A strategy for development with income redistribution: the minimum wage and growth fronts in Mexico[1]

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Abstract

The purpose of this study is to contribute to the discussion on the viability and potential impact of substantially increasing the pay of the lowest-income workers. To this end, a set of simulations are carried out using the input-output matrix to assess the impact on economic variables of increasing the minimum wage. The analysis yields very favourable indications for the viability of growth with income redistribution in Mexico, based essentially on the domestic mass consumption market. Stimulating growth in demand from the lowest-income households has a favourable impact on GDP and employment and only a relatively small effect on both inflation and imports, which grow by much less than they have with the model that has operated over recent decades.

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I.   Introduction

A strategy of development with income redistribution in Mexico inevitably entails systematic growth in the pay of the lowest-income workers. Other elements relating to well-being and social justice, environmental sustainability and domestic production capacity must also be included, but increasing the wages of poor families is central to the strategy. A little more than a year and a half into the government of Andrés Manuel López Obrador, there is increasing consensus in Mexico that such wage increases are a key instrument for bringing about the desired change in the socioeconomic structure of the country.

In addition to this introduction and the conclusions, the present article contains a contextualization section (section II) and a further two sections summarizing the results of the study (sections III and IV). Section III presents simulations for the impact of changes in the minimum wage on some macroeconomic variables in Mexico, based on the 2013 input-output matrix produced by the National Institute of Statistics and Geography (INEGI). The aim is to contribute to the discussion on the viability and potential ramifications of a substantial increase in the wages of the lowest-income workers. As will be seen, the simulations project very promising scenarios, with favourable effects on output and employment, very low inflationary impacts and very moderate effects on imports.

Section IV disaggregates the results using an approach that brings out the impact of higher earnings on the production structure, subdivided into groups of sectors that are referred to in this study as "potential growth fronts in Mexico". This is a sectoral classification of gross domestic product (GDP) which, as detailed in section III, is organized by groups of sectors governed by particular logics of supply and demand (Bielschowsky, 2014; Bielschowsky, Squeff and Ferraz Vasconcelos, 2015). As will be seen, this approach can be used to rank government policy priorities according to the operating logics of the different segments of the production structure, with a transformation strategy that integrates both social and productive considerations.

Essentially, the methodology applied includes the following aspects:[2] (i) estimates of the number of persons earning the minimum wage and the impact of increasing the minimum wage on the total wage bill by sub-branch; (ii) the basic features of the input-output model adopted; (iii) classification of the sub-branches in the growth fronts; and (iv) the procedures used to calculate the simulations.

Figure 1 shows the continuous fall in the real minimum wage between the late 1970s and the late 1990s, its relative stability until 2018, and the actual and projected increases in 2019 and 2020, respectively. It also shows the evolution projected for the period 2021–2024, which would achieve the proposed doubling in real terms of the minimum wage over the six-year period 2019–2024.

The simulations presented in this article deal only with the effects of increases in low wages on the economy and on the "growth fronts". Other effects from investments in infrastructure, housing and oil are not taken into account, and nor is public expenditure on health and education. Nevertheless, the exercise serves to exemplify the analytical power of the concept of "growth fronts" for the purposes of future planning work to structure a wide-ranging long-term transformation strategy for Mexico's economy, above and beyond the necessary wage growth that is occurring at the time of writing.

Lastly, the concept of potential growth fronts is both Keynesian and structuralist in inspiration. It is Keynesian because GDP is subdivided into branches by specific logics of demand (induced and autonomous demand) that condition the expansion of supply, i.e., that condition investment. It is structuralist in the sense that the supply responses to increased demand in each group of branches into which GDP is subdivided depend on the structural conditions of output growth nationally.

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[2] For details of methodological aspects, see the annexes to Bielschowsky and others (2021) in https://repositorio.cepal.org/bitstream/handle/11362/46748/1/S2100185_es.pdf [Spanish only].
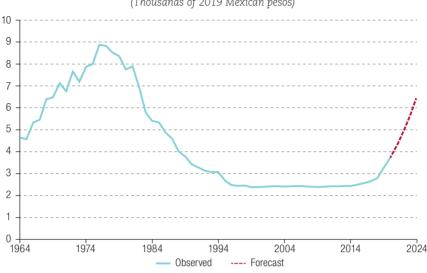
Figure 1
Mexico: real monthly minimum wage, 1964–2024[a]
(Thousands of 2019 Mexican pesos)

[a] Average wage weighted by the population of the different areas that have had a minimum wage during their history. Inflation of 3.5% was estimated for 2020. A doubling in real terms of the 2019 minimum wage is forecast for 2024.

II. Contextualization

The international literature on the effects of increasing minimum wages generally finds that there is no conclusive evidence for unfavourable effects on output or employment (Card and Krueger, 1995; Buszkiewicz and others, 2019). The effect on prices, although statistically significant, is also found to be very low or nil (Salazar, Amador and Serrano, 2018; Lemos, 2004). In Mexico, recent studies on the minimum wage have placed special emphasis on the relationship between this wage, poor income distribution and poverty (Samaniego Breach, 2014; Escobar Toledo, 2014; Bosch and Manacorda, 2010). As a result, in recent years the issue has begun to be debated (Heath and Martín, 2017; Moreno-Brid, Garry and Monroy-Gómez-Franco, 2014; Mancera, 2015) and the impact of minimum wage increases on employment and inflation has been studied (Campos-Vázquez and Esquivel, 2020; Fuentes and others, 2020; Campos Vázquez, Esquivel and Santillán Hernández, 2017).

