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FX & RATES STRATEGY RESEARCH

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- **BRAZIL: End of Easing Cycle Is Near**
- **MEXICO: Strong Inflows in MBONOs in August**

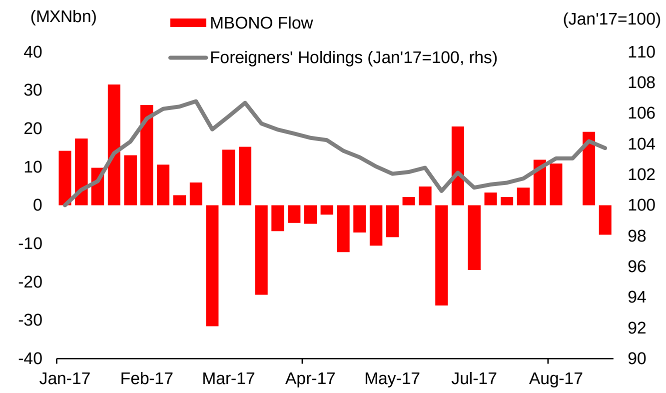
BRAZIL: End of Easing Cycle End Is Near

- The Minutes of the September 5-6 COPOM meeting reinforce the message sent in the statement, in which authorities stated that a more moderate pace of easing would be adequate under the current baseline scenario of economic recovery and inflation converging toward the target in 2018.
- Moreover, the MPC noted that they would seek a gradual ending of the easing cycle in the next meetings.
- In the September meeting, the members of the COPOM voted for a 100-bp cut unanimously, taking the Selic rate down to 8.25%.
- In total, COPOM has decreased the reference rate by 600bps in the current easing cycle.
- Our Economics team expects COPOM to end the easing cycle in December. They expect a cut of 50bps in the next MPC decision (on October 25), and a cut of 25bps in the December decision, with the Selic rate ending the year at 7.5%.

MEXICO: Strong Inflows in MBONOs in August

- During the week of August 24-31, 2017 Non-Resident holdings of MBONOs decreased by 7.7bn MXN, posting its first decline after increasing in six of the past seven weeks. Most of the adjustment was observed in the short end of the curve.
- August saw the strongest flows into MBONOs since February, with foreigners purchasing around 34bn MXN.
- Foreigners hold 63% of outstanding MBONOs, up decisively from the 59% held prior to the US election but down from the peak holdings of 66% seen at the beginning of February.
- Non-Residents continue to decrease their exposure to CETEs. During the week of August 24-31, 2017, foreigners sold 23bn MXN worth of CETES, decreasing their market share to 25.6% from 27.5%.
- Finally, holdings of UDIBONOS remained unchanged, with Non-Residents holding 5.6% of the amount outstanding.
- Year-to-date, Non-Resident holdings have increased 5bn MXN, on the back of the 78.7bn MXN increase in MBONOS and 16.5bn MXN and 57.1bn MXN decline in UDIBONOS and CETEs, respectively.

Foreigners' MBONO Flows



Source: Banxico, Santander.

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CPI Increased 1.4% m/m in August

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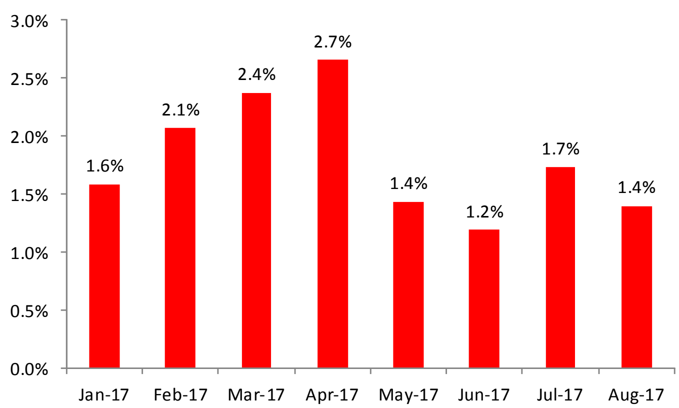
CPI increased 1.4% m/m in August, the INDEC announced yesterday. The rate was lower than market expectations (the mean compiled in the monthly Central Bank poll stood at 1.5% m/m). Core inflation reached 1.4% in monthly terms. The items with highest price growth were health (2.5% m/m), housing services (+2.2% m/m), food and beverages (2.1% m/m), and education (2% m/m).

This constitutes a national CPI measure, which was launched in January 2017. We expect that during the remainder of the year, monthly inflation will be lower than that observed so far (1.8% m/m on average between January and August), to reach 22% annually in December, above the Central Bank target of 17%/12%.

Decelerating inflation



Headline inflation m/m. Sources: INDEC and Santander.

Brazil — Reform Agenda

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Social Security Reform: Well Beyond the (Necessary) Fiscal Impact

