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Demographic transition and achieving the SDGs in Latin America and the Caribbean

A regional overview of the National Transfer Accounts

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Abstract

In the context of the rapidly advancing population ageing, the region of Latin America and the Caribbean is currently facing an unprecedented challenge of adapting to the transformed - yet, still evolving - age structure of the population. The paper provides a regional synthesis of the National Transfer Accounts on the basis of the most recent NTA estimates from 10 LAC countries. Despite the greatly varying length of the per capita lifecycle surplus among the countries, the regional average stands at 26 years, with individuals below 30 and above 56 years old experiencing periods of deficits. At the aggregate level, children and youths continue being the biggest 'burden' to the regional economy and their deficit is mainly financed by private transfers. Public transfers are the principal financing flow of the older persons' deficit. Using the UN population projections, the paper further illustrates the potential impacts of the expected demographic changes. It is firstly estimated that the growing trend of the economic and fiscal support ratios is bound to continue only until 2032 and 2021, respectively. With the significant shift of consumption toward elder age groups over the next 30 years, driven in particular by expanding consumption of healthcare, growing spending on pensions and diminishing consumption of education, the lifecycle deficit will also shift its weight towards older persons. From just a third of the deficit volume of children and youths in 2020, the deficit of adults and older persons will constitute over a half of that of children and youths by 2030, and they will reach similar levels by 2050. Within the same timeframe, the overall lifecycle deficit is projected to expand, possibly hindering the achievement of the SDGs in the region, and calling for policies and measures aimed in particular at increasing the labour force productivity.

Introduction

Latin America and the Caribbean (LAC) is currently living a drastic shift in its population age structure. The region that still a couple of decades ago had one of the youngest societies in the world, is ageing at a tremendous pace, calling for policies and reforms to accommodate those trends. At the same time, the COVID-19 pandemic has triggered a crisis of unrivalled magnitude in the past, exacerbating the already volatile economic performance and stagnant socioeconomic development indicators. The National Transfer Accounts (NTA) available for the region show that in various LAC countries the pre-crisis patterns of income, consumption and reallocations can seriously jeopardize the sustainability of the fiscal system when combined with the anticipated demographic trends, which in turn poses a serious threat to achieving the Sustainable Development Goals (SDGs) by 2030.

It is therefore in this context that this paper aims first at presenting a regional picture of 'typical' NTA profiles in LAC, analyzing possible impacts of the future demographic trends and related challenges in achieving the SDGs in the post-COVID era, and presenting subsequently a set of policy recommendations oriented on best accommodating the anticipated population changes in the long-term.

The next section of this paper presents an overview of the demographic and socioeconomic contexts of the LAC region. Section III showcases the average NTA profiles for LAC based on the data available for 10 countries (see Appendix A for details). Section IV combines UN population projections with NTA data in order to illustrate and analyze impacts that the shifting population age structure might have for achieving the SDGs and beyond. Finally, section V elaborates on possible policy responses to confront the challenges posed by the demographic transition experienced in the region, embedding the latest estimations of the impacts of the pandemic.

I.   Demographic and socioeconomic characteristics of Latin America and the Caribbean

A.   Demographic context

With a total of 654 million inhabitants, Latin America and the Caribbean accounts for a modest 8.4% of the world's population,[1] this notwithstanding, it is home to two of the top ten most populous countries on the globe: Brazil and Mexico. Though the region's population continues to grow, since the early 1960s it has registered a persistent trend of a decreasing growth rate, which in 2020 stood at 0.9%. As shown in Figure 1, this diminishing tendency is to continue in the XXI century, with the first decline in the region's population anticipated in 2059 (when LAC would have reached 767.6 million people) and a negative growth rate expanding in magnitude thereafter.

The changes in the total population size are not however reflected similarly among all age groups. Despite differences between the countries, various social and economic factors have contributed to significant overall drops in fertility and notable increases in life expectancy, which in consequence have triggered demographic transition and brought about a very rapid process of population ageing. Latin American and Caribbean women on average give birth to 2 children during their lifetime, half the amount they used to have still four decades ago. At the same time, the life expectancy at birth skyrocketed from barely 50 years in the early 1950s to 76 years in 2020, and it is anticipated to grow further in the coming decades accompanied by further falls in fertility and a rising mean age of childbearing.

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[1]   Estimates for 2020 (UN, 2019).

Figure 1
Annual population growth rate in Latin America and the Caribbean, 1950-2100
(In percentages)
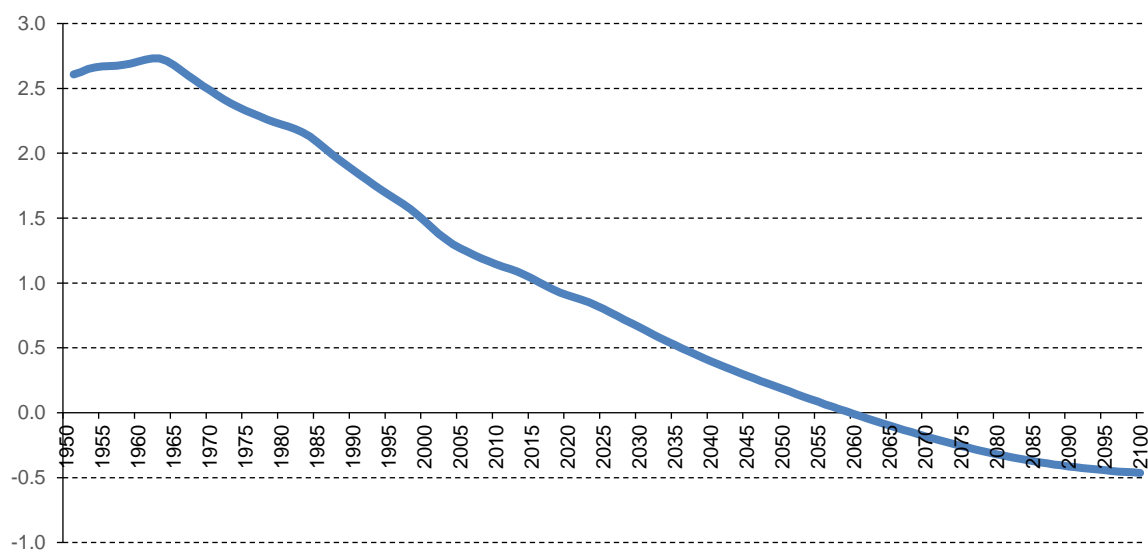
Source: UN, 2019

Figure 2
Selected population ageing indicators, Latin America and the Caribbean, 1950-2100

A. Population age structure ratio,
per 100 working-age population
(in percentages)
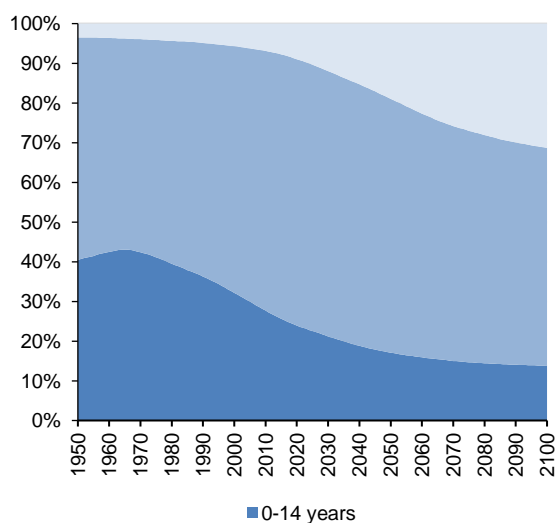
B. Total, old-age and child dependency
(number of persons per 100 working-age population)
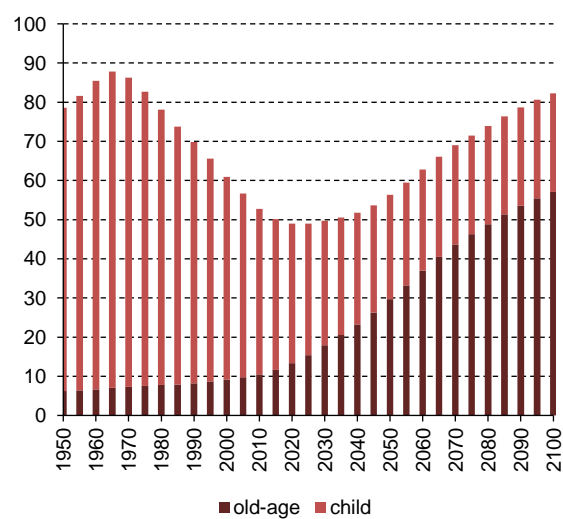
Source: UN, 2019.
Note: Working age population includes people from 15 to 64 years.