This paper forms part of the wide-ranging international discussion on the need to deal with the process of income concentration to which many of the world's major economies (Piketty, 2014), and particularly those of Latin America (ECLAC, 2018), have been subjected. This debate is connected to the desire to remedy the low growth that has been observed in these economies as a result (Ros, 2013) and to abandon the strategy of reducing wages to increase competitiveness, which historically the Economic Commission for Latin America and the Caribbean (ECLAC) has dubbed spurious competitiveness, as opposed to genuine competitiveness. What is proposed instead is the implementation of a wage-led growth model that strikes a new balance between export-led growth and a stronger domestic market, and that reduces household indebtedness. This has been the approach used in these economies to compensate for the low effective demand resulting from wage restraint and income concentration (Lavoie and Stockhammer, 2012 and 2013).

This study is also inspired by progressive political thinking in Latin America, which proposes a style of development with social justice and lower inequality and which postulates that inequality is inefficient, since it is an obstacle to growth and development. This is the thinking endorsed by ECLAC since the 1960s (Bárcena, Bielschowsky and Torres, 2018) and systematically emphasized by it and by other United Nations agencies in recent decades (ECLAC, 1990, 2000, 2010, 2012 and 2018).

Between the 1930s and the early 1980s, as is well known, Mexico's development strategy was based on industrialization. This was a period of fast growth that led to a substantial structural transformation of the country. However, in common with most historical experience in Latin America, this model did not change the country's great social inequalities, and nor did it create a production structure with the endogenous capacity to produce and disseminate technology or to participate dynamically on that basis in world trade (Fajnzylber, 1983 and 1989; Cordera, 2010; Ramírez de la O, 2010).

The subsequent history is well known and has been much discussed. After the 1982 debt crisis and the period of stagnation that followed, Mexico radically changed its development model, assigning a smaller role to the government in the economy and seeking to dynamize its economy through exports linked to integration with the United States and Canada, within the framework of the North American Free Trade Agreement (NAFTA) (Aspe, 1993).

There has been a large expansion of exports as a result of the neoliberal strategy.[3] This strategy is closely associated with the maquila regime and has not led to significant dynamization of economic activity, investment, employment or productivity, as is demonstrated by the fact that the convergence between the NAFTA economies promised when the agreement was signed has not come about. On the contrary, the gaps have remained and even widened. Meanwhile, the external constraint on growth has increased as a result of rising imports and the loss of important links in domestic industrial production chains, plus a widening technology gap with the leading countries. Moreover, there have been no significant improvements in workers' incomes or in the distribution of income and property, and poverty has not been reversed. In the same critical vein, it is argued that, while there has been a degree of success in the essential task of controlling inflation and public deficits, macroeconomic fiscal and monetary management has been too orthodox, resulting in persistently very low economic growth rates. As Ros (2013) argues, the solution to the problem of low growth does not lie in the realm of microeconomic reforms, which to date have if anything been detrimental to growth. It lies in the macroeconomic sphere, especially in fiscal and financial reforms and policies aimed at income redistribution and capital accumulation.

In fact, the social failure of neoliberalism and of growth-limiting macroeconomic policies has sparked an intense debate in Mexico on the need to move on from the radical pursuit of this new model that has been a feature of at least the last three decades. This confirms the vibrancy of the country's political and intellectual culture. Among the documents that have come out of this critical and proactive political approach, mention should be made of *Proyecto Alternativo de Nación 2018-2024: Plataforma Electoral y Programa de Gobierno*, a platform and vision for the country launched in 2017 at the initiative of the National Regeneration Movement (Morena) and the then presidential candidate Andrés Manuel López Obrador, as an essential part of what would eventually become his victorious

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[3]   In this case, the term is understood in the sense given to it by David Harvey in his *A Brief History of Neoliberalism*: "Neoliberalism is in the first instance a theory of political economic practices that proposes that human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterized by strong private property rights, free markets and free trade. The role of the state is to create and preserve the institutional framework appropriate to such practices […]. Furthermore, if markets do not exist (in areas such as land, water, education, health care, social security, or environmental pollution) then they must be created, by state action if necessary. But beyond these tasks the state should not venture. State interventions in markets (once created) must be kept to a bare minimum because, according to the theory, the state cannot possibly possess enough information to second-guess market signals (prices) and because powerful interest groups will inevitably distort and bias state interventions (particularly in democracies) for their own benefit" (Harvey, 2005). For an account of the set of public policies implemented in the name of neoliberalism, see the articles "What Should the World Bank Think about the Washington Consensus?", in Williamson (1999), and "The Washington Consensus as Policy Prescription for Development", in Williamson (2004).

campaign for the presidency (Morena, 2017). The ideas put forward in these texts were reflected in the National Development Plan 2019–2024 (*Diario Oficial de la Federación*, 2019), published by the federal government shortly after the inauguration of the new president, and in the sectoral programme of the Ministry of Labour and Social Welfare, which derived from this plan (Secretaría de Bienestar, 2020). These documents proclaim a commitment to fighting poverty and framing all programmes within the paradigm of sustainable development, with equity and the principle that no one should be left behind being "central to all plans and actions of the government which Mexico aspires to and deserves" (Morena, 2017, p. 10).