- **Discussions on the need to reform social security have, so far, focused almost exclusively on the potential fiscal impact. However, another potential impact deserves mention: how reforms could reduce Brazil's profound income inequality. We highlight that despite the advances of the last few decades, the country remains one of the worst 15 in terms of income distribution.**
- **As proposed, reform would directly and indirectly affect income distribution. We believe the direct effects would stem mostly from the correction of two major distortions: (i) The reform's imposition of a minimum retirement age would eliminate private-sector workers' current option of retiring once they reach a minimum period of contribution, regardless of their age. (ii) Furthermore, the reform proposes extending to public sector workers the benefit ceiling that currently applies mostly to private-sector retirees. In both cases, the changes would take full effect only after a long transition period. At the same time, the reform preserves access rules for the low-income population, whose members already tend to retire at an age close to the minimum proposed; in addition, the minimum wage would remain as the floor benefit, keeping income unaltered for the nearly two-thirds of private-sector beneficiaries currently earning that amount.**
- **Retirement based on contribution years (ATC) benefits mostly the higher-income, better-educated population, and their long life expectancy after retirement implies that this group receives a generous amount of net transfers from society, therefore worsening income inequality. Imposing a minimum age for retirement should help to mitigate such an effect, in our view. According to our estimates, this measure alone could reduce private-sector social security benefits by some BRL 280 billion/year at the end of the transition period. Considering this saving will come mostly from the high-income group, we can claim that the measure has a net redistributive effect.**
- **Average pensions for inactive civil servants amounted to over BRL 8k/month in 2016, more than seven times the average benefit for private-sector pensioners and well above the ceiling for private-sector benefits (currently around BRL 5.5k/month). According to our estimates, extending the same ceiling for monthly stipends to inactive civil servants could reduce spending on this income-concentrating benefit by more than BRL 40 billion/year, even if only at the end of a long transition period.**
- **Furthermore, by preventing early retirement, the proposed new social security rules could also help to mitigate the reversal of Brazil's demographic bonus in the decades ahead: we estimate that the ensuing increase in the work force (versus the non-reform scenario) could add some 0.2 pp to potential output growth, which in theory could contribute indirectly to improve income distribution.**
- **In our view, the expected fiscal impact per se could also have indirect redistributive impacts, given that the large social security deficit is mostly financed by regressive taxation – thereby imposing a disproportionately heavy burden on the low-income population to finance net transfers that tend mostly to benefit high-income groups. Mitigating the social security deficit therefore could help avoid this counter-distributive impact, in our opinion.**
- **Finally, social security reform is key for enabling the government to comply with the spending cap embedded in the Constitution since end-2016. Without the reform, we believe the government may be severely constrained in its ability to expand or even keep in place other redistributive policies, such as social assistance, real gains in the minimum wage, and higher investments in inequality-reducing basic education.**

Introduction: why do we need a public social security system?

In recent years, a long and intense debate has been unfolding on the need to reform Brazil's social security system; however, the debate has focused mostly on why the reform is needed to ensure fiscal sustainability in the future. Although the fiscal impact of social security reform is undoubtedly crucial, other important aspects seem to have escaped public attention – in particular, we regret the lack of focus on the consequences of social security reforms for the country's notably unequal income distribution. The omission of this aspect from most of the public discussion on the proposed reforms is even more surprising when one considers the essence of a social security program. Economics and political science literature highlights the following three goals as the main reasons for governments to create a public social security system:

- **Providing social insurance for citizens**, to make sure they have an income source at times when they are unable to work (old age or disease, for instance);
- **Avoiding a situation where society saves less than necessary to fund its future,** whether because of poor planning by individuals, or because of the moral hazard (implied in the belief that society should provide a minimum standard of living even to those who have not been able to save throughout life); and
- **Redistributing income.**

Most countries have acted on the belief that a social security system designed to meet such goals should be compulsory, with a minimum age for retirement, and implying net transfers from the wealthier to those with lower income. The Brazilian Congress is currently debating a proposal for social security reform that redesigns the system so that it approximates this profile. In this report, we focus on the redistributive goal and look at some of the direct and indirect redistributive impacts of the proposed reform. Here we consider as redistributive any impact that reduces income inequality or at least prevents it from increasing over time. We compile some estimates already presented by other researchers and run some exercises[1] that, despite the usual caveats, suggest that reforms potentially could improve income distribution in Brazil, at least when compared to a non-reform scenario.

Income distribution in Brazil: less uneven than in the past, but still worse than its peers

As a starting point, it may be worth recalling how critical an issue income concentration is in Brazil. **In the last two decades, there has been a significant improvement in income distribution, reflected in the decline in the Gini coefficient** – a measurement of income inequality in the population. The Gini coefficient ranges from 0 to 1, with 0 representing absolute income equality (that is, all individuals earn the same income) and 1 representing absolute concentration (that is, all the country's income is earned by only one individual); the higher the index, therefore, the higher the income inequality.

Brazil's Gini coefficient fell from 0.57 to 0.49 between 2001 and 2015 (Figure 1), implying a decline of about 14% in income concentration. **However, not all of this reduction resulted from traditionally redistributive public policies.** Research[2] shows that around two-thirds of the decline stemmed from private sector income flows, mostly labor-related. **Public policy contributed a lower share, with 20% of the decline in income concentration coming from social assistance policies (for instance, the well-known Bolsa Família) and only about 10% coming from social security – despite the fact that redistribution is precisely one of the goals of social security.** It is worth noting that, according to some authors[3], other dimensions of public policy tend to have a net regressive effect in Brazil (that is, tend to worsen income concentration in net terms), as the regressive effect of heavy indirect taxation and substantial transfers to firms (via subsidies and exemptions, for instance) tend to outweigh the redistributive effect of provision of public goods. This is also captured by some authors' estimates that the Gini coefficient of public sector transfers is higher than that of private sector flows[4].

Although the decline in income inequality is to be welcomed, we need to acknowledge that there is still a long way to go. According to World Bank data, Brazil remains one of the worst countries in terms of income distribution, at least by two of the most relevant criteria: the aforementioned Gini coefficient, and the ratio of income earned by the wealthiest 10% versus the poorest 10% of the population (as with the Gini coefficient, in this metric, higher values imply worse income distribution). In

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[1] I thank my colleagues Tatiana Pinheiro and Rodolfo Margato for their inputs to these exercises.