As a result, all those transformations fuel unprecedented shifts in the population age structure. The median age has jumped from 19.8 in 1980 to 31 years nowadays and it is anticipated to surpass 40 years in less than 3 decades; the share of children and youth gradually declines while that of older persons grows at a fast pace (see Figure 2.A.). Before 1980 the proportion of children had been above 40% and has dropped ever since to 23.9% in 2020, with further steady reductions expected over the course of the XXI century. Meanwhile, the elderly population had accounted for a mere 6.5% by 1980, more than doubling since then in relative terms, and it is anticipated to expand at a galloping pace, reaching 20% by 2050 and hitting 30% by the end of the century. Moreover, owing to large differentials in the life expectancy, the elderly population is dominated by women: there are 128 women per 100 men among the 65+ year-olds and 157 women per 100 men for persons aged 80 and over.

Naturally, that transition from young societies moves the burden of the dependent population from children and adolescents to older persons. The total dependency ratio (see Figure 2.B.) has been on the sharp decline since the late 1960s due to the steady increase in the working-age population relative to the dependent groups. This period —expected to last till 2022— has generated an enormous potential to spur the economic growth due to a relatively low share of the dependent population. Owing, however, to the swift population ageing, the dependency ratio will start to increase, and its composition will experience a drastic change. The old-age dependency will be predominant as the working-age population will need to cater for their aged societies.

B.   Socioeconomic context

As the COVID-19 pandemic will unequivocally impact the LAC economy harshly,[2] the region had already struggled to materialize gains from a range of growth-conducing factors beforehand and the favorable demography has not translated into a persistent high rate of economic growth. As illustrated in Figure 3.A, the economic performance has been extremely volatile in the last thirty years, strongly dependent on external shocks and characterized by the overall weak growth rates in the last decade, with the annual average growth hitting its record low since 1950 in years 2014-2019, averaging at 0.4% (ECLAC, 2020a). Overall labor productivity increased modestly between 1990and 2010, and it has remained stagnant over the last 10 years (see Figure 3.B), with its growth impeded by high levels of job informality, estimated at 53.1% of total employment (ILO, 2018), and precarious work persistent in many countries in the region. At the same time, women continue to bear the disproportionate burden of domestic work, which greatly affects their participation in the formal labor market.

At the same time, the economic model of the region has led to extremely high and persistent levels of inequality. Even though since 2002 the Gini index has decreased in many LAC countries, that reduction has slowed down significantly in the recent years (ECLAC, 2019). The poverty has been on the rise, with 30.8% people living below the poverty line in 2019, over one third of which in extreme poverty. Furthermore, in 2018 the proportion of the working poor surpassed 20% of the employed and barely 47.4% of the latter contributed to any pension scheme (ECLAC, 2020b). Many lack any form of social protection, which has aggravated the impacts of the COVID-19 pandemic and continues to contribute to lasting inequality.

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[2]   The early projections pointed out to a contraction of 5.3% of the GDP in 2020 (ECLAC, 2020a); however, the revised ones show the economy will probably contract by 9.1%, and the region is to experience its biggest economic downturn in history (ECLAC, 2020c).

Figure 3
Selected economic performance indicators, Latin America and the Caribbean, 1990-2018

A. Annual GDP growth rate
(In percentage)

B. GDP per person employed
(In US Dolar, constant PPP-2017)
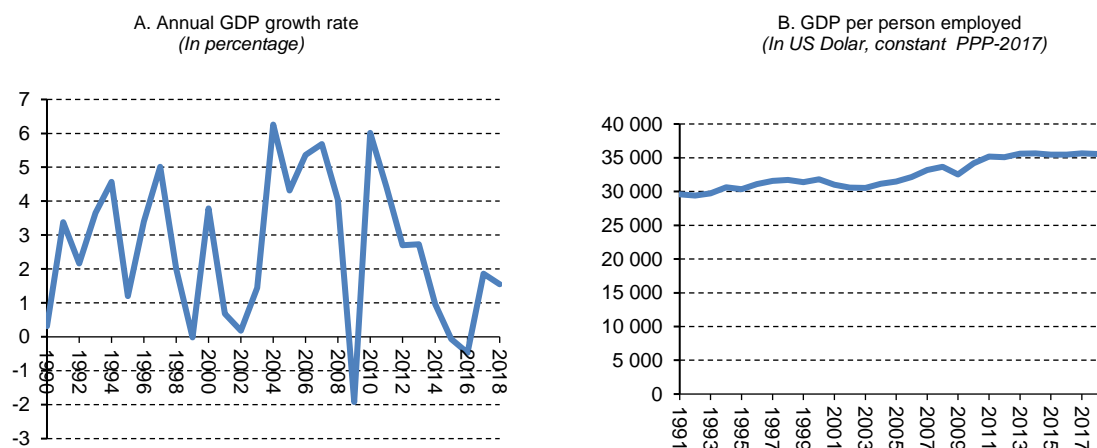
Source: World Bank Indicators.

II. National Transfer Accounts in Latin America and the Caribbean–regional averages

A. Methodology and data

The National Transfer Accounts system (NTA) allows to measure the way in which people obtain and use economic resources at each stage of life. It allows to measure the way in which resources are transferred between individuals of different ages.

These reallocations of resources occur because in certain stages of the life cycle, people consume more resources than they produce through their own labour (typically in childhood and old age) and in other stages they consume less than they produce (working-age adults). The Life Cycle Deficit (LCD) is defined as the difference between consumption and labor income for each age. When the LCD is positive, consumption exceeds income, and that difference will need to be financed. On the contrary, when the LCD is negative, it is a surplus stage where income is greater than consumption.

To calculate the LCD and the way of financing it, the NTA methodology starts from an accounting equality between sources and uses of resources that holds at the individual level, at the level of age groups and at the level of the entire economy. This equality can be expressed as follows, with the left side corresponding to the sources of resources and the right side to the uses of those resources:[3]

$$C(e) - Y_l(e) = \big(Y_a(e) - S(e)\big) + (T_+(e) - T_-(e))$$

$Y_l(e)$ is the average labor income for age e,

$Y_a(e)$ are income from assets,

$T_+(e)$ are transfers received through public or private channels,

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[3]   The NTA methodology is explained in the National Transfer Accounts Manual (United Nations, 2013) available in: https://www.un.org/en/development/desa/publications/measuring-and-analysing-the-generational-economy.html.

C(e) is consumption (public and private),

S(e) are savings,

T_(e) are transfers made (either through public or private channels).

Therefore, the average LCD can be defined for each age as the difference between consumption and labor income:

$$C(e) - Y_l(e) = \left(Y_a(e) - S(e)\right) + (T_+(e) - T_-(e))$$

The LCD for each age is financed through assets and net transfers (public or private). These reallocations simply redistribute resources from surplus ages to deficit ages.

