THE LULA-DILMA 'PROJECT' AND BRAZILIAN ECONOMIC DEVELOPMENT: SHOULD OTHER COUNTRIES FOLLOW BRAZIL'S INITIATIVES?

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ABSTRACT
This paper analyses policies by former Presidents Luiz Inacio Lula da Silva and Dilma Rousseff, since 2003: referred to here as the 'Lula-Dilma project'. This paper investigates Brazilian government projects, to assess how successful their policies were (compared to the period before Lula became President). Topics discussed include education, healthcare, and attempts to reduce corruption in Brazil. The Lula-Dilma project could be followed by other countries, as part of their development programs.

JEL Classifications: O1, D0, D6.

Keyword: Brazil, development, education, healthcare.

INTRODUCTION
1.1 Overview
It is often claimed President Lula's election in 2003 helped Brazil to modernise: "The breathlessness about Brazil's potential picked up speed after 2003, when Goldman Sachs coined the term "BRIC" to describe the four emerging markets – Brazil, Russia, India, and China" (Sweig, 2010: 174). GDP data from World Bank (2016b) shows Brazil is the 7th richest country in the world. World Bank (2016b) report "Brazil experienced a decade of economic and social progress from 2003-2013 in which over 26 million people were lifted out of poverty and inequality was reduced significantly".

Brazil had problems to overcome. However, when calculated per student, annual public expenditure on public institutions for all levels of education combined was of USD 2 985, which is considerably below the OECD average of USD 8 952 in purchasing power parity terms, and is the second lowest among all OECD and partner countries" (OECD, 2014). Government taxes and spending caused inequality: "Not only is Brazil's tax system regressive in nature, but also the distribution of the state's expenditures favors the higher income classes" (Baer&Galvão, 2008: 356). Regarding economic development, Brazil is more successful than poor countries in Africa, but less successful than most OECD countries; it can be argued that Brazil is facing a decision – should it return to a low-tax but poor country, or continue the transition to a rich country? Lula and Dilma are impressive pioneers, in designing incentives (for example, persuading more children to attend school); but the task is incomplete.

This paper is organised as follows. Section 1.2 summarises previous literature on Brazil's development, focusing on Lula & Dilma's impacton Brazil's successes. Section 1.3 investigates

corruption among Brazilian politicians: have Lula and Dilma created effective systems to limit future corruption? Section 2explains research methods for this paper. Section 3 reports new evidence on apparent impacts of Presidents Lula and Dilma. Section 4 concludes. Regression results are reported in the appendix.

1.2 Did Lula and Dilma improve Brazil's economy?

Brazil obtained impressive economic growth since Lula became President in 2003:"Due to the extraordinary work begun by the government of President Lula, and continued by us, there is now a first generation of Brazilians who have not experienced the tragedy of hunger. We have rescued 36 million people from extreme poverty – including 22 million in my first term of office" (Rousseff, 2015). This progress is more impressive given problems Brazil has faced; problems include low world oil prices (and reduced revenue for state-owned Petrobras); flooding in parts of Brazil; and the Zika virus.

The 'Zero Hunger Program' (*Fome Zero*), associated with Lula, shows what can be achieved (Cassel, 2011: 10) (in this paper, Portuguese terms are shown in *italics*). Brazil's school feeding program (part of the Zero Hunger Program) covers almost 37 million children each year (Yunusa&Gumel, 2012: 104).   The *BolsaFamília* (*BF*) program is the world's largest 'Conditional Cash Transfer' system (Sugiyama&Hunter, 2013: 44).   Wetzel (2013) wrote "Brazil's experience is showing the way for the rest of the world. more than 40 countries. Last year alone, more than 120 delegations visited Brazil to learn about *BF*.Our new global goals of eradicating extreme poverty by 2030 and boosting shared prosperity draw from Brazil's experience".   Further improvements were achieved by President Rousseff's 'Brazil without Extreme Poverty' (*BrasilsemMiséria*) plan (FAO, 2014: 23).   From 2001 to 2012, overall poverty fell from 24% to 8% of Brazil's population; the fraction of people who were undernourished fell from 11% in 2000-2 to under 5% in 2004-6. Among children under five years of age, the prevalence of stunting fell from 13% in 1996 to 7% in 2006 (FAO, 2014: 23). "Lula's government has seen an improvement in income distribution, largely because of the *BolsaFamilia*, a modest family allowance which goes to twelve million of the poorest families in exchange for sending their children to school and keeping up their vaccinations. Even a small amount can mean the difference between going hungry and being able to buy food" (Rocha, 2009: 20).

