(FAO) to declare Brazil a hunger-free nation in 2014. FAO now considers this status to be in jeopardy (Beraldo, 2020) as a consequence of the growth in poverty levels in recent years, combined with the negative effects of the Covid-19 pandemic on the economy and key SDG goals (Sumner et al., 2020; FAO et al., 2020).

In 2018, 4.4% of the population was living in extreme poverty, up from an all-time low of 2.7% in 2014 (Figure 8.1). Extreme poverty is higher among the Black segment of the population; it concerned 8.8% of Blacks in 2018, more than double the rate for Whites (3.6%) [IBGE 2019].

Of note is that the reversal in the decline of extreme poverty has been a consequence of the economic crisis of 2015–2016 and lacklustre recovery of 2017–2018. This reversal in trend demonstrates how important it is for Brazil to take a systemic approach to co-ordinating social planning and innovation. With the Covid-19 pandemic threatening to exacerbate the problem, the government introduced the Emergency Aid programme in April 2020. Funded to the end of 2020 to the tune of R$ 330 billion (ca PPP$ 147 billion), it has transferred monthly instalments of R$ 600 (ca PPP$ 266) directly to vulnerable groups, such as existing welfare beneficiaries and workers in the informal economy. The programme has been implemented via two mobile apps. Brazilians may use one (Auxílio Emergencial) to apply to the programme and the other (Caixa Tem) to receive the funds directly. By June 2020, both apps had been downloaded more than 80 million times, corresponding to about 40% of the population. By October, funds had reached more than 65 million people (MC, 2020; ITS Rio, 2020).

The government plans to introduce a new direct allowance scheme in January 2021 called Renda Cidada (Citizen Income), which will replace the Bolsa Família scheme introduced in 2003 for poor families (see Figure 7.2).

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**Figure 8.2: Trends in research expenditure in Brazil**

**GERD in Brazil as a share of GDP, 2007–2017 (%)**

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<tbody>
<tr>
<td>Value</td>
<td>1.08</td>
<td>1.13</td>
<td>1.12</td>
<td>1.16</td>
<td>1.14</td>
<td>1.13</td>
<td>1.20</td>
<td>1.27</td>
<td>1.34</td>
<td>1.26</td>
<td>1.26</td>
</tr>
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**Share of state government R&D expenditure in Brazil by region, 2002–2017 (%)**

- North/Centre-West
- Northeast
- South
- Southeast, excl. São Paulo
- São Paulo

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<tr>
<td>Value</td>
<td>82.8</td>
<td>75.1</td>
<td>73.4</td>
<td>72.9</td>
<td>71.3</td>
<td>69.9</td>
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**Outlays by Brazilian federal research funding agencies, 2015–2018**

In PPP$ billions, constant 2017 values

- CNPq
- CAPES
- FINEP
- Total

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<tr>
<td>Value</td>
<td>1.01</td>
<td>0.68</td>
<td>0.65</td>
<td>1.62</td>
<td>1.28</td>
<td>1.26</td>
<td>1.63</td>
<td>1.98</td>
<td>1.39</td>
<td>1.01</td>
<td>1.01</td>
<td>0.65</td>
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Note: These data do not include outlays in undergraduate scholarships under the Science without Borders programme, which extended funding to 75 000 undergraduate students between 2011 and 2015 to enable them to spend a semester abroad. Inclusion of expenditure under this programme would have increased the outlays by CNPq and CAPES in 2015 and, to a lesser degree, in 2016, making the registered decrease in outlays for the period in the graph even larger than shown.

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The total outlay by federal agencies shrank by 21% over 2015–2018, from US$ 4.4 to 3.5 billion.
Reducing inequalities in higher education, primarily, had been another cornerstone of Brazilian educational policy since the early 2000s. The eighth goal of the law establishing the National Plan for Education 2014–2024 was to guarantee twelve years of schooling for those living in poverty and rural areas, with emphasis on equality between Blacks and non-Blacks (Chaimovich and Pedrosa, 2015). This target was replicated in the Ministry of Education’s Institutional Strategic Plan for 2015–2018, which outlined numerous policy instruments, including monitoring of the quota system for underprivileged and Black students at federal universities. This target is missing from the Institutional Strategic Plan for 2020–2023, however.

A shift in environmental policy
In recent decades, Brazil has been active in climate diplomacy. It had hosted the first Earth Summit (1992), which produced the first global agreement on climate, the United Nations Framework Convention on Climate Change (1992); this agreement, in turn, laid the groundwork for the Kyoto Protocol (1997) and the Paris Agreement (2015). Brazil also hosted the third Earth Summit in 2012. Over the years, Brazilian scientists have contributed to the regular monitoring reports of the Intergovernmental Panel on Climate Change. Brazil has also monitored climate change at the national level through the National Institute for Space Research (INPE).

However, since the current administration took office in early 2019, there has been a policy shift. This has translated into the relaxation of environmental laws and regulations. The administration has publicly questioned the scientific basis for the anthropogenic origin of climate change.

The decision to relax environmental legislation is all the more relevant in that Brazil has seen a string of ecological disasters in recent years. For example, in November 2015, the Fundão dam collapsed, sending more than 56 million m$^3$...