To estimate the age profiles of these accounts, a variety of data sources is compiled (nationally representative income and expenditure surveys, special purpose household survey, administrative records), and the aggregated values of each of these accounts are adjusted to the information of the National Accounts System.

To facilitate the comparison of the profiles by age, it is usual for the NTA results to be presented normalized by the average labor income of the ages 30 to 49, which is called "income units".

One of the applications of the NTAs is that they allow forecasting the impacts of changes in the age structure of the population, on economic growth. They allow defining the economic support ratio, such as the effective number of producers to the effective number of consumers. To calculate the number of effective producers, the average income by age and the number of persons of the age are considered. Similarly, the number of effective consumers considers the average consumption by age and the number of people of the age. In turn, the fiscal support ratio is defined as the effective number of taxpayers to the effective number of effective beneficiaries. This relationship allows to observe the way in which changes in the age structure of the population impact the benefits of the public sector.

The National Transfer Accounts available for the region provide an opportunity to get a deeper insight into the intergenerational transfers, and thus, to picture a "typical" Latin American economy through the age lens. For that purpose, the average NTA profiles in LAC were calculated as simple means based on the data elaborated within the framework of the United Nations Development Account project "Demographic transition: opportunities and challenges for achieving the Sustainable Development Goals in Latin America and the Caribbean". The respective data were available for 10 countries:[4] Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, El Salvador, Mexico, Paraguay and Peru.

B.   The lifecycle deficit and its components

As shown in Table 1, the length of the per capita lifecycle surplus among the countries varies significantly. The range starts with the extreme case of El Salvador, whose average citizen consumes more than she earns at all ages,[5] spanning to Chile, where people enjoy on average 33 years of the surplus.

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[4]   Some of the NTA variables of interest were available for less than 10 countries; therefore, the averages presented in the section are based on varying numbers of observations, depending on data availability.

[5]   A big part of consumption is financed through remittances.

Table 1
The length of the lifecycle surplus, Latin America and the Caribbean

| Country	Length of lifecycle surplus
El Salvador	0
Mexico	14
Paraguay	22
Brazil	26
Colombia	26
Peru	28
Costa Rica	29
Argentina	30
Bolivia (Plurinational State of)	31
Chile	33

Source: Own calculations based on NTA data.

Despite those notable differences, however, on the whole, the region is characterized by a relatively short period of surplus. The regional per capita average stands at 26 years, with individuals below 30 and above 56 years old experiencing periods of deficits (Figure 4.A). In addition, the magnitude of surplus is small comparing with the deficits of an individual in childhood and elderly ages, the situation that is exacerbated when analyzed at the aggregate level (Figure 4.B). Taking into consideration the data sources used for the calculations, high levels of informality in the LAC job markets are in part responsible for the low levels of income reported. The persistent inequality in earnings is another driver. Yet, at the same time, the consumption levels are high, and it can be expected the curve will be rising in the older ages, as is already the case in the upper-income countries. All the elements combined lead to the fact that on an aggregate level a Latin American economy is characterized by pronounced deficits with limited income resources to cover them.

Taking a closer look at the first component of the lifecycle deficit, the split of the average labor income shows that labor earnings constitute the most significant part of the per capita income (Figure 5.A), reaching a level up to three times higher than self-employment,[6] especially before reaching 60 years old. The importance of self-employment grows for older persons; yet the income it generates is limited in magnitude, suggesting it might be often a way of generating extra resources for the family but not a major source of family finances. At the aggregate level (Figure 5.B), the split of income exhibits a peak for the cohort in their early 30s, in particular due to higher labor earnings around those ages (whereas the self-employment income remains relatively stable till late 40s), after which it decreases drastically. Overall, this underlines a strong concentration of income generation among the population of those ages, which is not sustained for older cohorts of working population in spite of higher per capita income due to a relatively young population structure.

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[6]　In Latin America and the Caribbean a significant part of self-employment is informal and/or of low productivity, which might drive the results presented.

Figure 4
Mean lifecycle deficit, Latin America and the Caribbean
(Relative to the average of labor income between 30 and 49 years)

A. LCD per capita

B. Aggregate LCD

| ——— Consumption | ——— Labour Income | ‑ ‑ ‑ Life Cycle Deficit |
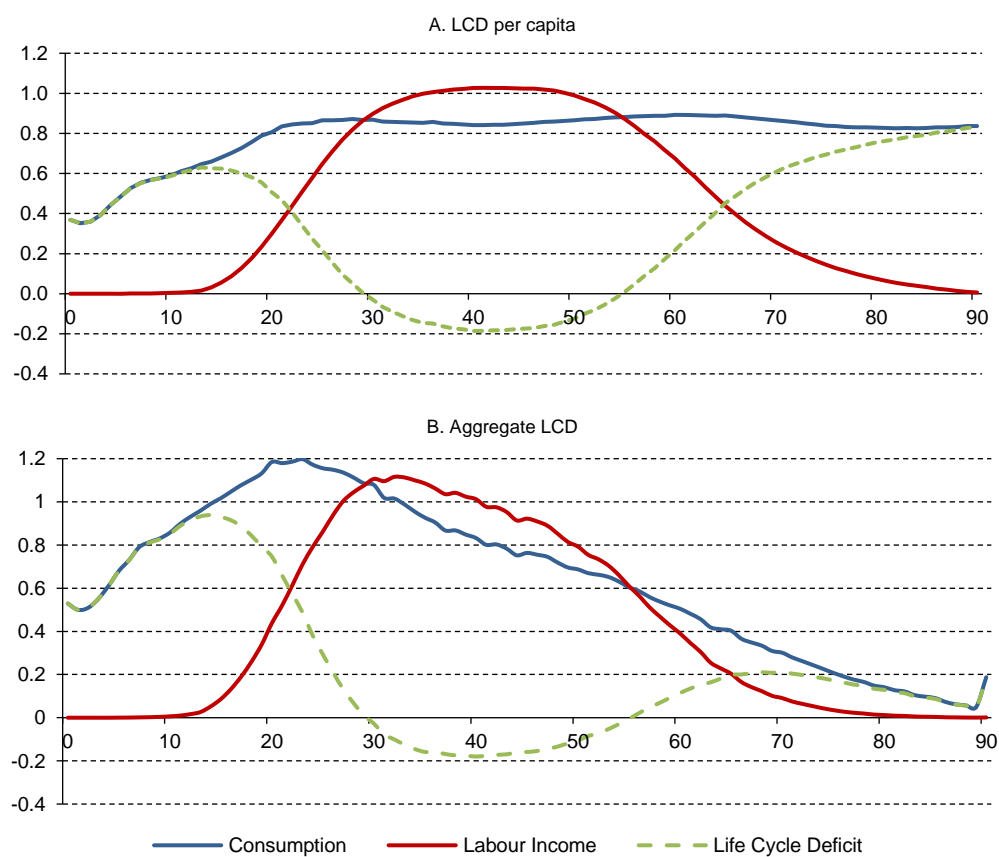
Source: Own calculations based on NTA data.