Lula's policies appear to raise economic growth rates."Yet socially Brazil still has a long way to go, lying 75th in the United Nation's Human Development Index" (Rocha, 2009: 20). In recent years, Brazil's economy has been in crisis –including the worst recession in decades (Reuters, 2016). The government deficit rose from 6.6 Billion *Reais* in November 2014, to 21.3 Billion *Reais* in November 2015 (*Tesouro Nacional*, 2016).

1.3Alleged corruption in Brazil

Brazil experienced high levels of corruption since the transition from military rule to democracy (Winters &Weitz-Shapiro, 2013: 421).   Is this harmless, or harmful, to Brazil? The term 'gimmick' is often used "to describe a variety of more or less deliberate attempts by governments to beautify their public finance statistics – in particular in relation to the budget balance and debt" (Alt et al., 2012: 4). Alt et al. (2012: 3-4) state "we use the term to describe a

variety of more or less deliberate attempts by governments to beautify their public finance statistics – in particular in relation to the budget balance and debt – through actions that have no real or substantive effect on their underlying fiscal position". Koen&van den Noord (2005), discussing EU countries, claim that some fiscal gimmicks can be advantageous. Alt et al. (2012: 3) claim "The obfuscation and manipulation of financial data has a venerable tradition that has given rise to terms such as accounting "fudges" or "fiddles", "creative accounting", and "cooking the books". When East and West Germany merged, large government debts caused Germany to break the European Union 'Stability and Growth Pact' rules every year since 2001 (Karagounis et al., 2015: 34). Germany is not alone in Europe: "a significant number of member states violate the three per cent ceiling" (Savage&Verdun, 2007: 843) –EU laws are"openly and repeatedly violated" (Savage&Verdun, 2007: 861).In the run-up to the creation of the Euro currency, several Eurozone countries used gimmicks to meet European Union rules (Koen&van den Noord, 2005: 5). USA government agencies also use creative accounting: "fear of sequester encouraged the government to employ various accounting devices to reduce the deficit, including shifting expenditures to future fiscal years, one-time selling of government assets, overestimating tax collection receipts, and shifting programs into exempted categories of spending" (Savage&Verdun, 2007: 850). Alt et al. (2012) discuss political decisions affecting government lending/borrowing in a given year (or a few years), such as privatization: some choices about the accounting treatment of transactions could cast a favourable light on that country's situation. Khan (2016) discussed whether or not central banks such as Bank of Japan should tell the public what they are up to: in government agencies, "decision-making is often insulated from the public", but UK politician Lord Turner argued "I think it is more dangerous for central banks to forever deny what they are doing". Voters in Europe and North America seem comfortable with rule-breaking if they are intended to benefit the country, but many claim politicians stealing money for their own personal use should be punished (Bågenholm, 2013).

"Brazil is an example of a positive evolution of support for democracy in which the success of Lula's government certainly played a role […] things are moving in the right direction" (Latinobarómetro, 2013: 13). The 'trade-off hypothesis' claims that many voters accept corruption, if politicians perform well in other respects: "a well-known Portuguese phrase succinctly summarizes the tradeoff hypothesis: "*rouba, mas faz*" ("He robs, but he gets things done")" (Winters&Weitz-Shapiro, 2013: 422); however, a nationwide survey found little evidence that Brazilian voters accept this trade-off (Winters&Weitz-Shapiro, 2013: 428). The alternative 'information hypothesis' claims voters are often unaware of corruption; "analyses suggest that Brazilian voters do punish corruption when they learn about it" (Winters&Weitz-Shapiro, 2013: 422).

