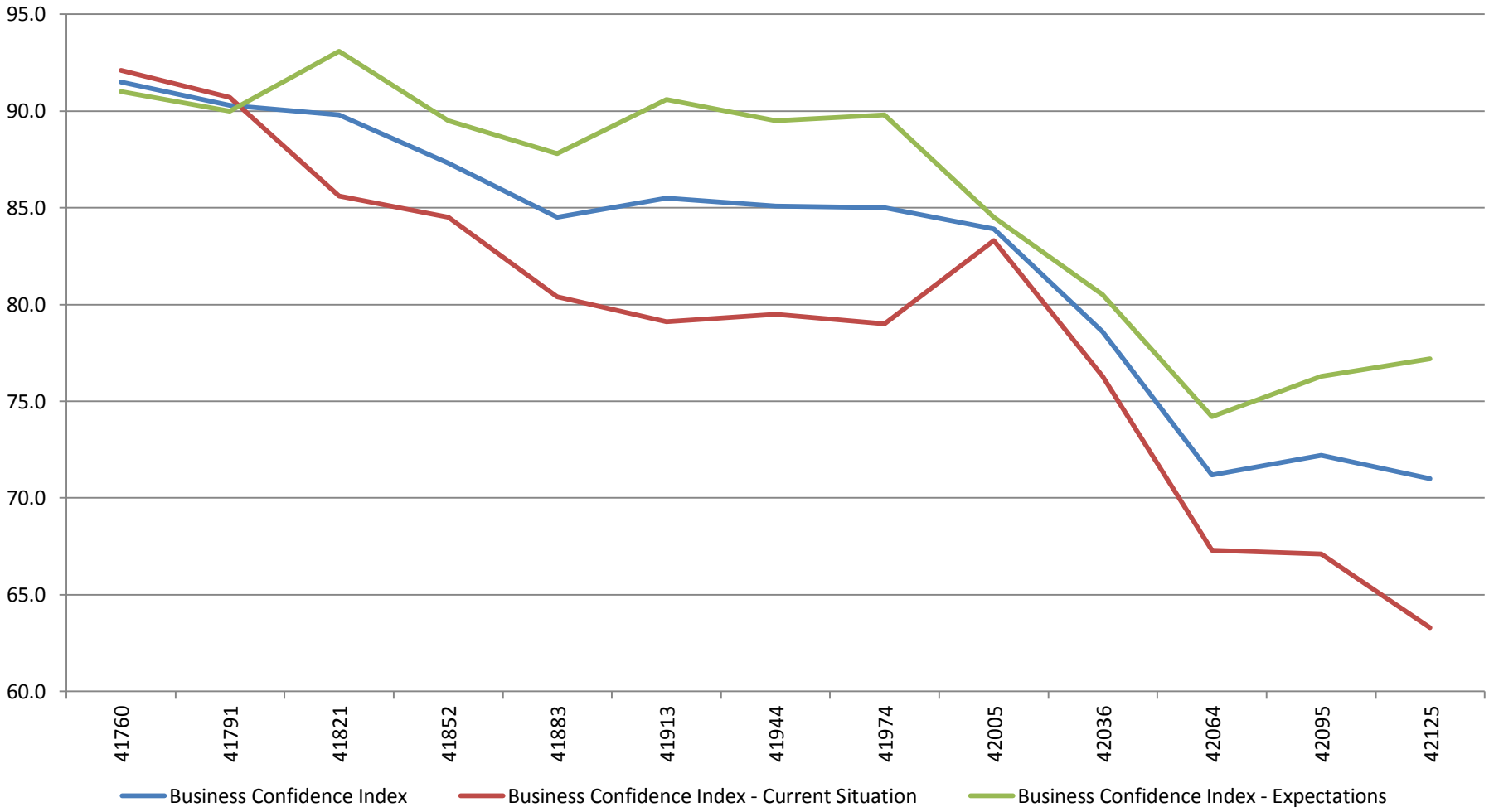
- Growth Strategy for China - “China 2030: Building a Modern, Harmonious, and Creative High-Income Society” (DRC/World Bank, 2012)

- Growth Strategy for United Kingdom– “Investing for Prosperity: Skills, Infrastructure and Innovation” (Report of the LSE Growth Commission, 2013)

Growth Strategy for Brazil (I)

- Reduce macroeconomic risk: high inflation, nominal and primary deficit, high debt/GDP ratio
- Reduce regulatory risk: frequent rule changes in regulated sectors
- Correct distortions to relative prices: electricity, gasoline, exchange rate, interest rate

Business Confidence Index - Brazil



Source: FGV/IBRE

GDP Projections – Brazil, 2015

Sectors	2015
Agriculture	2.5%
Industry	-3.4%
Services	-1.1%
GDP	-1.8%

Source: FGV/IBRE

Growth Strategy for Brazil (II)

- Improve business environment
- Improve quality of education
- Take into account complementarities between reforms, productivity and education
- Fiscal agenda

Complementarity Between Reforms and Productivity

- Informal firms are small and much less productive than formal firms, especially in comparison with the larger ones
- Empirical evidence shows that most of formal firms have never been informal (La Porta and Shleifer, 2014)
- This is consistent with the modest results of several policies of firm formalization (Bruhn and McKenzie, 2013; Barbosa Filho, Ulyssea and Veloso, 2015)

Complementarity Between Reforms and Education

- Recent evidence suggests that the effect of reforms depend upon the entrepreneur's education level
- A reform of the registry system in Mexico increased formalization only among informal microentrepreneurs with characteristics similar to formal entrepreneurs, including the education level (Bruhn, 2013)

Schooling Distribution of Formal and Informal Entrepreneurs (%) - Brazil

	0-3	4-7	8-10	11-14	>14
Informal Own Account Worker	25.0	28.7	17.8	23.3	5.3
Formal Own Account Worker	7.0	17.2	15.9	38.5	21.4
Informal Employer	17.2	27.9	14.5	26.9	13.6
Formal Employer	3.1	10.7	11.8	41.8	32.6

Source: PNAD

Expansion of Formal Firms

- This suggests that policies to increase productivity should stimulate the expansion of formal firms
- Credit reform in the 2000s contributed to an increase in the size of formal firms in Brazil
- Promising policies along these lines would be to improve infrastructure, reform the tax system and increase openness

Growth Strategy

- The main challenge for the Brazilian economy in the next decades is to complete the transition to a new development model in the context of important technological and demographic changes
 - New information technologies are intensive in high-skill labor and have contributed to an increase in inequality in developed countries
 - The demographic change will reduce the expansion of the labor force and will imply an increase in social security expenditures
- Brazilian policymakers will have to design a coherent growth strategy and implement it in a persistent way in order to deal with these challenges and be able to put the Brazilian economy in a path of convergence to the standard of living of developed countries