Figure 5
Mean labor income, Latin America and the Caribbean
(Relative to the average of labor income between 30 and 49 years)

A. Labor income per capita

B. Aggregate labor income

Labour earnings   Self-employment labour income
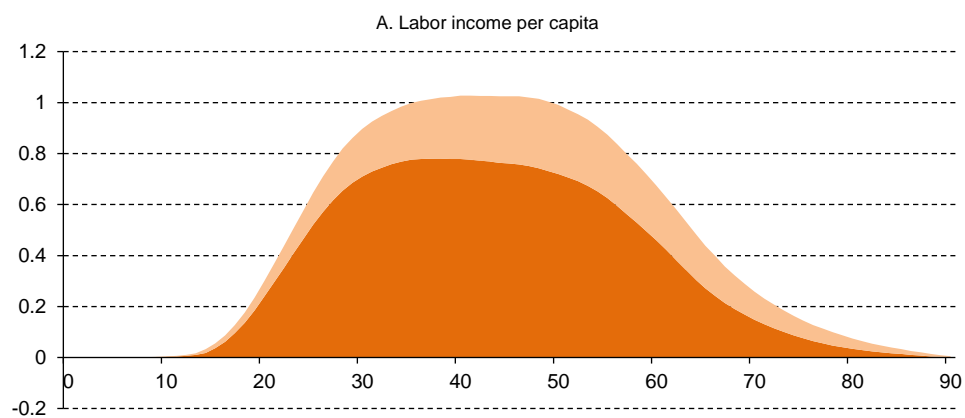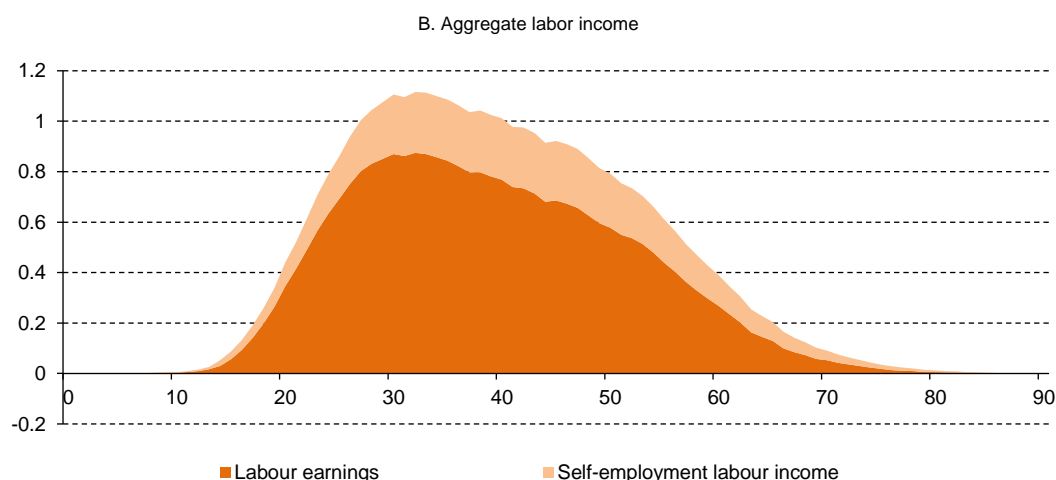
Source: Own calculations based on NTA data.

On the consumption side, the general per capita Latin American pattern (Figure 6.A) is of a steep rise from childhood to young adulthood, after which its level remains relatively stable, oscillating between 0.85-0.89 of the average labor income between 30 and 49 years old. Public consumption is an important component in childhood and adolescence —it stands for up to a half of the total consumption in that early period of a lifecycle and it is concentrated to a large extent around health in years 0-2 and education thereafter. From the early adulthood, private consumption is of a much larger magnitude— it accounts for 80%-85% of the total. Importantly, both public and private health consumption grow steadily in magnitude from mid-30s onwards, constituting the largest part of public consumption and a significant part of private consumption for older people.[7]

Figure 6
Mean consumption (education, health, others), Latin America and the Caribbean
(Relative to the average of labor income between 30 and 49 years)

A. Consumption per capita

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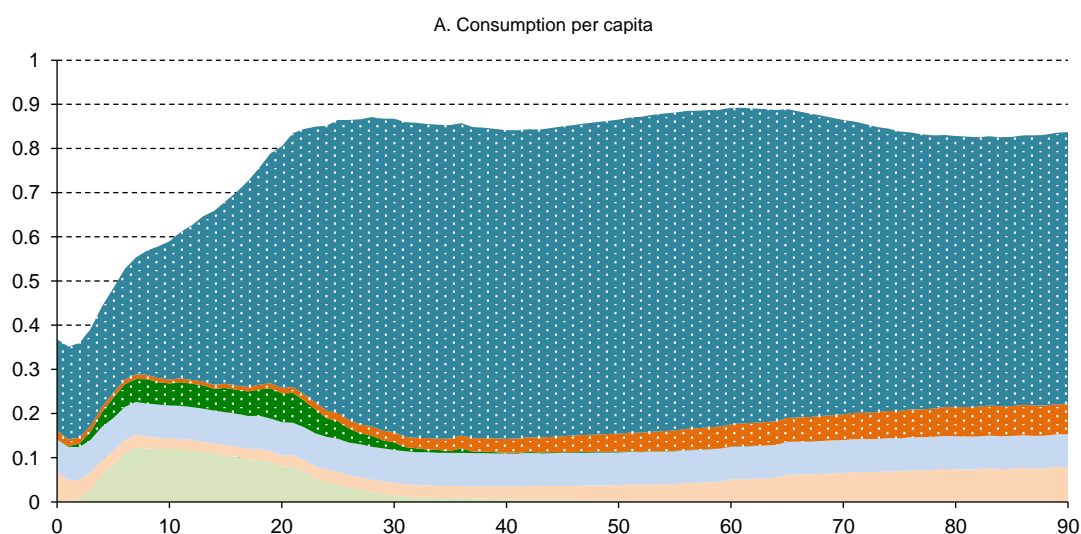
[7]   Along the paper, the group of older people will be defined as persons 65 years old and above.

B. Aggregate consumption
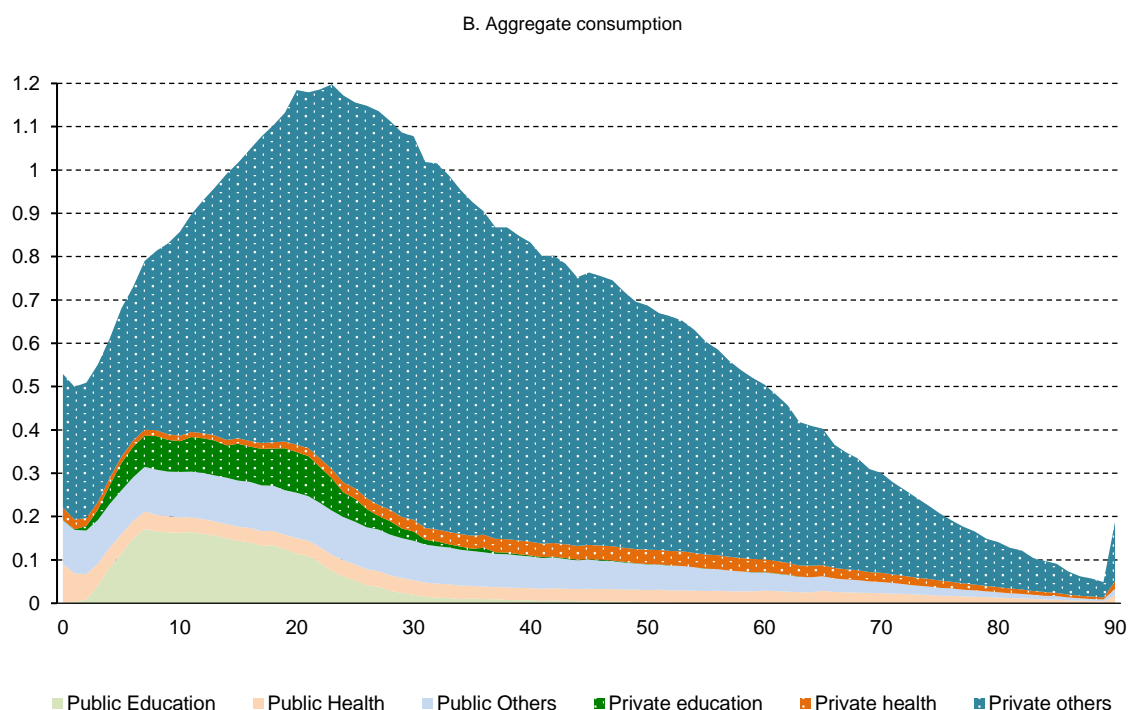
Source: Own calculations based on NTA data.

Looking at the aggregate (Figure 6.B), despite high levels of consumption of older persons, as a group it is youth and young adults whose consumption remains by far the biggest economic "burden" to the society. The total aggregate consumption drops rapidly from 24 years old, which again reflects a still relatively young age structure of Latin America and the Caribbean region as a whole.