Brazil's audit tribunal (*Tribunal de Contas da União*) found irregularities in the 2014 national accounts: the government ran out of money, and overdrew its accounts in public banks – effectively taking a loan, which is forbidden by Brazilian fiscal law (Lima &Galvao, 2015). Brazilian media have criticized Brazilian governments for borrowing from a state-owned firm (Petrobras) to smooth the development process, but this is normal in rich countries. Journalists are justified in being vigilant: for example, JoãoVaccariNeto received a 15-year prison sentence for accepting bribes from Petrobras (Mark, 2015). It is vital to distinguish between accounting tricks to benefit a country's economy, and theft; "there will always exist a grey area, so that any

operational definition is bound to be debatable […] fiscal gimmicks come in many different guises, but also that some are less mischievous than others" (Koen&van den Noord, 2005: 5).President Rousseff's was cleared of corruption (Telesur, 2015), but was impeached in 2016 – perhaps because her "rivals wanted her gone because she would not shield them from the Car Wash probe" (BBC, 2018): "half of congress is desperately trying to save itself from a Car Wash soaking"(Rapoza, 2016).

Lula's initiative '*Programa de fiscalização a partir de sorteiospúblicos*' (from 2003) seems effective, in reducing local corruption: "Politicians that were revealed to be extremely corrupt were punished, while non-corrupt politicians were rewarded" (Ferraz&Finan, 2007: 31). Much success of *BolsaFamília* is because itwas effective in reducing corrupt behaviour (Sugiyama&Hunter, 2013: 57). Brazil's Ministry of Social Development (*MDS*) were able to reduce corruption: "MDS has built into the *BolsaFamília* multiple mechanisms for citizen oversight, starting with easy public access to a complete list of beneficiaries in a given city […] Residents have several channels to report suspected fraud, including a toll-free number in Brasilia" (Sugiyama&Hunter, 2013: 57). "Technocrats from the MDS also manage a national database (*CadastroÚnico*) that incorporates the household information […] They have means to verify some of the given information through several other government databases. Crosschecking ability is key" (Sugiyama&Hunter, 2013: 55).

Poor Brazilians disbelieved local officials' promises to provide/withdraw *Bolsa Família* grants, because they knew it wasn't controlled by local politicians: ""Brasilia decides" was commonly repeated to emphasize that local political efforts to influence the program would violate its very terms and not even be possible in practice" (Sugiyama & Hunter, 2013: 54). A well-designed system reduces corruption; it requires idealism (wanting to help poor people), and pragmatism. "Strong national oversight by technocrats committed to running a clean program and equipped with the administrative and technical capacity to do so appears to be a key precondition for insulating CCTs from local political dynamics" (Sugiyama & Hunter, 2013: 55).

Lulaand Dilma may have succeeded because they improved <u>incentives</u>, devising effective computer and bureaucratic systems: "In 2004 President Luiz Inácio Lula da Silva established the MDS as the *BolsaFamília*'s home, and staffed it with well-trained technocrats committed to targeting resources toward the poorest Brazilians while keeping them away from the sticky fingers of municipal-level politicians" (Sugiyama & Hunter, 2013: 55). Or success might be due to <u>information</u>: using local radio stations appears to have reduced local corruption (Ferraz&Finan, 2007). Another possibility is because Lula and Dilma linked their social safety-net (providing short-term survival) with education (for long-term growth).

METHODS

Brazil data analysed in this paper begin in 1995 (the first year of data in Latinobarómetro, 2016), or the earliest data available in sources used (if after 1995). Some variables have missing data; the author used linear interpolation (but not extrapolation) to fill gaps. A key source for this paper is World Bank(2016a): e.g. population data from 'SP.POP.TOTL' (World Bank, 2016a) are used, to calculate government spending per person. Variables SI_POV_2DAY, SI_POV_DDAY and SL_UEM_TOTL_ZS are used for Chart 2 in this paper. For Chart 3, the author calculated government health spending (*Reais* per thousand people, at constant prices)as:

Health spending = (SH_XPD_PUBL_ZS /100)*NY_GDP_MKTP_KN/SP_POP_TOTL
UNESCO (2016) is often a more complete source than World Bank (2016a). Another data source used for this paper is Latinobarómetro household surveys, which includes two questions (translated to English by the author):

> *'How would you rate in general your current economic situation and that of your family: would you say it is very good, good, fair, poor, or very poor?'*

For the black line in Chart 1, the author calculated the fraction who said 'bad' or 'very bad'.