Another important document, which fits in with *Proyecto Alternativo de Nación*, is *100 Propuestas para el desarrollo*, a set of development proposals structured around four main pillars: (i) poverty alleviation and a more egalitarian society, (ii) higher and more inclusive and sustainable growth, (iii) territorial development and sustainability and (iv) institutional reforms for inclusive development (PUED/UNAM, 2019).

From the perspective adopted, the apparent challenges can be summarized as follows. After industrialization and neoliberalism, both involving great income concentration, is it possible to successfully implement a new alternative development model whose pillars include a substantial increase in the incomes of the most disadvantaged classes? Is it possible to envisage growth in which the domestic market once again plays a major role in dynamizing the economy? How viable and what is the scope of growth driven by the domestic mass consumption market, with better wages and a better redistribution of income? What is the impact on the external constraint (via imports) of a growth model with these characteristics? And how important is the role of industrial policies promoting domestic value chains and technological innovation in addressing the potential problems of the external constraint and stimulating growth in the economy? The present text is intended to contribute to this discussion.

First, two points should be made. One is that there are obviously numerous possible scenarios that can be simulated using input-output matrices. It would be of great interest to project the effect of increases in other factors that are vital for a reorientation of development in Mexico, such as a greater allocation of public spending to health, education and housing and increased investment in infrastructure, in the oil production chain and in science and technology, among other areas. However, as noted, this study is limited to assessing the impact on the economy of substantial increases in the pay of the lowest-income workers, which is the main policy being applied in the context of the new socioeconomic model.

The second point concerns the earnings composition data used in the simulations. These are based on a detailed study conducted by one of the authors of this text (Del Castillo, 2019) on employment and earnings statistics in Mexico.

Table 1 provides the basic data on worker numbers and wages estimated in that study (see Bielschowsky and others, 2021, annex 1, for a more detailed presentation). The data have been arranged to show the figures used in the two simulations presented in sections III and IV, dealing with the aggregate results of the simulations and the results by growth front, respectively.

Using the data on worker compensation from the 2016 National Household Income and Expenditure Survey (ENIGH), presented in table 1, the following two simulations were carried out with the Mexican input-output matrix:

(i)   Simulation 1: the pay of all workers employed in private enterprises and earning less than twice the minimum wage is raised to twice the minimum wage. About 6.9 million workers were in this group in 2016, earning an average of 1.39 minimum wages that year. The simulated increase represents an average wage increase of 58.6%.

(ii)   Simulation 2: the pay of workers in private enterprises (included in simulation 1) and private organizations and that of public sector employees is raised to twice the minimum wage. The income of workers in enterprises of the self-employed, personal or family type (including non-live-in domestic workers) is doubled, with the increase capped at two minimum wages. Table 1 shows that this second scenario adds 14.1 million people to the first scenario of 6.9 million workers, bringing the total to 21 million workers. It also shows that the categories incorporated into simulation 2 earned an average of 1.14 minimum wages. The increase simulated for these categories of workers represents a rise of 52.4% in their income.

Table 1
Mexico: workers earning less than two minimum wages and earning two or more minimum wages, by place of work, 2016[a]
(Millions of workers and proportions of the minimum wage)

Place or type of work	Workers on less than two minimum wages		Number of workers earning more than two minimum wages *(millions)*	Total number of workers with income *(millions)*
	Number *(millions)*	Average wage in 2016 *(as a proportion of the minimum wage)*		
1. Private sector company or enterprise	6.9	1.39	10.5	17.4
2. Self-employed, personal or family enterprise (including domestic workers)	13.0	0.99	5.0	18.0
3. Government institution	0.9	1.39	4.4	5.3
4. Non-government institution	0.2	1.33	0.4	0.6
Subtotal of subordinate paid workers	21.0	1.14	20.3	41.3
5. Self-employed workers with income (mixed income)	8.5	0.63	3.2	11.7
Total paid workers	29.5	1.00	23.5	53.0

Source: Prepared by the authors, on the basis of National Institute of Statistics and Geography (INEGI), National Household Income and Expenditure Survey (ENIGH), survey microdata, 2016.

[a]   For the purpose of classifying people by earnings in multiples of the minimum wage, the sum of wages, salaries, piecework pay, commissions and tips (codes P001, P002 and P003 of the 2016 National Household Income and Expenditure Survey) was taken.

The 8.5 million self-employed workers with mixed incomes below two minimum wages have not been included in the simulations. This is because the income of this working population is unlikely to be impacted by government policies on minimum wages. In other words, the "lighthouse effect" that is assumed to operate on the income of the categories of workers included in simulation 2 is unlikely to apply in the case of the self-employed. For this category, it is reasonable to assume that other redistributive policies such as progressive taxation, a universal basic income and public social spending policies, together with education and health policies, will be more important.