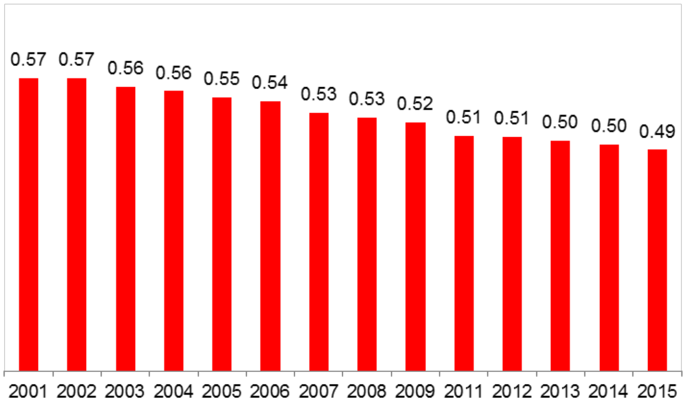
[2] See, for instance, Pedro H. G. F. Souza and Marcelo Medeiros. (2013). "The Decline in Inequality In Brazil, 2003-2009: Role Of The State." IRLE Working Paper No. 154-13. http://irle.berkeley.edu/workingpapers/154-13.pdf; de Souza, Pedro H. G. Ferreira (2012): Poverty, inequality and social policies in Brazil, 1995-2009, Working Paper, International Policy Centre for Inclusive Growth, No. 87; and Comunicado do IPEA nº 155 (2012), "A Década Inclusiva (2001-2011): Desigualdade, Pobreza e Políticas de Renda". Although each of these publications presente slightly diferente estimates for the contribution of each factor to the decline of income inequality, as each covers a diferente time span, the estimates are similar in magnitude.

[3] Mostafa, Joana; Souza, Pedro Herculano Guimarães Ferreira de; Monteiro Vaz, Fabio. Efeitos econômicos do gasto social no Brazil. In: Castro, Jorge Abrahão et al. (Ed.). Perspectivas da política social no Brazil. Brasília: Ipea, 2010; Pinto-Payeras, José Adrian (2010). "Análise da Progressividade da Carga Tributária sobre a População Brazileira". Pesquisa e Planejamento Econômico (IPEA), v. 40, n. 2, ago. 2010.

[4] Medeiros and Souza estimate that a 1% increase in public sector transfers could increase income concentration (as measured by the Gini coefficient) by 0.022%. See Medeiros, Marcelo and Souza, Pedro H. G. F. "State Transfers, Taxes and Income Inequality in Brazil." Brazilian Political Science Review, v. 9, b. 2, May/Aug 2015.

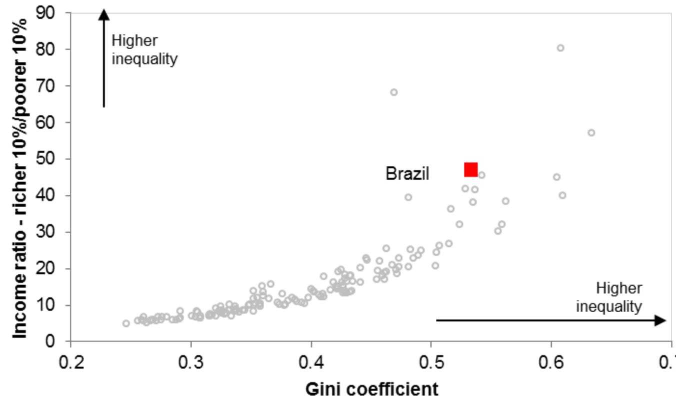
both metrics, Brazil is among the worst 15 countries in terms of income inequality[1] (Figure 2). Such findings reinforce the need to address this significant problem with all available tools, and it is in this context that the potential redistributive effects of social security reforms become so important.

Figure 1. Brazil's Gini coefficient: recent evolution



The Gini coefficient ranges from 0 (all individuals earn the same income) to 1 (only one individual earns all the income). The higher the value, the higher the income inequality. Source: IBGE.

Figure 2. Income inequality: selected countries



Latest available data points for the 152 countries for which there is data for both Gini coefficient and income ratio. Source: World Bank. Elaborated by Santander.

Direct redistributive effects: eliminating distortions

The main direct redistributive effects of social security reforms are, in our view, associated with the correction of two important distortions implied by current rules. The first of these distortions is the access to pensions conditional on period of contribution (Aposentadoria por Tempo de Contribuição – ATC), regardless of the age of the retiree, available for private-sector workers[2]. Currently, the average age for retirement in Brazil is as low as 58 years old, but the average conceals an important distortion: only the wealthiest, most educated individuals retire according to this regime, whereas the vast majority of the low-income population retires by a separate regime, where pensions are available to those meeting two criteria – a minimum wage (very similar to the one proposed in the reform) and a weaker requirement for the contribution period. A recent survey[3] from IPEA, a governmental think tank, provides statistics to back up this claim, which are depicted in Figure 3. As shown in the chart, only 3% of the so-called early retirees (here defined as retired women from 46 to 54 years old, and retired men from 50 to 59 years old) belong the bottom 20% of the population, income-wise. At the same time, 44% of early retirees belong to the top 20% in terms of income, and a whopping 82% sits in the wealthiest half of the population. It is also worth noting that a number of early retirees continue to work after retirement, two-thirds of whom belong to the top 20% income group; once we consider only those who continue to work at formal jobs (and therefore keep on contributing to social security), nearly 80% are in the richest population group. These statistics help to illustrate that ATC allows mainly the wealthiest to use pension benefits not as insurance against inability to work (as social security was originally intended) but rather as an income supplement – a use that could be better served by these individuals' own savings throughout life, without burdening society[4].