> *'The salary you receive and your total household income, allows you to satisfactorily meet your needs: which of these situations are you?' Their income is enough/they can save; their income is just enough/they manage without great difficulty; they have difficulty in affording what their family needs; or they have great difficulty to afford what their family needs.*

The red line in Chart 1 is the fraction of respondents (calculated by the author) who said they had financial difficulties. For both lines on Chart 1, the author excluded respondents who didn't reply, or said they didn't know; this produced an average sample size of 1,130 respondents per year, for both questions (one respondent per household).

RESULTS
Chart 1 summarises statements by Brazilians interviewed from 1995 to 2015 (Latinobarómetro, 2016), for one perspective on how much progress was made in Brazil. This subjective approach can be compared with objective measures of "progress" discussed below.

Chart 1: fraction of people experiencing economic hardship, 1995 to 2015.
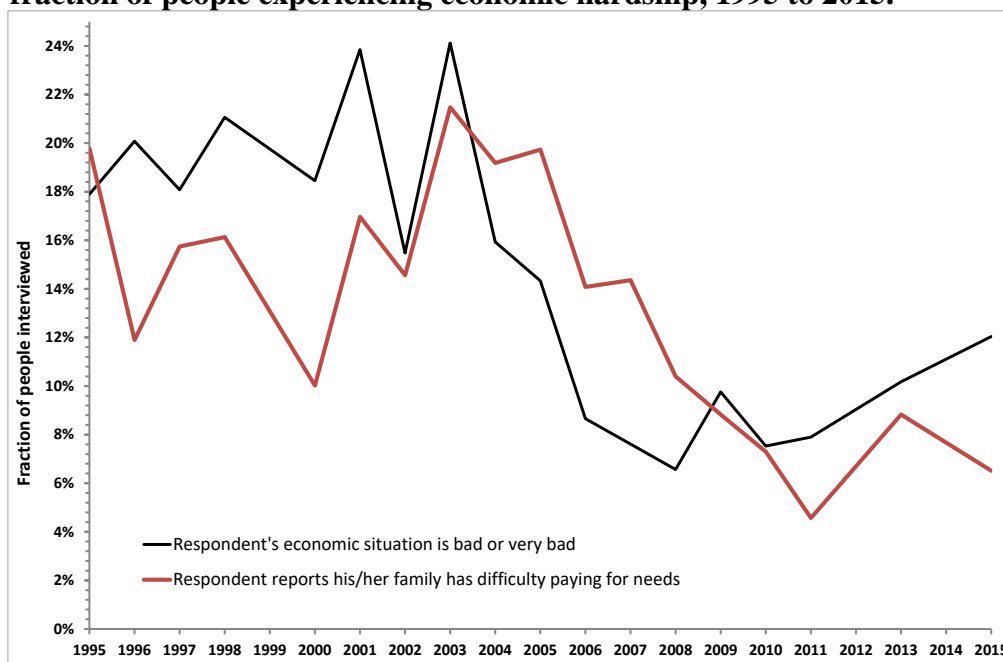
Source: Latinobarómetro (2016: author's analysis)

Both lines in Chart 1show fewer respondents report poverty,after about 2003. This is consistent with the idea that the Lula-Dilma project reduced poverty (as claimed by previous researchers – see section 1.2 above). But Chart 1 is of limited help, if we want to assess if Lula and Dilma <u>caused</u> Brazilian development: because we can't tell <u>why</u> there is now less hunger. Downward trends in the two lines in Chart 1 might be because of Brazilian government intervention; or private sector growth; or both. More evidence is examined below.