III. Main results

1.   Aggregate results

Using Mexico's 2013 input-output matrix and microdata from the 2016 National Household Income and Expenditure Survey, the effects on GDP, employment, prices and intermediate goods imports were calculated for each of the two simulations.[4] Table 2 shows the results of the simulations in aggregate terms.

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[4]   The methodological details of these simulations are presented in the annexes of Bielschowsky and others (2021).

Table 2
Mexico: rises in selected economic variables resulting from increases
in the earnings of the lowest-income workers in the two simulations
(Percentages)

	GDP	Employment	Prices	Intermediate goods imports
Simulation 1	2.0	2.1	0.4	1.2
Simulation 2	4.0	4.4	0.8	2.4

Source: Prepared by the authors.

In the case of the impact on GDP, simulations 1 and 2 show growth rates of 2% and 4%, respectively. It should be noted that these results are not forecasts of what will happen over the coming years in the Mexican economy as a whole. The exercise only simulates additional stimuli in addition to those that would arise through the normal operation of the economy, i.e., changes resulting solely from increases in low pay. For example, assuming that cumulative growth in the economy over the five-year period 2019–2024 would be 10% in a business-as-usual scenario, a doubling of low pay would mean cumulative growth of 12% under simulation 1 and 14% under simulation 2.

The figures in table 2, although unimpressive in quantitative terms, show that increasing low pay produces a promising change of course. The reason is that the total mass of earnings of the 21 million workers who earned less than two minimum wages in 2016 (the base year for the exercise) accounted for only 15.6% of the total mass of earnings in the economy, i.e., 3.2% of GDP and 4.8% of private household consumption in the domestic market.[5] However, the simulation exercise provides a very favourable signal that not only is the course change towards higher minimum wages that has begun in the Mexican economy contributing to output and employment growth, but it does not threaten the country's macroeconomic stability.

The figures for the effects on prices are striking. The simulations show that the additional effect on cumulative inflation during the period of the intended wage increases would be 0.4% for simulation 1 and 0.8% for simulation 2. This almost nugatory inflation is the tax that society as a whole would be paying to substantially increase the pay of the working poor.

The figures for imports of intermediate goods are also reassuring from the point of view of the desired macroeconomic stability: the GDP elasticity of intermediate goods imports is well below 1 (0.6 in both simulations).[6][7]

The model used does not allow final goods imports to be calculated. However, since about 75% of total imports in Mexico are of intermediate goods, it is reasonable to assume that the income elasticity of total imports will not be high. In fact, on the very pessimistic assumption that final goods imports resulting from the improvement in low wages grew in line with the normal operation of the Mexican economy, total imports (imports of intermediate goods plus imports of final goods) would

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[5] This figure includes the private consumption of the institutions serving households.

[6] On the question of low imports of intermediate goods, it should be clarified that the exercise carried out with the Leontief model is static and therefore does not absorb the accelerating effect of GDP on investment. This means that imports of intermediate goods relative to capital goods have been projected only via the technical coefficients. Any differences from business as usual, whether positive or negative, when the accelerator effect is operating have been ignored. However, since the simulations yield permanent GDP growth rates of 2% and 4%, ignoring the accelerator effect is unlikely to significantly alter the picture of low intermediate goods imports arrived at.

[7] The two simulations have the same GDP elasticity of intermediate goods imports by construction, as the same Leontief inverse matrix was used in both. See Bielschowsky and others (2021, annex 2) and the classic book by Miller and Blair (2009) for a methodological introduction to the Leontief model.

grow by 2.2%, giving a GDP elasticity of total imports of 1.1.[8] This shows that, as noted below, the import content of the consumption basket of the poorest is indeed relatively small compared to that of high-income groups and to the overall performance of the economy in recent decades in terms of the income elasticity of imports.

The impacts on employment are also striking: it would grow by more than GDP in simulations 1 and 2 alike, with rates of 2.1% and 4.4%, respectively. This means that the simulated redistributive model entails strong demand for labour-intensive goods and services, which has at least two basic implications.

First, the result of the exercise indicates that the ratio between capital and labour in the sectors boosted most by growth in low wages is lower than in the business-as-usual scenario, implying less pressure on investment and capital goods imports.

Second, a sudden change in low wages, which would be a departure from the traditional income-concentrating model of the Mexican economy, would tend to dynamize the labour market to the advantage of workers, thus helping the government's current push to increase low wages. It should be noted, however, that this effect could make the redistributive model unfavourable to labour productivity unless accompanied by increases in worker training, education and technological innovation. Since the proposal is to implement the redistributive model step by step in the short, medium and long term, policies aimed at these objectives will have to gain increasing traction in the future to avoid total dependence on an expanding economically active population (EAP) and negative or low rates of change in labour productivity.

Despite the caveat, it can be concluded from the above that the growth model with higher incomes for the most disadvantaged classes is macroeconomically superior in several respects to the growth model in place in the recent past. One way to verify this is to compare the effects of the two simulations with what has happened when GDP has grown at rates equivalent to those in the calculations (see table 3). It is important to note that the periods selected for this comparison (the year 2017 and the period 2013–2014) are subsequent to the base year of the input-output matrix used in the simulations (2013), which implies that these counterfactual scenarios and the simulations run do not have similar production structures.