Precisely because they are better educated and employed more often in formal jobs (which is what allows them to meet the required contribution period so much earlier than the rest of the population), the 5.9 million ATC retirees represent only 17% of RGPS beneficiaries (Regime Geral de Previdência Social – responsible for private-sector pensions and some social benefits), but receive 28% of the benefits paid under this program.

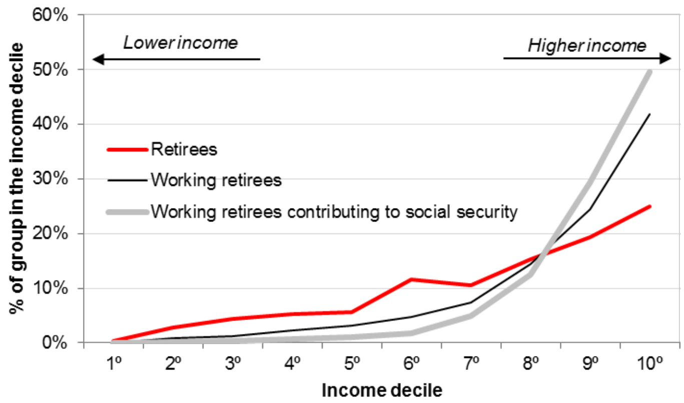
[1] Considering the last data point for the 152 countries for which both indicators are available, Brazil has the 7th highest income concentration as per the income ratio and the 12th highest concentration according to the Gini coefficient, only behind Belize, Colombia, Honduras, Lesotho, Zambia, Comoros, Central African Republic, Botswana, Haiti, Namibia and South Africa.

[2] Current rules allow private-sector works, who contribute to the Regime Geral da Previdência Social (RGPS), to retire by one of the following mechanisms: by meeting a minimum period of contribution (35 years for men and 30 for women), regardless of the age at the time of retirement (here called ATC retirement), or by meeting a minimum age (65 for men, 60 for women), provided that the worker has contributed for at least 15 years (we will call this age-based retirement). The reform currently under Congressional appraisal unifies both regimes, with the new rules allowing retirement at the age of 65 (men)/62 (women), provided a minimum 25 years of contribution. Some professions (e.g., teachers and policemen) would be allowed to retire at slightly lower ages. Besides these mechanisms, the RGPS offers assistanc benefits through BPC (Benefício de Prestação Continuada) – which pays a monthly minimum wage for low-income elderly (> 65 years) or disabled people, regardless of whether they have contributed through life; and through rural retirement for agricultural workers aged 60 (men)/55 (women), conditional on a low contribution for 15 years. The reform also proposes changes in these benefits, changing the rules for the rural retirement contribution and gradually increasing age of access to BPC to 68 years from 2024 on.

[3] Costanzi, Rogério Nagamine. Nota Técnica 39: Reforma da Previdência e Mercado de Trabalho. IPEA, 2017.

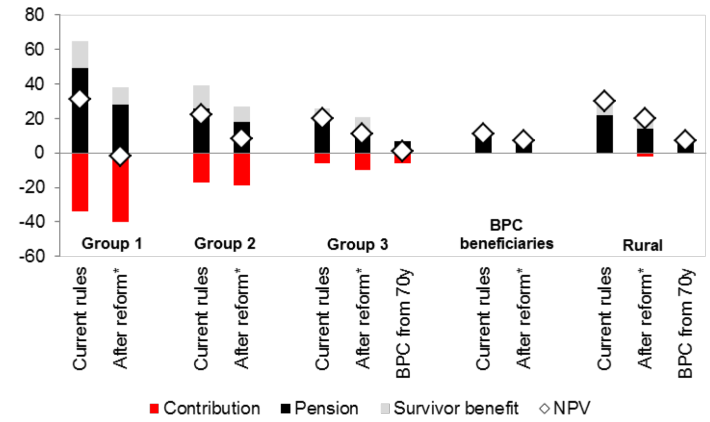
[4] Data also help to understand why the possibility of *desaposentação* (that is, the possibility that a working retirees asks for the recalculation of her benefit if she contributed for additional years after retirement) tends to benefit mostly the wealthiest individuals in the population. *Desaposentação* is not dealt with in the reform but higher courts have been debating on its constitutionality.

Figure 3. Early retirees: distribution by income decile (2015)



Each income decile is comprised of 10% of the population, according to their income level; for instance, the 1st decile represents the lowest-income 10%, whereas the 10th decile represents the highest-income 10%, Lines in this chart represent distribution of the respective group among the income deciles. Of all early retirees, 0.3% are among the poorest 10% while 24.9% are among the richest 10%. Of those early retirees who remain working after retirement, less than 0.1% were among the poorest group whereas 41.9% were among the richest bracket. Finally, considering only those early retirees who continue to both work and contribute to social security after retirement, concentration among the richest is even higher, with 49.6% belonging to the highest-income group. Source: Constanzi - IPEA (2017).

Figure 4. Net transfers to beneficiaries groups: simulation of net present value (NPV)



* Considers social security reforms as originally proposed by the economic team in December 2016. Approximate values, in minimum wages. NPV = net present value of the flow of contributions and expected benefits; positive values imply a net transfer of society members to the group. Groups were designed based on representative profiles, as per current rules of retirement. Group 1: ATC retirees, average benefit of 3 minimum wages. Group 2: indifferent between ATC and age-based retirement, average benefit of 2 minimum wages. Group 3: age-based retirees, average benefit of 1.5 minimum wage. BPC (Benefício de Prestação Continuada) beneficiaries: 1 minimum wage, paid 12 times a year, from the age of 65 – no contribution required. Rural retirees: 1 minimum wage, paid 13 times a year, from age 60 (men)/55 (women). For further details on assumptions and estimates, please refer to World Bank (2017).