**Chart 2: Poverty and unemployment, from 1995**
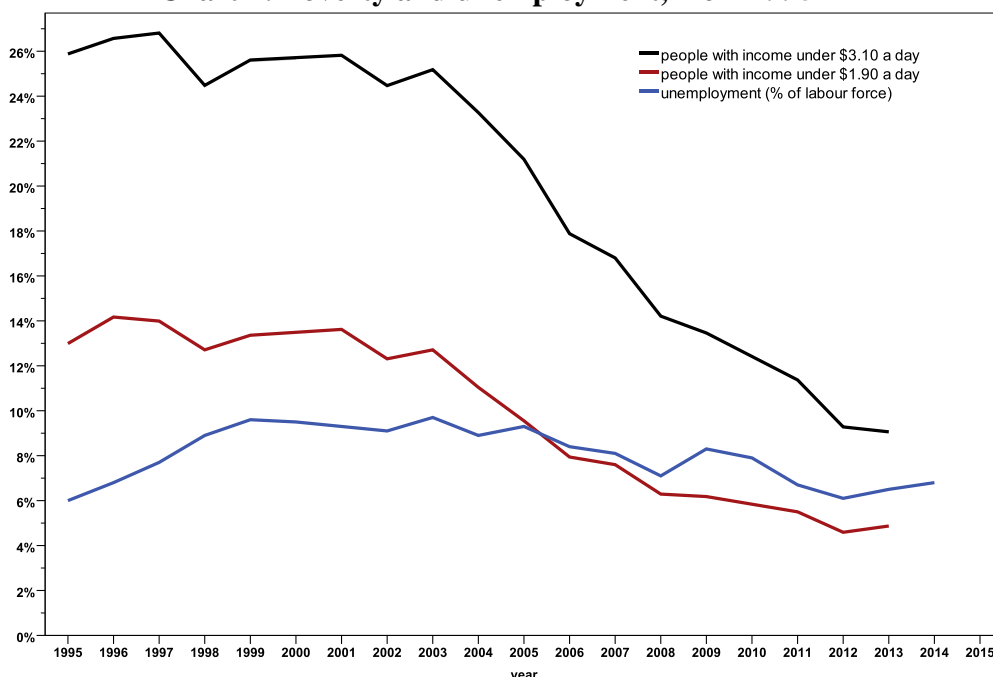
Source: author's analysis of data in World Bank (2016a).

The black and red lines in Chart 2 assess poverty, using 'Purchasing Power Parity' equivalent of US$ per day. They shows a pattern broadly consistent with Chart 1: from around 2003, the fraction of Brazil's population in 'poverty' (defined as under $3.10 per day, or under $1.90 per day, at '2011 international prices': World Bank, 2016a) fell.

The blue line in Chart 2 shows Brazil's unemployment rate, using the definition in World Bank (2016a),to 2014 (to compare this with other charts in this paper, the horizontal axis extends to 2015). Definitions of unemployment are open to debate: the difference between employment and unemployment isn't clear (Ferreira, Lucia&Pontual, 2014). Brazil's unemployment rate fell from 2003; the fall in unemployment from 2003 is statistically significant(see appendix). Unemployment was highest from 1999 to 2003; after Lula took over in 2003, unemployment fell – and remained low, after President Dilma took over in 2011. It seems probable that much of this fall in unemployment is due to increased government spending and job-creation: Lula and Dilma both increased spending on education and healthcare.