Table 3
Mexico: rises in selected economic variables, simulations compared to recent periods in which GDP grew at rates similar to those in each simulation
(Percentages)

	GDP	Employment	Intermediate goods imports
Simulation 1	2.0	2.1	1.2
Observed behaviour in 2017	2.2	1.2	6.6
Simulation 2	4.0	4.4	2.4
Observed behaviour in 2013 and 2014 (cumulative)	4.2	1.6	8.0

Source: Prepared by the authors, on the basis of data from table 2 and National Institute of Statistics and Geography (INEGI), Sistema de Cuentas Nacionales de México.

[8]   As table 3 shows, GDP growth in 2017 was 2.2%, a rate very close to the result of simulation 1 (2.0%). To calculate the growth rate of total imports, we used the growth rate of imports of intermediate goods estimated in the model and the actual 2017 growth rate of final goods imports. Thus, final goods imports were calculated as the difference between total imports at 2013 prices and intermediate goods imports at 2013 prices, both available from the INEGI input-output matrix. The growth rate of actual final goods imports between 2016 and 2017 was 5.0%, and the growth rate of intermediate goods imports estimated in simulation 1 was 1.2%. Thus, simulation 1 yielded: (i) estimated intermediate goods imports = intermediate goods imports in 2013 * (1 + 1.2%) = (3,898,884) * (1.012) = 3,945,671; (ii) estimated final goods imports = final goods imports in 2013 * (1 + 5%) = (1,384,564) * (1.05) = 1,453,792; (iii) estimated total imports = estimated intermediate goods imports + estimated final goods imports = 3,945,671 + 1,453,792 = 5,399,463; and (iv) growth rate of total imports = [(estimated total imports) / (total imports in 2013)] - 1 = [(5,399,463) / (3,898,884 + 1,384,564)] - 1 = 0.022 (2.2%).

When GDP grew by 2.2% in 2017 (an increase similar to the simulation 1 result of 2.0%), business as usual in the Mexican economy produced employment growth of 1.2% (which is much lower than the 2.1% projected in simulation 1) and a 6.6% increase in imports of intermediate goods (which is much higher than the 1.2% projected in simulation 1).

The results of the simulation exercise are also much better when the comparison is with the 4.2% cumulative GDP growth in Mexico in 2013 and 2014 (slightly higher than the 4.0% of simulation 2). While employment grew by 1.6% in 2013 and 2014, the increase in simulation 2 is 4.4%. Imports of intermediate goods grew by 8.0% over the same period, well above the 2.4% growth in simulation 2.

2. Aggregate results by economic subsector

Another important aspect to highlight is the change in the composition of growth by economic subsector that a rise in low wages would lead to. In the 15 years between 2003 and 2018, economic activities oriented towards the external market, or characterized by a high degree of economic concentration in the domestic market, were those with the largest increases in value added. For example, telecommunications grew by 12.2% annually in real terms over the period. This was followed by financial activities (11.8%), manufacture of transport equipment (6.2%), electric power generation (5.8%), air transport (4.9%) and road freight transport (3.8%), among others (see figure 2).

Figure 2
Mexico: impact on the economic subsectors with the highest growth in value added, 2003–2018
(Real-term percentage annual growth rates)

A. Simulation 1

Subsector	Percentage change 2003–2018	Impact in simulation 1
238-Specialized works for construction	3.4	4.0
339-Other manufacturing industries	3.7	0.9
212-Mining of metallic and non-metallic minerals, except oil and gas	3.8	0.3
484-Road freight transport	3.8	2.0
523-Stock exchange, currency trading and financial investment activities	3.8	0
431-Wholesale of groceries, food, beverages, ice and tobacco	4.1	2.1
493-Storage services	4.5	2.5
115-Services related to agricultural and forestry activities	4.7	0.3
481-Air transport	4.9	2.0
512-Film and video industry, and sound industry	5.4	3.8
221-Generation, transmission and distribution of electric power	5.8	0
336-Manufacture of transport equipment	6.2	3.2
521-Central bank	6.8	0
522-Non-market credit and financial intermediation institutions	11.8	0
517-Telecommunications	12.2	1.9

Figure 2 (concluded)

B. Simulation 2

238-Specialized works for construction	3.4 / 8.1
339-Other manufacturing industries	3.7 / 1.8
212-Mining of metallic and non-metallic minerals, except oil and gas	3.8 / 0.6
484-Road freight transport	3.8 / 4.1
523-Stock exchange, currency trading and financial investment activities	3.8 / 0
431-Wholesale of groceries, food, beverages, ice and tobacco	4.1 / 4.3
493-Storage services	4.5 / 5.1
115-Services related to agricultural and forestry activities	4.7 / 0.7
481-Air transport	4.9 / 4.1
512-Film and video industry, and sound industry	5.4 / 7.7
221-Generation, transmission and distribution of electric power	5.8 / 0
336-Manufacture of transport equipment	6.2 / 6.6
521-Central bank	6.8 / 0
522-Non-market credit and financial intermediation institutions	11.8 / 0.1
517-Telecommunications	12.2 / 3.9

■ Percentage change 2003–2018   ■ Impact in simulation 2

Source: Prepared by the authors, on the basis of data from table 2 and National Institute of Statistics and Geography (INEGI), Sistema de Cuentas Nacionales de México.
Note: The economic subsector codes are the levels of the North American Industry Classification System (NAICS).