Although it can be argued that higher-than-average benefits are warranted by higher-than-average contributions throughout life, there is a fallacy embedded in this argument – after all, the main advantage enjoyed by ATC retirees is the possibility of receiving benefits *for a longer period* than applies to age-based retirees. One way to illustrate the magnitude of this advantage is to estimate the net present value (NPV) of the flow of contributions paid and benefits earned by this group. The World Bank has run such an exercise[1] for Brazil, and its results are depicted in Figure 4. NPVs are calculated for three hypothetical, representative groups. Group 1 represents individuals that meet the ATC contribution period requirement earlier than the minimum age for age-based retirement; for this group, the exercise considers an average benefit of three minimum wages. Group 2 workers meet the ATC contribution requirement roughly at the age when they can apply for age-based pensions, and therefore for them there is no difference between the two regimes; for them, average benefits are assumed at two minimum wages. Group 3 workers reach the minimum age under age-based retirement before fulfilling the contribution period required for ATC; for them, the average benefit is calculated at 1.5 minimum wages. Finally, the exercise also computes NPV for beneficiaries of BPC (Benefício de Prestação Continuada, paid from age 65 to low-income citizens, even if they have never contributed to social security) and of rural retirement (whose contributions, under current rules, are nearly negligible), both programs paying one minimum wage.

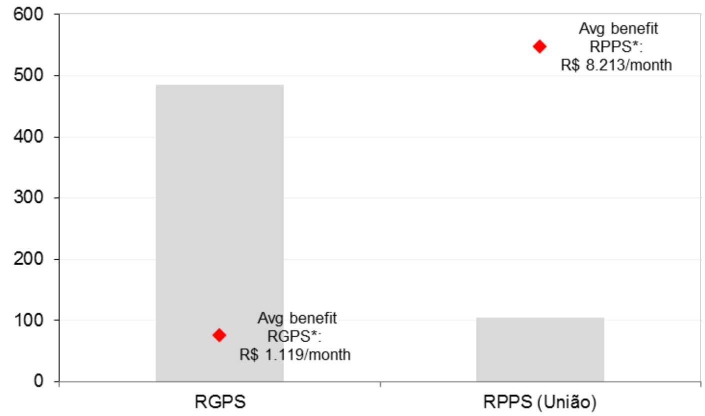
World Bank estimates show quite clearly that current retirement rules imply a strongly positive NPV to Group 1 – meaning that the system, at present, makes substantial transfers of wealth to its most affluent members. The very existence of such transference already contradicts the redistributive spirit of social security, but it makes even less sense when the estimates reveal, as shown in Figure 4, that net transfers to this group exceed transfers to all other representative groups in RGPS – groups comprised mostly of lower-income individuals who should therefore, in theory, be the target of net transfers.

The pension reform proposed by the government attempts to eliminate, or at least mitigate, this distortion by gradually eliminating the option of ATC retirement, therefore reducing the discrepancy in transfers within the RGPS. The World Bank exercise – which is based on the government's original proposal – shows that net transfers to the richest group would be virtually zeroed, whereas the other, lower-income groups would enjoy lower transfers than under current rules, but still positive and then higher than the ones given to Group 1. This illustrates that **the proposed changes to social security rules are well aligned with the goal of making social security a better instrument for income redistribution.** Despite the changes made to the original proposal during the ongoing Congressional negotiations, we think it can be assumed that the current version of the proposal has preserved most of this redistributive impact – that is, while the current proposal may be less redistributive than the original draft, it would still contribute to improve income distribution at the margin. One way to evaluate the magnitude of such contribution is to estimate the difference between estimated RGPS expenditures at the end of the transition to the proposed

[1] World Bank (2017), Summary Note on Pension Reform in Brazil. The note discusses in detail the assumptions made for income growth, discount rate and other variables. In addition, it is worth noting that the exercise is based on the original reform proposal, sent to Congress in December 2016. In this sense, results shown here do not correspond exactly to the current version of the reform under debate. Still, we believe changes proposed to the reform do not alter the core conclusions of this exercise, although they likely influence the magnitude of the impact.

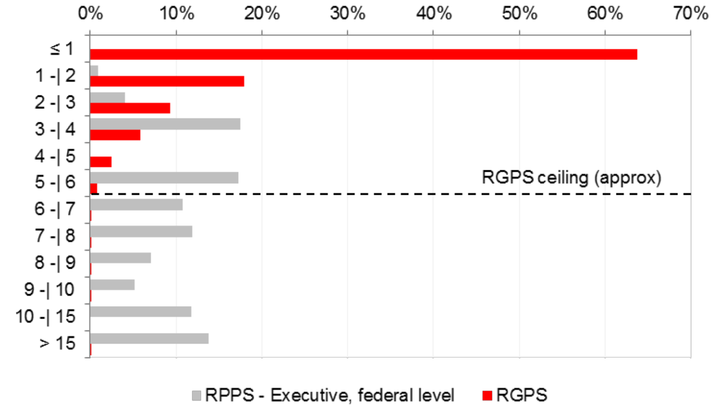
minimum retirement age, and the expected spending under the current rules. According to our estimates, that difference could amount to BRL 280 billion/year in 2040 (without accounting for expected inflation), representing a potential saving of about 25%. Given that this saving stems mostly from the imposition of a minimum age – which, in its turn, would bring meaningful change mostly for the high-income, high-education group – we assume it would have a redistributive impact.

Figure 5. Pension benefits: RGPS vs. RPPS (2016)



BRL billion. RPPS figures refer only to inactive civil servants in the federal Executive, Legislative and Judiciary branches. Sources: MPAS and MPDG. Elaborated by Santander.