C.   Reallocations

In terms of the deficit financing, Figure 7.A[8] demonstrates that in Latin America and the Caribbean private transfers tend to be the main source of financing the deficit of children and youths, whereas private asset-based reallocations and public transfers dominate the financing of the older persons' deficit. It is interesting to note that older persons also make transfers through private channels, which shows that there is a certain redistribution of resources from older to younger generations. Public asset-based reallocations are of negligible magnitude at all ages. At the same time, at the aggregate level (Figure 7.B) the most significant part of both public and private transfers is aimed at financing the consumption of adolescents.

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[8]   The level of deficits displayed does not correspond exactly to the one in Figure 4 due to a difference in the number of observations available. This notwithstanding, had all the countries had the required NTA profiles available, the general pattern of distribution of the financing sources and their relative magnitude would be expected to be similar.

Figure 7
Mean reallocations, total, Latin America and the Caribbean
(Relative to the average of labor income between 30 and 49 years)

A. Total reallocations per capita

B. Total reallocations, aggregate

■ Public Transfers   ■ Private Transfers   ■ Public asset-based reallocations   ■ Private asset-based reallocations
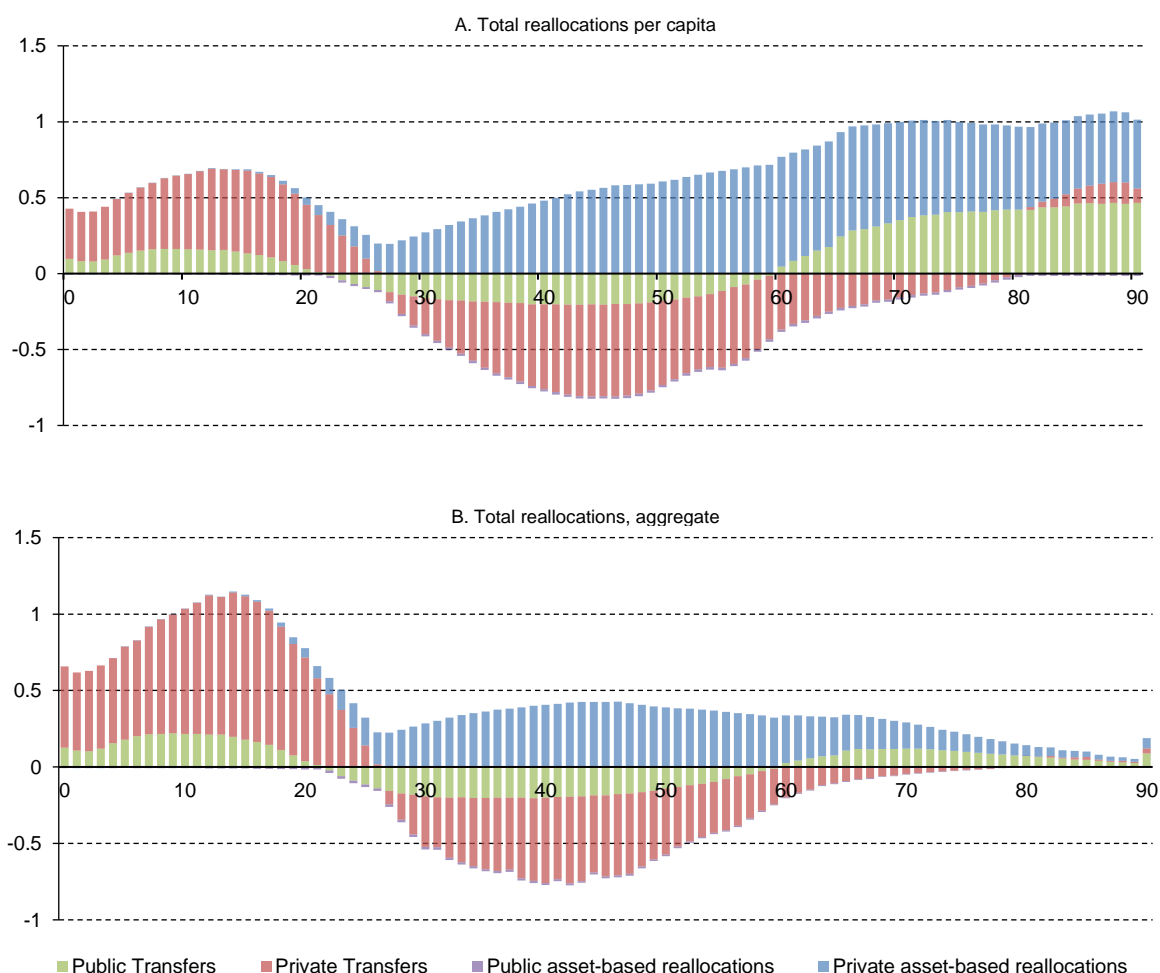
Source: Own calculations based on NTA data.

In many countries in the region, it is characteristic that family is the major mechanism of financing the dependent populations, and this is especially relevant for children and youths. On the one hand, private education is an alternative that many families choose for children if they can afford it due to often low quality of public education; additionally, in many LAC countries private spending related to education might be significant even for those in public schools. In any case, the dependence of children and young people on family financing tends to reproduce the status quo and increases the vulnerability of those with lower incomes. Given the characteristics of the region, the investment in human capital of a significant part of the young population may be compromised, affecting the future labor productivity of these children. On the other hand, only a limited share of older persons is eligible for pensions due to high labor market informality, therefore, family or savings remain the only source of financing for many.

Figure 8
Mean public transfers, inflows, Latin America and the Caribbean
(Relative to the average of labor income between 30 and 49 years)