In domestic market-oriented activities where growth was very low or even negative in 2003–2018, increasing low wages would have a very positive impact. For example, the value added of activities such as garment manufacture (up 0.2% over the period), manufacture of electrical accessories and appliances (up 0.6%), manufacture of textile inputs and textile finishing (down 0.9%), manufacture and tanning of leather (down 0.7%) and manufacture of furniture, mattresses and blinds (down 0.3%) would increase by between 1.6% and 2.9% in real terms, according to simulation 1 (see figure 3). The impacts are even larger in simulation 2. In sum, increasing the lowest wages would bring about a revival in sectors that have been depressed, without reducing growth in sectors that are currently expanding at high rates. In fact, the latter would also benefit, albeit to a lesser extent.

Figure 3
Mexico: impact on the economic subsectors with the lowest growth in value added, 2003–2018
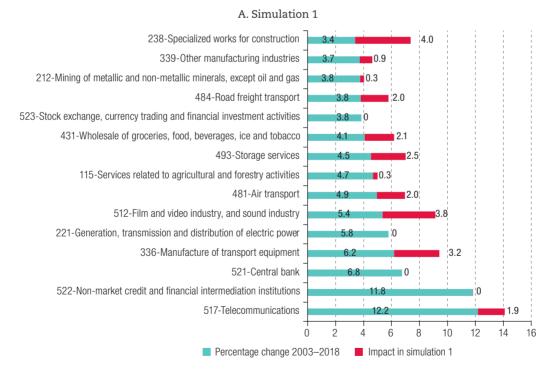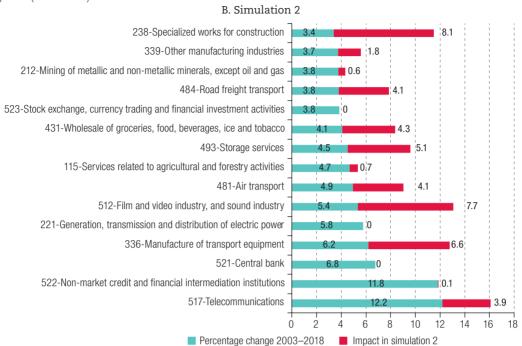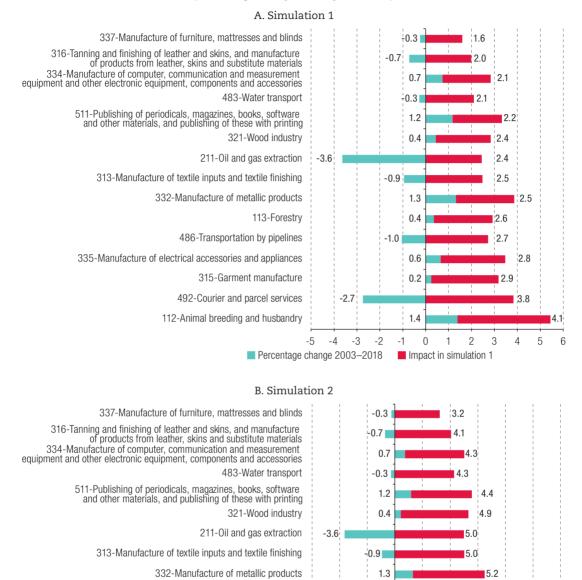*(Real-term percentage annual growth rates)*

A. Simulation 1

Subsector	Percentage change 2003–2018	Impact in simulation 1
337-Manufacture of furniture, mattresses and blinds	-0.3	1.6
316-Tanning and finishing of leather and skins, and manufacture of products from leather, skins and substitute materials	-0.7	2.0
334-Manufacture of computer, communication and measurement equipment and other electronic equipment, components and accessories	0.7	2.1
483-Water transport	-0.3	2.1
511-Publishing of periodicals, magazines, books, software and other materials, and publishing of these with printing	1.2	2.2
321-Wood industry	0.4	2.4
211-Oil and gas extraction	-3.6	2.4
313-Manufacture of textile inputs and textile finishing	-0.9	2.5
332-Manufacture of metallic products	1.3	2.5
113-Forestry	0.4	2.6
486-Transportation by pipelines	-1.0	2.7
335-Manufacture of electrical accessories and appliances	0.6	2.8
315-Garment manufacture	0.2	2.9
492-Courier and parcel services	-2.7	3.8
112-Animal breeding and husbandry	1.4	4.1

B. Simulation 2

Subsector	Percentage change 2003–2018	Impact in simulation 2
337-Manufacture of furniture, mattresses and blinds	-0.3	3.2
316-Tanning and finishing of leather and skins, and manufacture of products from leather, skins and substitute materials	-0.7	4.1
334-Manufacture of computer, communication and measurement equipment and other electronic equipment, components and accessories	0.7	4.3
483-Water transport	-0.3	4.3
511-Publishing of periodicals, magazines, books, software and other materials, and publishing of these with printing	1.2	4.4
321-Wood industry	0.4	4.9
211-Oil and gas extraction	-3.6	5.0
313-Manufacture of textile inputs and textile finishing	-0.9	5.0
332-Manufacture of metallic products	1.3	5.2
113-Forestry	0.4	5.2
486-Transportation by pipelines	-1.0	5.6
335-Manufacture of electrical accessories and appliances	0.6	5.8
315-Garment manufacture	0.2	6.0
492-Courier and parcel services	-2.7	7.8
112-Animal breeding and husbandry	1.4	8.3

Source: Prepared by the authors, on the basis of data from table 2 and National Institute of Statistics and Geography (INEGI), Sistema de Cuentas Nacionales de México.
Note: The economic subsector codes are the levels of the North American Industry Classification System (NAICS).