Figure 6. Pension benefits: distribution by value (2016)



In minimum wages per month. RPPS figures refer only to inactive civil servants in the federal Executive power, excluding MPF and BCB. Sources: MPAS and MPDG. Elaborated by Santander.

A second important distortion embedded in the current retirement rules is the substantial gap between private-sector and public-sector pension benefits (the latter are paid by the so-called RPPS – Regime Próprio de Previdência Social). In 2016, RPPS paid BRL 105 billion to a somewhat under one million beneficiaries in the public sector, implying an average benefit of around BRL 8k/month per person. In the same year, RGPS paid BRL 485 billion to more than 33 million people, with an average of BRL 1.1k/month per person (Figure 5)[1]. **The average monthly stipend in the public sector is, therefore, more than 7 times as high as in the private sector.** This distortion is further evidenced by the distribution of pension benefits by values, depicted in Figure 6. Almost two-thirds of private-sector retirees earn up to one minimum wage, and virtually all of them are constrained by the existing ceiling (BRL 5.5k/month, or around six minimum wages), whereas more than half of public-sector retirees earn above the ceiling. The proposed reform attempts to mitigate this distortion by imposing the RGPS ceiling also on RPPS pensions; it must be noted, however, that several exemptions and transition rules imply that, in practice, the ceiling would be binding only for new entrants to the civil service, and therefore would act as a broad constraint on pensions only after a decades-long transition period. Still, a simple exercise helps to illustrate how powerful such a measure could be: **in an extreme assumption, if the RGPS ceiling were to apply currently to all existing RPPS beneficiaries, RPPS expenditures could decline by more than BRL 40 billion per year**. Note that this figure tends to underestimate the potential impact of this measure, which will apply to a larger number of people at other government levels[2] at the end of a long period for convergence of rules.

Indirect redistributive effects: stronger growth, less regressive taxes, and room for other distributive policies

In addition to its direct redistribution effects, social security reform could also contribute to reducing income inequality by indirect means, through its effects on variables relevant to income distribution. As we mentioned previously, studies show the important contribution of private sector flows, mainly labor-related, to the recent reduction in income inequality, and have further indicated that the way the existing social security deficit is financed – largely through indirect, regressive taxation – tends to worsen income concentration. Hence, it seems worth looking at the potential effects of reforms on these variables.

An often-neglected but yet important effect of the reforms would be the expansion of Brazil's work force. Recall that potential output growth is calculated by the interplay of three main factors: stock of capital, stock of labor, and productivity. One of the problems we believe is likely to plague Brazil in the coming decades is the expected reversal of its demographic

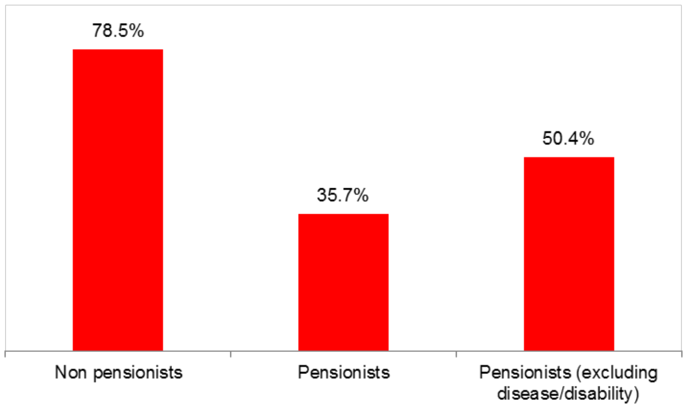
[1] In RPPS, data refers to executive, legislative and judiciary branches at the federal level. Overall value of benefits paid refers to 2016, whereas the number of beneficiaries refers to 2015 (last available data point); average benefit is estimated as a ratio of these two numbers. For RGPS, benefits paid refer to the sum of the monthly figures and beneficiaries refer to the average for the year, in both cases 2016. For both RPPS and RGPS, the average monthly benefit is computed considering 13 payments a year (12 monthly payments plus end-year bonus).

[2] In its current version, the proposed reform extends the RGPS ceiling to civil servants at the state and municipal levels, unless the respective legislative powers approve different rules within 180 days from the enactment of the reform.

bonus: after decades of a rising share of working-age (14 and above) population, Brazil will likely see a reversal of this trend starting at some point in the next decade.

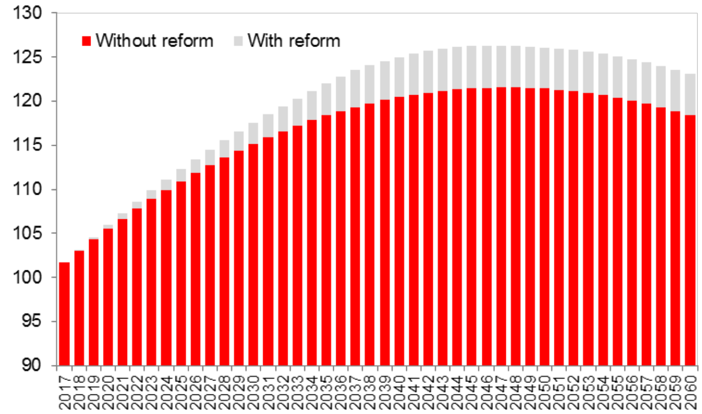
The proposed reform helps to mitigate the adverse impact of future population dynamics, in our opinion. Because it eliminates the option of early retirement, it should increase the participation of workers aged 46 and above in the labor market. Data from the aforementioned IPEA study show that, among men aged 50 to 59 and women aged 46 to 54, the participation rate differs between among pensioners and non-pensioners (Figure 7). In 2015, non-pensioners displayed a relatively high participation rate of 78.5%. Meanwhile, people within this age group that were recipients of some benefits had a substantially lower participation rate of 35.7%. Even excluding those retired due to inability to work (disease/disability), the participation rate within the pensioner group remained low at 50.4%.