A. Public transfers inflows, per capita

B. Public transfers inflows, aggregate

■ Education   ■ Health   ■ Other in-kind   ■ Pensions   ■ Other cash
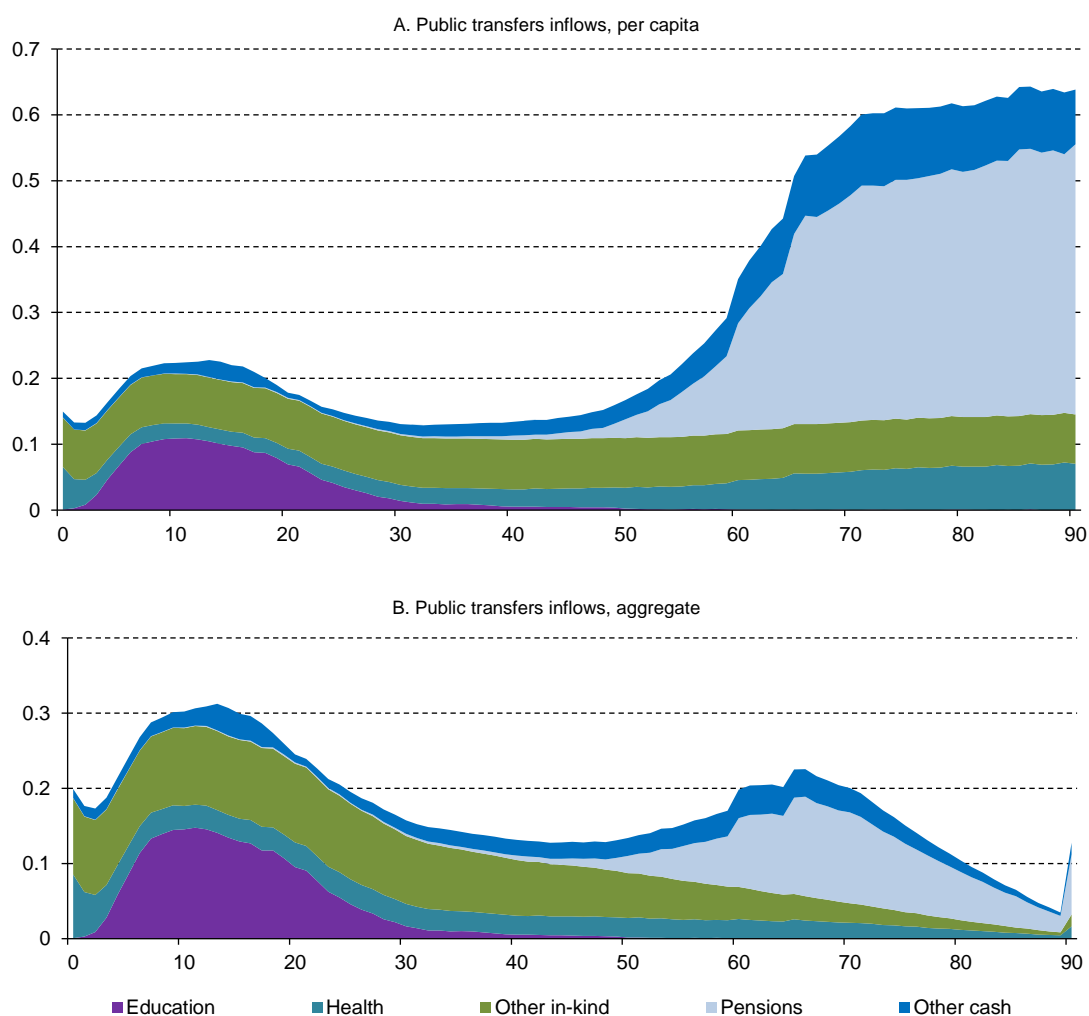
Source: Own calculations based on NTA data.

Having a more detailed look at public transfer inflows (Figure 8.A.), that is transfers received by the population, it is important to notice that at the per capita level public transfers channeled to older persons are on average three times as high as those aimed at children and youths, showing a typical pattern of social spending in many Latin American countries. Furthermore, transfers to children are basically in kind, whereas transfers to old people are mostly in cash. Education dominates transfers for individuals of schooling age, after which period they decrease rapidly to negligible levels from 30 years old onwards. Except for infants of 0-2 years old, public transfers in health are relatively low for children, adolescents and young adults; however, they start to increase steadily for adults till old age. Other in-kind transfers remain relatively stable throughout an individual's lifetime, whereas other cash transfers gain particular importance for older persons (including non-contributory schemes). Nevertheless, it is public spending in pensions that is the largest component at the per capita level, and one of the largest in aggregate terms (Figure 8.B.). Taking into consideration that LAC population is ageing at a tremendous pace, but it is still relatively young, the anticipated demographic trends might put the sustainability of the pension systems under strain.

III. Future outlook

As highlighted in section II, in the next couple of decades the forecast demographic changes in LAC will result in a combination of a bigger population in absolute terms and an aged society, with particularly fast-growing numbers of older persons. In this section, the population projections from UN World Population Prospects (UN, 2019) are used in conjunction with the NTA data for the region to analyze the potential impacts of those changes on the aggregated intergenerational flows and their plausible economic ramifications.

Figure 9 shows the historic and future trends of the support ratios relative to 2020 values. The trajectory of the economic support ratio (Figure 9.A), that is the effective number of producers to the effective number of consumers, demonstrates that the region currently lives one of the most favorable periods in terms of the economically conducive age structure, with a particularly high ratio of producers per consumers–i.e. the de facto dependent populations. Notwithstanding, dire economic conditions related to the post-COVID recession of unprecedented levels might hinder any possibility of reaping the benefit of that demographic dividend. In particular, it can be clearly observed that the advantageous trend of the ratio is about to finish and since 2032 the effective number of consumers will be on the rise in relation to producers capable of satisfying the needs of the dependent population.

Likewise, when the fiscal support ratio (Figure 9.B) is analyzed, that is the effective number of taxpayers to the effective number of government transfer beneficiaries, the growing trend continues only till 2021, after which it starts a sharp descent, indicating a rapidly increasing burden of the public transfers driven by the high share of pensions in public social spending, as mentioned in the previous section. It is important to notice that following a jump in joblessness and tax reliefs on the one hand, and an increase in government aid on the other, the age profiles related to both taxes and public transfers will change due to the COVID-19 crisis. All of the above will impact both the nominator and denominator of the ratio, having an effect of shifting the curve down and pulling the fiscal support ratio to lower levels, exacerbating further the weakening sustainability of the fiscal systems in the region.
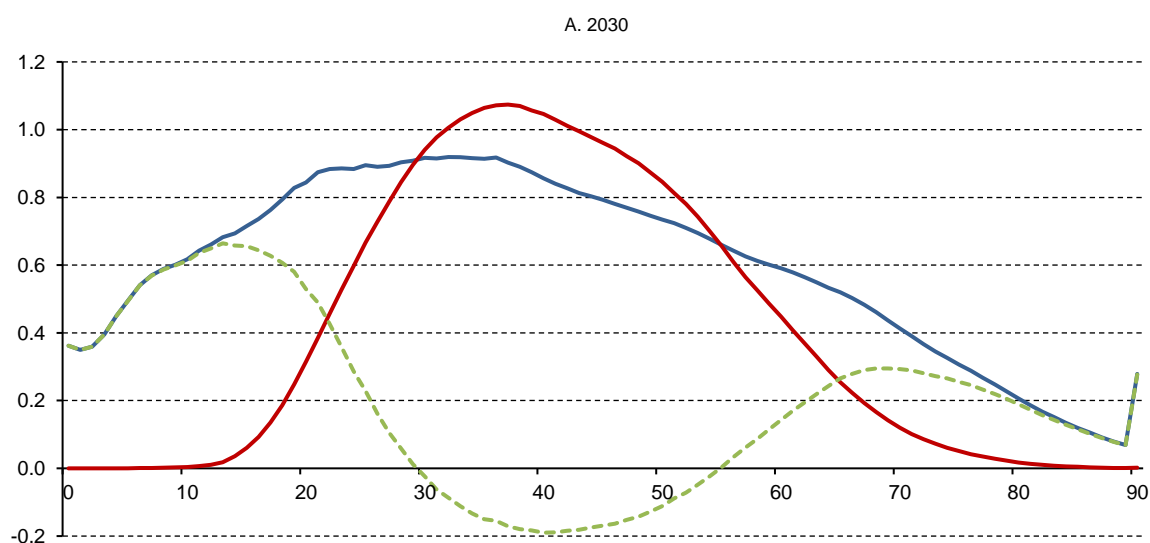
Figure 9
Support ratio in relation to 2020, 1950-2100, Latin America and the Caribbean

A. Economic support ratio

B. Fiscal support ratio
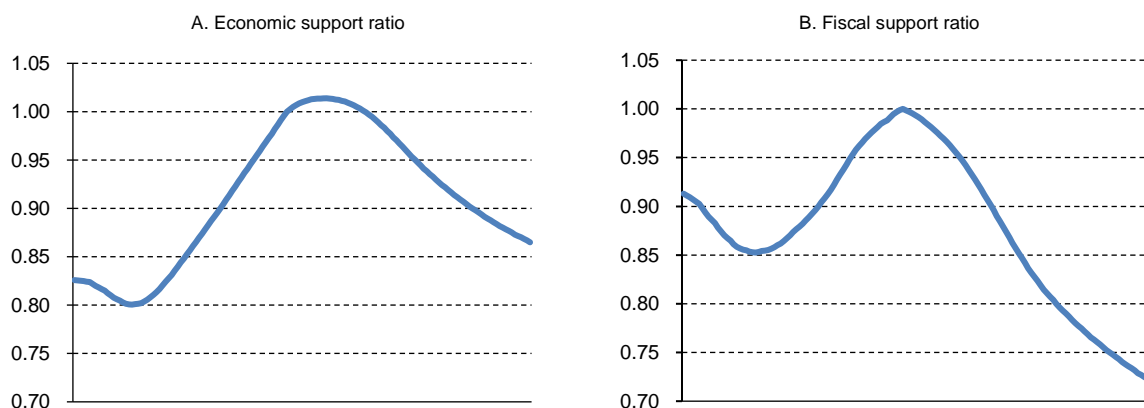
Source: Own calculations based on NTA data and UN, 2019.