Chart 3: Government spending on healthcare and education at constant prices, since 1995
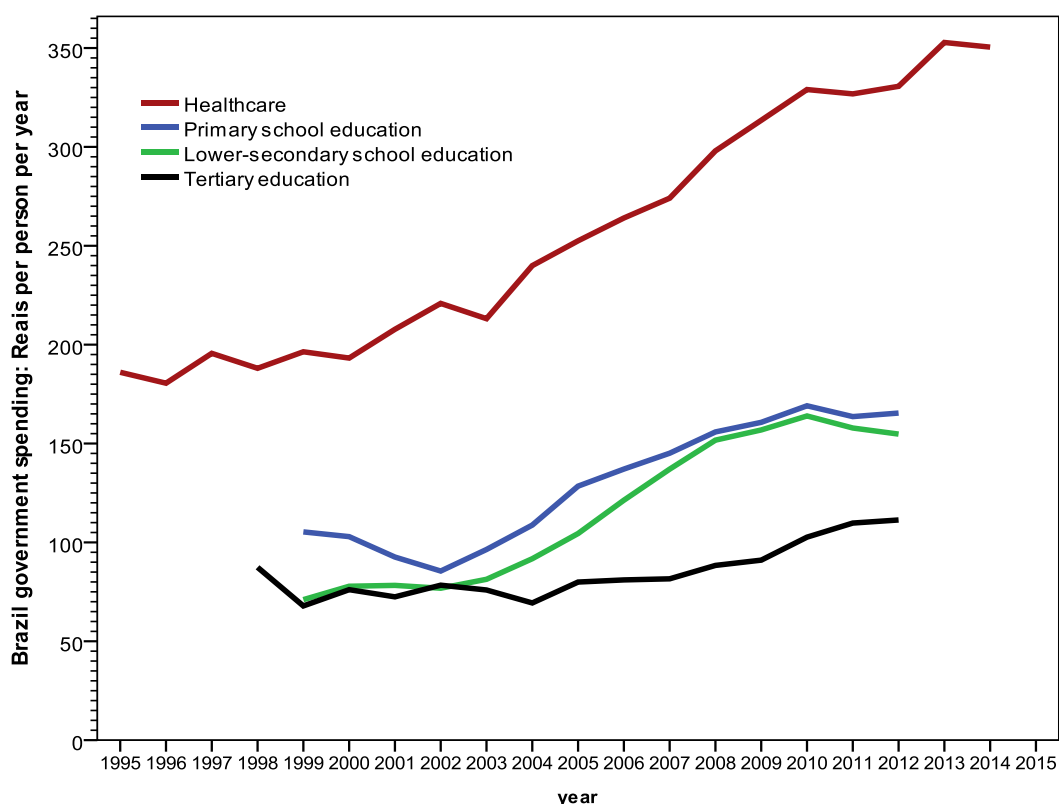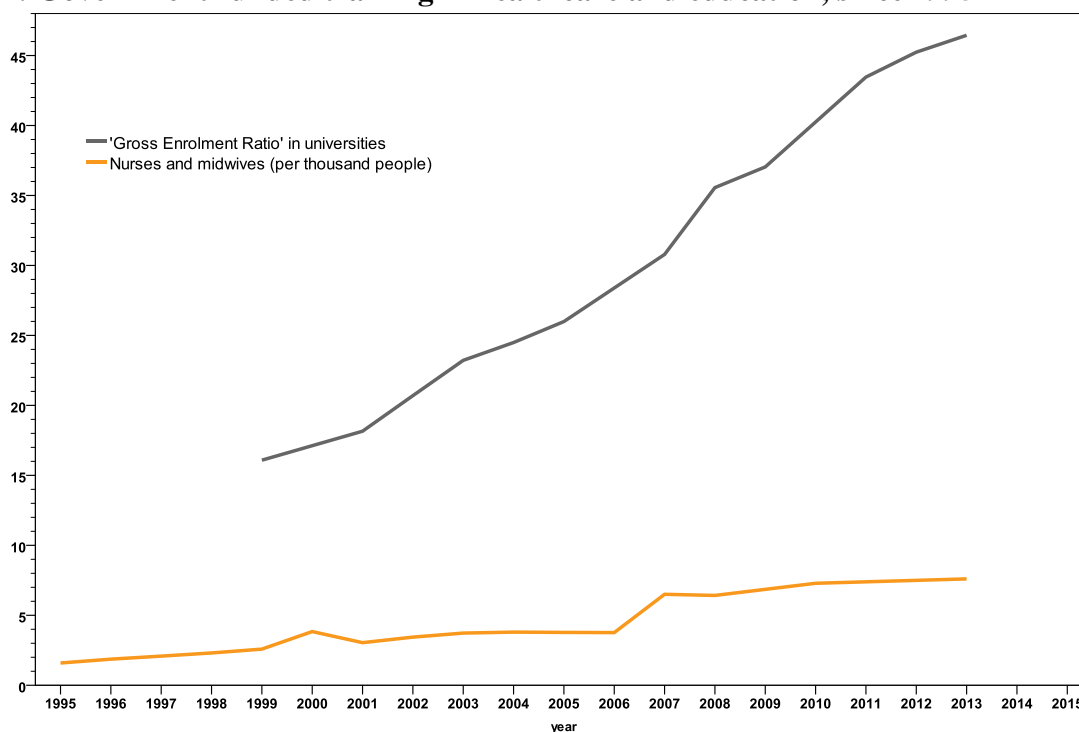
Source: author's analysis of data in World Bank (2016a).