Figure 7. Working force participation rate: men aged 50-59, women aged 46-54 (2015)



Source: Costanzi – IPEA (2017).

Figure 8. Evolution of work force: simulation



Million people. Source: Santander.

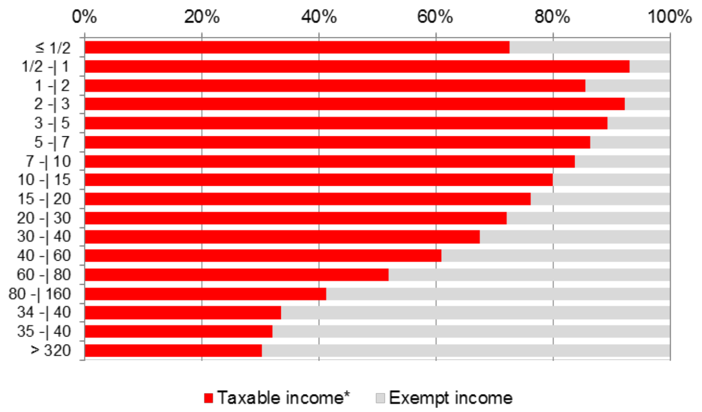
A simple exercise helps to illustrate how a reduction in early retirement could potentially contribute to economic growth. We simulate the evolution of the work force in two scenarios: in the non-reform scenario, we assume stability in the participation rate at the current 61.7% (average for all age groups), whereas in the reform scenario we assume a gradual convergence in the participation rate of the early retirement age group from 50.4% to the 78.5% seen among non-pensioners. The result is shown in Figure 8. It would be legitimate to ask whether there will be jobs to absorb this growth in the work force, but a look at current data suggests to us that this may not be an insurmountable challenge. Unemployment is substantially lower in this age group than in the rest of the population (3.6% versus 9.4%, considering 2015 data), suggesting that securing employment is less of a challenge for this age group even adjusting for a lower participation rate. Another statistic supports this argument: in this age group, retirees tend to have more years of schooling than non-retirees, suggesting that the incremental labor supply would come from a more qualified group, working in areas where experience is perceived as adding value.

According to our estimates, assuming as constants capital stock and productivity, the difference in labor stock in the two scenarios would imply a 0.2-pp difference in potential economic growth. This exercise does involve a certain degree of uncertainty. On the one hand, it cannot be taken as granted that this additional growth will translate into better-remunerated jobs. On the other hand, precisely because the incremental labor supply would come from a better-qualified group, their stable participation in the job market could lead to some increase in average labor productivity (which was assumed as constant in this exercise).

Another indirect redistributive aspect of the reform is related to the system's funding. The social security deficit is financed by resources collected from society by means of taxes and contributions unrelated to social security. If such taxes and contributions were progressive in nature – that is, imposing a proportionally heavier burden on the higher-income taxpayers – such financing could even represent a marginal contribution to reducing income inequality. This is not, however, the case in Brazil: the country's tax structure has regressive aspects, meaning that the poorer pay a disproportional share of the burden. One important regressive aspect is the excessive weight of indirect taxation (e.g., taxes on consumption). In Brazil, nearly half of all tax collection is based on indirect taxes, versus one-third, on average, for OECD countries. Indirect taxes tend to be regressive because the tax paid on a certain consumption good is the same regardless of the income of the consumer, meaning that such taxes weigh more on the pockets of lower-income consumers.

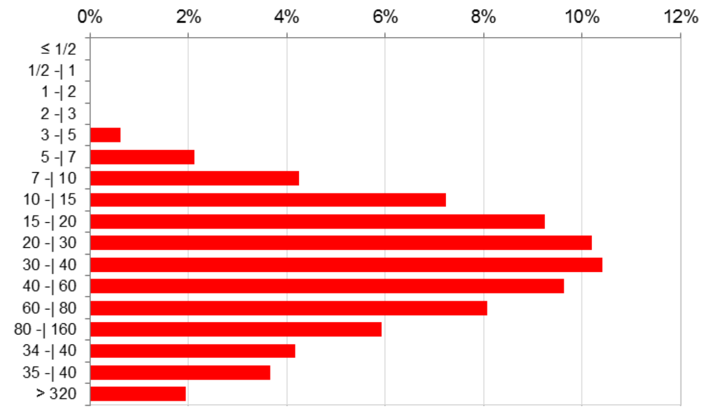
Meanwhile, direct taxation (on income, profit, and capital gains), which tends to be more progressive, represents only 20% of Brazil's tax collection, versus around one-third for OECD members (on average). In addition to its reduced proportion of overall taxation, Brazil's main direct tax – the income tax on individuals (IRPF) – has become less progressive over time, mainly due to years of below-inflation adjustment in tax brackets and to several exemptions and deductions. Data from IRPF for 2015 are eloquent: higher-income taxpayers tend to have a higher share of income from tax-exempt sources (e.g., profits and dividends), as shown in Figure 9. Adding that to the several deductions allowed (education, healthcare, and complementary pensions, which are little used by lower-income taxpayers), the result is a rather asymmetric income tax burden for the various income brackets (Figure 10), with a declining burden for individuals earning 40 minimum wages per month or more.