IV. Disaggregated results by growth front

The idea that the dynamism of different countries' economic systems is contributed to by different combinations of sectors of activity is a familiar one. It has been widely applied by economic theorists and historians and by ECLAC since its earliest days, when it analysed each country's conditions and ability to make the transition from commodity production and exporting before 1930 to diversification through industrialization and creation of the necessary infrastructure by the early 1980s. Today, as ECLAC argues, it is expressed in the form of development proposals that address the need for transformation of the production system to be strongly integrated with social equality in addition to meeting the essential requirements of environmental sustainability, progress towards activities and processes that are intensive in technological learning and orientation towards rapidly expanding markets (ECLAC, 2012 and 2018).

The grouping of economic sectors according to the concept of potential growth fronts in Mexico is a different and complementary classification to that traditionally used in the national accounts. Each "growth front" is taken to be a set of goods and services sectors or branches resembling one another in terms of the demand and supply logics that determine the growth of output, investment and productivity, and thus calling for differentiated public policies. As discussed throughout this section (and more operationally in Bielschowsky and others, 2021, annex 4), this methodology provides a way of looking at Mexico's economy that facilitates prioritization of economic policies based on objective issues relevant to the growth dynamics of the desired model of development with equality.

To this end, the entire Mexican economy (i.e., Mexico's GDP) is subdivided into the following potential growth fronts:

(i)   final mass consumption goods and services (excluding durable goods and infrastructure-intensive services, which are classified in other groups)

(ii)   health, education (public and private) and other government services

(iii)   housing

(iv)   services intensive in public and private infrastructure use

(v)   oil and mining

(vi)   consumer durables and capital goods sectors (essentially NAFTA-linked, but secondarily driven by domestic consumer demand in the case of durables and secondarily linked to investment demand across all the different growth fronts in the case of capital goods)

(vii)   sectors that are important to all growth fronts because they produce goods and services that are widely used throughout the economy (commerce, intermediate goods and services, and construction)

Table 4 summarizes the supply and demand logics underlying the division of GDP by potential growth fronts in the Mexican economy.

Table 4
Subdivision of GDP by growth fronts in the Mexican economy and the supply and demand logics on which it is based

Potential growth front	Demand logic	Supply logic
1. Final mass consumption goods and services (except consumer durables and infrastructure services, which are included in other growth fronts)	Total wage bill, credit at low interest rates.	Investment decisions induced by demand growth and conditioned by competitiveness.
2. Health, education and government services	Unmet social demand, requirements of citizen rights.	Fiscal space or political will.
3. Housing (household investment)	Housing shortage, long-term financing at low interest rates.	Long-term financial system.
4. Public and private infrastructure services	Rates of economic expansion, income elasticities of demand.	Infrastructure deficits, fiscal space or political will.
5. Oil and mining	Domestic and external demand.	Natural resource endowment, decisions by Petróleos Mexicanos (PEMEX).
6. Capital goods and consumer durables in the framework of NAFTA	First, the growth of the United States economy; second, the expansion of the domestic market (economy-wide in the case of capital goods for the domestic market).	Induced mainly by United States growth and conditioned by international competitiveness (economy-wide in the case of capital goods for the domestic market).
Economy-wide fronts		
7. Commerce	Simultaneously associated with the growth logics of demand and supply on all fronts (and conditioned by competitiveness, in the case of intermediate goods).	
8. Intermediate goods and services		
9. Construction		

Source: Prepared by the authors.

Tables 5 and 6 show the results of the two simulations by potential growth front. The figures in the last line of each table (total GDP) are of course the data from the aggregate simulations presented in tables 2 and 3 of section III. The GDP of the final mass consumption goods and services, commerce, infrastructure services and housing fronts grows by more than total GDP in both simulations. Moreover, with the exception of housing, the same is true of employment, intermediate goods imports and prices. In the case of widely used intermediate goods, the effects are somewhat smaller than the GDP and employment aggregates, and better when the effects on their imports and prices are compared with total imports and prices. The remaining four fronts show much smaller impacts for all the selected variables.