World Bank (2016a) report government spending, at constant prices. For Chart 3, the author calculated government spending <u>per person</u>, on education and healthcare, for all years in which data are reported in World Bank (2016a). We can use Chart 3 to assess long-term changes in government spending (private spending is excluded from Chart 3). There is a tendency for increased spending over time; but there was little increase before 2003 (World Bank, 2016a). It seems that spending on all of these four categories (healthcare; and education, in primary schools, secondary schools, and universities) rose since 2003; this is confirmed by regression analysis reported in the appendix, which shows a statistically significant increase for all these four types of spending during the Lula-Dilma period.

Increasing healthcare spending in Chart 3 is consistent with Rousseff (2015), who said "In the area of healthcare, I reaffirm our commitment to strengthening the *SUS* [public health system]. There can be no doubt that the government's most outstanding policy, during my first term, was the implementation of the *MaisMédicos* [More Doctors] program, through which basic healthcare was extended to more than 50 million Brazilians in the most vulnerable areas of the country. We will continue with this policy, increasing the number of places for degrees in medicine and for post-degree training so that a greater number of young Brazilians can become doctors and provide care to the population. In this second term I will implement the *MaisEspecialidades* program so as to ensure care is received, at the appropriate time, by patients who need to see a specialist".

Rousseff (2015) also claimed "During this new term of office, education will start to receive more resources deriving from royalties on oil and from the pre-salt social fund. Alongside our political will there will therefore also be more resources and investment […] This is necessary in order to make effective our emphasis on high-school education". Chart 4 studies two of the four government expenditures in Chart 3: did the Lula/Dilma project lead to taxpayers' money being spent effectively?

Chart 4: Government-funded training in healthcare and education, since 1995

Source: author's analysis of data in World Bank (2016a).

Chart 4 shows the outcome of two examples of government spending – future research could investigate other examples of spending, but many data series are incomplete in World Bank (2016a) and UNESCO (2016). The upward-sloping lines in Chart 4 show persuasive evidence of improvements: Brazilians benefitted from increased government spending (shown in Chart 3), which provided better access to university education. Regarding secondary school education, Brazil became increasingly successful: in the PISA studies of 15-year-old pupils, Brazil's score for science rose from 395 in 2006, to 406 in 2012 (OECD, 2016). The same website reports Brazilian pupils' reading score improved steadily from 384 in 2003, to 394 in 2012; for maths, Brazilian pupils' PISA score rose from 365 in 2003, to 401 in 2012.

DISCUSSION
Sweig(2010: 184) wrote "To substantially deepen the investments in its people – on which its new social contract is based – Brazil may well have to lower its near-term sights regarding global

leadership". "Brazilians do not produce enough value per capita to handle the country's challenges […] Brazil has not managed to achieve institutional stability. to find a solid bases of stability. This might only happen when the majority of the Brazilian population is lifted out of poverty" (Nes, 2012). Evans-Pritchard (2016) suggests Brazil "needs the guiding hand of the IMF" to develop. Tax evasion is a problem in many countries (Zitzewitz, 2012: 743); to detect cartels and other corruption by private firms, Brazil's government should remain sophisticated in analysing information: "critical phenomena for public governance are emergent, with probabilistic behaviour with an underlying structure, typical of complex systems" (Pita&Torres, 2015: 696).

Evidence in this paper suggests 2003 to 2016 was a remarkably successful period in Brazil's history. Systems (technocratic, computerised, and incentivised) developed in the Lula-Dilma project may form the basis of development economics in future decades, in many poor countries. If international agencies such as 'UN Women', 'UN Habitat', and 'World Health Organization' intend to pioneer techniques (such as reducing Gender-Based Violence, enabling renewable energy, and improving child health), they could copy ideas developed by Lula and Dilma.Sweig (2010: 174) wrote "Brazil's impressive social gains have become the envy of the developing world, turning Brazil into a laboratory and model for globalization with a social conscience"; the government's financial and political commitment "place Brazil on a solid footing to protect the advances achieved and to face the new challenges that lie ahead" (FAO, 2014: 26). The Lula-Dilma project may have redefined economic development: UN agencies have clarified what 'development' means (e.g. Millennium Development Goals), and how to measure it (e.g. how successfully each country ensures people have internet access; children are fed; and pregnant women can access midwives' help).