Figure 9. Income tax: distribution of taxable and exempt income by overall income level (2015)



Income brackets in minimum wages per year. Source: SRF, Grandes Números da DIRPF 2016 – Ano calendário 2015. Elaborated by Santander.

Figure 10. Income tax: ratio between tax due and overall income by income level (2015)



Income brackets in minimum wages per year. Ratio between tax due and overall income received, based on averages presented for each income level. Source: SRF, Grandes Números da DIRPF 2016 – Ano calendário 2015. Elaborated by Santander.

Combined, the high share of regressive indirect taxes and the declining progressiveness of one of the most important direct taxes in the financing of the social security deficit mean that, in practice, the lower-income population makes a disproportional sacrifice to fund social security transfers that, in the end, tend to benefit the rich more than the poor. By reducing the potential deficit (Figure 11), reform would avoid an additional worsening in income distribution, in our view.

Finally, it is important to remember that, while the reform proposes changes in how benefits are calculated, it preserves the minimum wage as the floor for those benefits – and, as we mentioned previously, two-thirds of RGPS beneficiaries come under this rule and therefore would not be affected by the reform. However, one point frequently neglected in analysis of the consequences of reform is how, potentially, it could be critical in leading to future gains in the minimum wage. That is because, in the absence of reform, social security spending will escalate in real terms in the coming years, representing a growing share of the spending cap that was embedded in the Constitution at the end of 2016 (Figure 12). According to our estimates, in the absence of pension reform, the government would begin to face severe difficulties in complying with the spending cap in the first years of the next decade. Beyond all the obvious negative implications of such a difficulty – worsening debt dynamics, pressure on interest rates, lower economic growth – it is also important to recall that, in the event of non-compliance with the ceiling, the government is forbidden by law to increase the minimum wage in real terms[1].

In other words, **social security reform is a *sine qua non* condition to enable the government to comply with the spending cap and therefore preserve its ability to maintain a policy of real gains in the minimum wage, even if at a slower pace than in recent years**. Given the relevance of this variable for the lower-income population, this represents yet another potential indirect effect of reform on income distribution[2].

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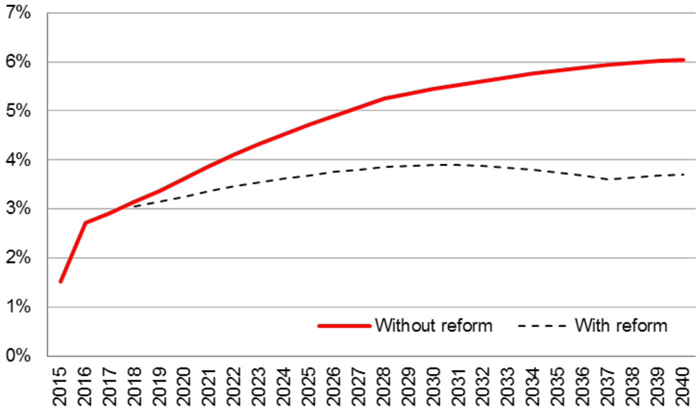
[1] For further details, please see our note *2019: Time to Bite the Bullet II*, published on July 17, 2017 and available at our website (www.santander.com.br/economia - Brazil Macro Studies).

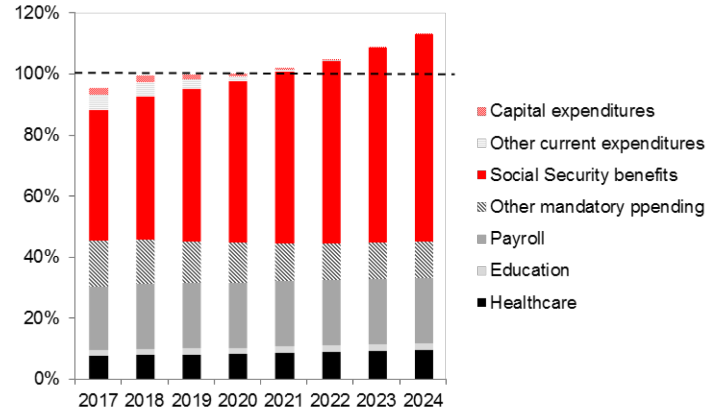
[2] It can be argued that a higher minimum wage could have an ambiguous impact on income inequality: on the one hand, it would reduce the discrepancy between social security benefits and increase income for those employed at this salary; on the other hand, it could discourage hiring of low-skilled and/or young workers.

Figure 11. Social security deficit (RGPS): with and without reform (% of GDP)



Reform scenario considers the version currently under debate in Congress. Source: Santander.

Figure 12. Federal expenditure as share of the spending cap (without social security reform)



Source: Santander.

Conclusion: well beyond its fiscal impact, we see reform as a pro-equality measure

Once all these data and exercises are taken into account, it seems clear to us that social security reform – well beyond its favorable and necessary fiscal impact – could also potentially reduce the still high income inequality in Brazil. So far, negotiations of the reforms in Congress have already led to the dilution of several of the points initially proposed, making them less redistributive than originally proposed. Nevertheless, we believe that the retention of key aspects of reform – such as the end of early retirement and the imposition (albeit gradual) of a ceiling on public sector benefits – seems sufficient to justify the argument that, all else being equal, inequality would tend to be lower with reform than without it. Furthermore, the indirect effects are also important, whether by allowing higher potential growth, by reducing the impact of mostly indirect, regressive taxation on lower-income members of society, or by preserving fiscal space for other redistributive policies (such as a rise in the real value of minimum wage, expansion of social assistance, and, last but not least, key investment in basic education). In our view, these redistributive effects are in the interests of a diffuse, silent majority and are a key part of a broader agenda in a society that aspires to become both richer and less unequal.

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