Moreover, combining the NTA income and consumption profiles with the population projections over the next 30 years, one observes a significant shift of the major consumption burden towards older cohorts and a gradual flattening out of the income curve for the working age population. Figure 10.A illustrates the relative lifecycle deficit in 2030, showing some first signs of the anticipated changes in the age structure of the LAC population. The aggregate consumption does no longer concentrate around the cohort of adolescents and young adults, spreading towards older groups and descending more gradually. The aggregate income, though, does not see a major change comparing to the current levels.

Figure 10
Projections of a lifecycle deficit, aggregate, Latin America and the Caribbean
(Relative to the average of labor income between 30 and 49 years)

A. 2030

B. 2050
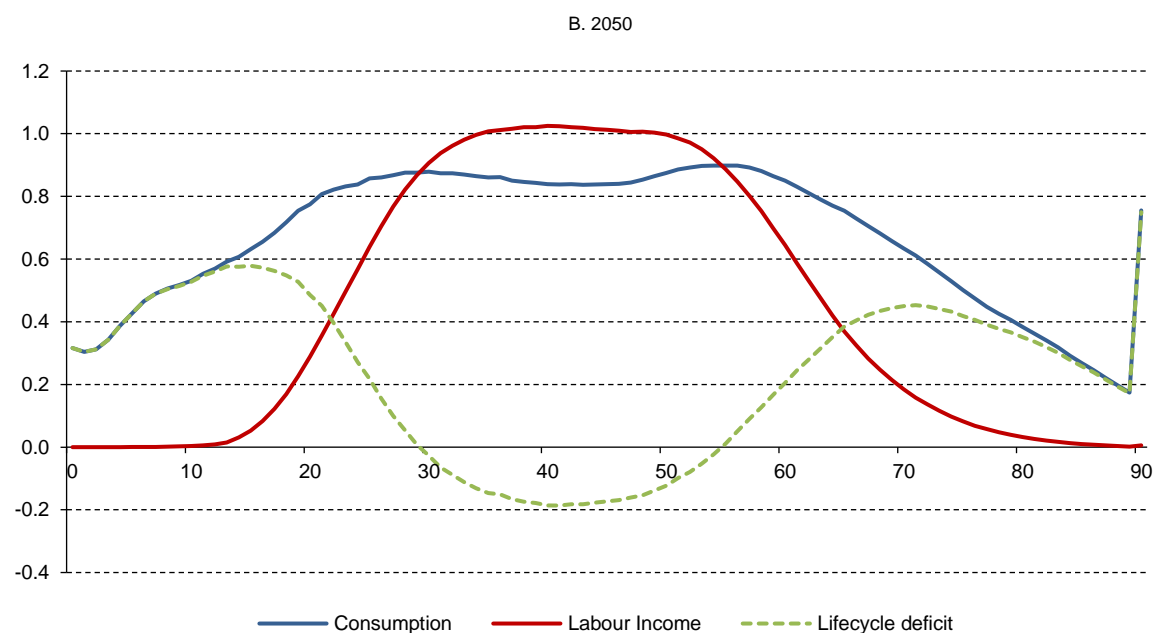
Source: Own calculations based on NTA data and UN, 2019.

The 2050 projection (Figure 10.B), however, shows more pronounced shifts. The consumption is distributed rather evenly among all the working population and it roughly doubles in magnitude (relative to the average labor income between 30 and 49 years) for the 80 year-old and above, with a prominent spike for the combined population of 90 years old and above, indicating on average an advanced phase of the ageing of the Latin American society. The income curve does not include a previously characteristic "bump" for any specific cohort, and it takes the shape of an inverse bell.

Figure 11
Projections of consumption, aggregate, Latin America and the Caribbean
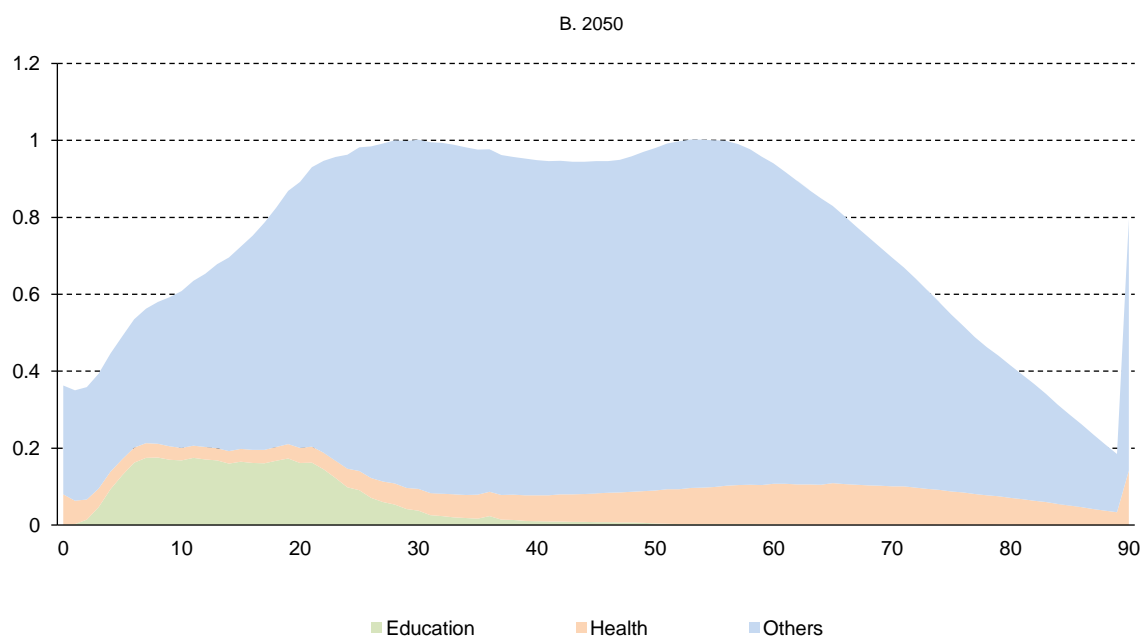*(Relative to the average of labor income between 30 and 49 years)*

A. 2030

B. 2050

Source: Own calculations based on NTA data and UN, 2019.

Consequently, driven in particular by expanding spending on pensions and growing consumption of healthcare by older persons, as well as diminishing consumption of education of children (as shown in Figure 11), the lifecycle deficit will also gradually shift its weight towards older persons. From just a third of the aggregate deficit volume[9] of children and youths in 2020, the deficit of adults and older persons will constitute over a half of that of children and youths by 2030, and both will reach similar relative levels by 2050. Within the same timeframe, the overall relative lifecycle deficit volume is projected to expand.

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[9]   A sum of the respective age-specific deficits.