"In 2002, Lula won the presidency by a landslide. He expanded welfare, credit, crop support, and housing programs for subsistence farmers and slum dwellers, as well as universities, health care, and jobs programs for their children, all on a scale never seen before. This safety net, largely maintained by Rousseff, pulled 36 million people out of abject poverty, especially in the northeast" (Smith, 2016). This success might cause problems: Brazilians have discovered what can be achieved, and now expect more –over a million Brazilians demanded better public services in 2013 (Lela, 2013).Sugiyama& Hunter (2013: 43) claim "Providing social services to poor people […] is a prevalent development goal".

The future is not clear."The Brazilian state lacks the instruments and political will to go far beyond what it has already achieved […] the "traditional" rich stand to one side and the poor to the other […] This cleavage poses clear dangers to Brazil's political stability" (Morais&Saad-Filho, 2011: 41-2). Evidence in this paper suggests governments, in Brazil and elsewhere, should consider adopting the pioneering techniques of the Lula-Dilma project.

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Appendix: regression results
For this paper, the author carried out regression analysis to assess whether or not patterns in Charts are resilient. Several types of regression were used (not all reported here), to assess the extent to which Lula andDilma enabled Brazil's development.   The author's regression specification is as follows:

$$X = \alpha[\textbf{AR1}] + \beta[\textbf{year}] + \gamma[\textbf{Lula/Dilma presidency}] + \delta$$

(Equation 1)

In Equation 1, **AR1** is a first-order autoregressive term; **year** the calendar year.'**Lula/Dilma presidency**' equals zero up to 2003, or (year-2003) from the year Lula becamePresident: this variable is the number of years Lula or Dilma had been President, by that year. Coefficients α ß γ and δ are estimated by SPSS. The δ coefficient in Equation 1 is in the 'constant' column of Table A1. Time-series data analysed in this paper show strong auto-regression (i.e. each year's data is similar to the previous year);hence ARIMA(1,0,0) is used, to reduce the risk of inertia distorting regression results.

Table A1: Regression results, based on ARIMA regression

	AR1		year		Lula/Dilma presidency		constant		*sample size*	See chart
people with income under $3.10 a day	.33		-0.3		-1.4	`	558.4	**	*23*	2
people with income under $1.90 a day	.63	**	-0.2		-0.6		419.2	*	*23*	2
unemployment (% of labour force)	.47	*	0.4	**	-0.7	**	-757.1	**	*24*	2

government spending on universities	.01	-0.2		1.2	**	421.1	*19*	3
government spending on healthcare	.28	5.6	**	7.2	**	-10976.3	** *24*	3
'Gross Enrolment Ratio' in universities	.24	1.5	**	1.0	*	-3066.2	** *19*	4
nurses and midwives (per 1,000 people)	.17	0.2	**	0.2	`	-491.1	** *23*	4

Source: see text.` indicates statistically significant at the 10% level;* is significant at 5%;** is significant at 1%.

Table A1 reports the author's regression results, and their relationship to charts in this paper. In general, the '**Lula/Dilma presidency**' column shows statistically significant results; the only exception is the bottom row, nurses and midwives, where the regression coefficient is only statistically significant at the (less persuasive) 10% level. In each row of Table A1, the sign of the '**Lula/Dilma presidency**' coefficient is consistent with the hypothesis that these two Presidents have improved Brazil's development. For example, the negative sign in the first regression results in Table A1 imply that since 2003, these two Presidents appear to have reduced, by 1.4% per year, the fraction of Brazilians with income below \$3.10 per day. Lula and Dilma can be proud that in each year they were President, they seem to have taken 1.4% of Brazil's population out of poverty.