IV. Impact of demographic changes on achieving the SDGs and related policy implications

As demonstrated in the previous section, the advancing age structure of the Latin American and the Caribbean population will have a multifaceted effect, posing a serious threat to achieving the SDGs in the region, especially in the era of the post COVID crisis and already undermined economic capacities of the countries, which by no means can be disregarded in further analysis.

Regional estimations show that many countries have already backtracked on the progress made towards certain goals owing to the devastating impacts of the COVID19 pandemic. According to the ECLAC's projections (ECLAC, 2020c), the reviewed unemployment rate in LAC will go up in 2020 by 5.4 percentage points, reaching 13.5%, and the real GDP per capita will fall back to the 2010 level. The number of people living in poverty will increase in 2020 by 45.4 million, jumping to nearly 231 million in total. At the same time, the number of those living in extreme poverty will grow from 67.7 million to 96.2 million, representing 15.5% of the total population. In other words, more than a third of the region's population will live below the poverty line, whereas nearly every sixth person will experience extreme poverty. Furthermore, out of the 17 countries analyzed in the ECLAC report, in 2020 all are projected to register larger inequalities in the income distribution, reflected in the increases of the national Gini coefficients. These are just some examples of repercussions, seriously hindering the achievement of SDG 1, SDG 8 and SDG 10, not to mention spinoff effects on food security (SDG 2), health (SDG 3), education (SDG 4) and to some extent all the other SDGs. Combining thus the advancing demographic transition with the current situation can have a multifold effect.

Firstly, as shown previously, in terms of the economic support ratio, the region has on average a decade of an opportunity window left that could be a leverage in a faster economic recovery. Obviously, in some countries, such as Chile, the age structure is already not conducive to accelerating the economic growth; however, in others with younger populations, e.g. Bolivia, there is a significant demographic dividend to build on for the next 20-25 years. Nevertheless, it is essential to point out that even with the right public policy stimulus, the high joblessness can push a significant part of the working-age population into informality and precarious jobs, aggravating the already suboptimal pre-crisis levels,

and hence, hampering the achievement of SDG 8 on decent work for all and impeding progress on SDG 1 (poverty eradication) and SDG 10 (reducing inequality).

Likewise, the progressing social spending, in particular on pensions and healthcare, paired with a particular need for increased social protection programs and gradually diminishing relative base of taxpayers, puts into question the medium- and long-term fiscal sustainability. The underfinanced public services can further exacerbate difficulties in reaching a whole range of SDG targets, from achieving the universal health coverage (target 3.8) to recognizing the value of unpaid care work though adequate public services (target 5.4), just to name a few.

On the contrary, it is evident that the shifting population age structure will gradually decrease pressure on education spending, creating some space for public finance redistribution. However, the simulations showcased under section IV highlighted that the decline could not compensate the galloping spending on pensions and healthcare of older persons (even under assumption of the constant per capita consumption and transfers, which in all likelihood are to increase, limiting the policy response in that respect), proving that maintaining the *status quo* is not an option in quest of accommodating the coming demographic changes.

It is therefore crucial that the region's focus moves to expanding the income side (or, more precisely, the surplus generated). Hence, the policies and measures undertaken ought to concentrate on boosting the long-term productivity of the would-be labor force and economy as a whole. One of the most obvious policy lines would be to channel the funds 'liberated' from education to actually increase its quality, with larger per capita spending on human capital from early ages. Continuous learning and bolstering the skill set of the current working population should not be ignored either, especially in times of sped up digital transformation. Other options of policy interventions include measures of boosting productivity at a company level such as investment grants or private-public partnerships, or investments in infrastructure, know-how, R&D and technology at the country-wide level. Incentives to drive investment in new highly productive sectors can be another measure worth consideration.

In addition, policies aimed at broadening the formal labor force participation by incorporating more youths, women and informal workers would have a lasting effect on the economic and social development, especially where those groups are often marginalized in the labor market, frequently perpetuating the cycle of working poor during their lifetime. On the one hand, adequate labor regulations can have a direct impact on the workforce diversity; yet, a whole set of other measures is necessary to assure the enabling environment for the vulnerable groups to join the workforce. Special programs or stipends and scholarships for youths and young graduates, childcare services or tax incentives to register microenterprises and subsequent subsidies are just examples of possible policy interventions.

Naturally, the list of suggested policies in this section is by no means exhaustive and there are other lines of action and policies that governments worldwide explore to benefit from or counteract the demographic transformations, including investment in labor intensive industries to give a quick boost to economic growth on the one hand or various means of boosting fertility on the other, just to give a few examples. Any of those might be however myopic solutions with very limited effects, especially in the Latin American current context. It is fundamental that the countries look for persistent changes leading to sustainable patterns of income and wealth generation[10] as well as public finance sustainability, supported by much needed reforms.

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[10]   Although not elaborated on in the section, wealth accumulation is one of the solid flows of financing older persons' deficit in developed countries.

V. Conclusions

This article investigates the possible impacts and policy implications of the unprecedented demographic changes anticipated in the LAC region, with a particular emphasis on achieving the SDGs in the era of the post-COVID crisis. The results, projections and analysis presented in the study, based on the average findings of National Transfer Accounts for 10 countries in the region, give a vivid illustration of how the changing age structure remains a relative perk for few countries and poses a threat and will most likely jeopardize the sustainability of the fiscal systems for all if the current per capita profiles of income, consumption and transfers were to be maintained. The numbers show that in terms of various economic and social development indicators, the region had been already struggling to be on the path of sustainable development before the pandemic with off-track progress towards several SDGs. Yet, the halt brought by the virus has set back progress on eradicating poverty and reducing inequalities by years, which combined with the ageing society calls for unprecedented efforts to put the region back on its feet.

Hence, the paper underlines the importance of formulating policies and introducing measures whose major aim is to boost the productivity, both of the labor force and businesses and economy on the whole as one of the options with the most lasting impacts. The effect of shifting the whole income curve up is not only a desired outcome but also a viable solution to the ageing trend in the region. As mentioned beforehand, it is not the only option to accommodate the demographic trends; yet, it is one of the most feasible to implement in LAC with some positive effects visible already in the medium run. The right policy response is thus crucial to assure that Latin America and the Caribbean countries can stand a chance of achieving or making significant progress towards the SDGs and develop sustainably in the XXI century.

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Annexes

Annex 1
List of NTA databases used in the study

Argentina 2016

Bolivia (Plurinational State of) 2014

Brazil 2008

Chile 2017

Colombia 2014

Costa Rica 2013

El Salvador 2010

Mexico 2014

Paraguay 2012

Peru 2014

Annex 2
Selected demographic and socioeconomic indicators of the LAC countries, 2020

	Population (mln)	Population growth rate (percentage)	Total fertility	Life expectancy at birth	Child dependency ratio (per 100)	Old-age dependency ratio (per 100)	Median age	GDP growth rate (percentage)
Argentina	45.2	0.9	2.2	76.8	38.1	17.7	31.5	-10.5
Bolivia (Plurinational State of)	11.7	1.4	2.7	71.8	48.5	12.0	25.6	-5.2
Brazil	212.6	0.7	1.7	76.1	29.7	13.8	33.5	-9.2
Chile	19.1	0.7	1.6	80.3	28.1	17.9	35.3	-7.9
Colombia	50.9	0.9	1.8	77.5	32.3	13.2	31.3	-5.6
Costa Rica	5.1	0.9	1.7	80.5	30.2	14.9	33.5	-5.5
El Salvador	6.5	0.5	2.0	73.5	41.1	13.4	27.6	-8.6
Mexico	128.9	1.0	2.1	75.1	38.8	11.4	29.2	-9.0
Paraguay	7.1	1.2	2.4	74.4	44.9	10.6	26.3	-2.3
Peru	33.0	1.3	2.2	77.0	37.1	13.1	31.0	-13.0

Source: UN, 2019; ECLAC, 2020c.

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