Table 5
Mexico: changes in selected economic variables, by growth front, simulation 1
(Percentages)

Growth front	GDP	Employment	Prices	Intermediate goods imports
Final mass consumption goods and services	2.7	3.0	0.5	3.3
Commerce	2.6	3.6	0.5	2.4
Housing	2.8	0.6	0.3	0.6
Infrastructure services	3.4	3.2	0.6	3.6
Widely used intermediate goods	1.6	1.9	0.4	1.5
Oil and mining	0.6	0.5	0.1	1.0
Health, education and government services	0.3	0.3	0.3	0.4
Capital goods and consumer durables in the framework of the North American Free Trade Agreement (NAFTA)	0.3	0.2	0.1	0.2
Construction	0.2	0.2	0.1	0.1
Total GDP	2.0	2.1	0.4	1.2

Source: Prepared by the authors, on the basis of data from the National Institute of Statistics and Geography (INEGI) and simulation 1.

Table 6
Mexico: changes in selected economic variables, by growth front, simulation 2
(Percentages)

Growth front	GDP	Employment	Prices	Intermediate goods imports
Final mass consumption goods and services	5.5	6.0	1.0	6.7
Commerce	5.2	7.3	1.0	4.8
Housing	5.7	1.3	0.6	1.3
Infrastructure services	6.9	6.4	1.2	7.2
Widely used intermediate goods	3.3	3.8	0.9	3.1
Oil and mining	1.2	1.1	0.3	1.9
Health, education and government services	0.6	0.7	0.6	0.8
Capital goods and consumer durables in the framework of the North American Free Trade Agreement (NAFTA)	0.6	0.4	0.2	0.5
Construction	0.4	0.4	0.3	0.1
Total GDP	4.0	4.4	0.8	2.4

Source: Prepared by the authors, on the basis of data from the National Institute of Statistics and Geography (INEGI) and simulation 2.

In tables 5 and 6, and in the description that follows, the growth fronts are ranked by the contribution of each to total GDP growth, in accordance with the growth accounting exercise presented in table 7 (fifth column). Thus, the final goods and services fronts of consumption, commerce and housing are the ones contributing the most to total GDP growth as a result of the change in workers' wages.

Table 7
Mexico: GDP shares and growth rates and contributions to total GDP growth, by growth front
(Percentages and percentage points)

Growth front	Share (percentages)	Simulation 1			Simulation 2		
		Growth (percentages)	Contribution to growth (percentage points)	Contribution to growth (percentages)	Growth (percentages)	Contribution to growth (percentage points)	Contribution to growth (percentages)
Final mass consumption goods and services	17.9	2.7	0.5	24.6	5.5	1.0	24.6
Commerce	17.6	2.6	0.4	22.7	5.2	0.9	22.7
Housing	17.6	2.8	0.5	24.7	5.7	1.0	24.7
Infrastructure services	7.8	3.4	0.3	13.4	6.9	0.5	13.4
Widely used intermediate goods	11.4	1.6	0.2	9.2	3.3	0.4	9.2
Oil and mining	8.6	0.6	0.1	2.6	1.2	0.1	2.6
Health, education and government services	11.4	0.3	0.0	1.7	0.6	0.1	1.7
Capital goods and consumer durables in the framework of the North American Free Trade Agreement (NAFTA)	5.1	0.3	0.0	0.7	0.6	0.0	0.7
Construction	2.7	0.2	0.0	0.3	0.4	0.0	0.3
Total	100.0	2.0	2.0	100.0	4.0	4.0	100.0

Source: Prepared by the authors, on the basis of data from the National Institute of Statistics and Geography (INEGI).

In the same way, table 8 presents data on the share of each growth front in total Mexican employment in each of the simulations. Tables 7 and 8 have the virtue of simultaneously showing the composition of GDP and total employment in Mexico by potential growth front. They also show the relative size of the reactions in the different fronts' activity levels to the simulated changes in earnings. In both simulations, about half the GDP growth and three quarters of the increase in employment are accounted for by final mass consumption goods and services and commerce.

Table 8
Mexico: employment shares and growth rates and contributions
to total employment growth, by growth front
(Percentages and percentage points)

Growth front	Share (percentages)	Simulation 1			Simulation 2		
		Growth (percentages)	Contribution to growth (percentage points)	Contribution to growth (percentages)	Growth (percentages)	Contribution to growth (percentage points)	Contribution to growth (percentages)
Final mass consumption goods and services	29.9	3.0	0.9	41.3	6.0	1.8	41.3
Commerce	19.2	3.6	0.7	31.8	7.3	1.4	31.8
Housing	9.2	0.6	0.1	2.7	1.3	0.1	2.7
Infrastructure services	4.5	3.2	0.1	6.6	6.4	0.3	6.6
Widely used intermediate goods	17.2	1.9	0.3	14.9	3.8	0.7	14.9
Oil and mining	0.8	0.5	0.0	0.2	1.1	0.0	0.2
Health, education and government services	11.4	0.3	0.0	1.8	0.7	0.1	1.8
Capital goods and consumer durables in the framework of the North American Free Trade Agreement (NAFTA)	4.3	0.2	0.0	0.4	0.4	0.0	0.4
Construction	3.5	0.2	0.0	0.3	0.4	0.0	0.3
Total	100.0	2.1	2.1	100.0	4.4	4.4	100.0

Source: Prepared by the authors, on the basis of data from the National Institute of Statistics and Geography (INEGI).

The results of the simulations for each potential growth front will now be discussed. To illustrate the advantages for planning and prioritization of using the concept of growth fronts in a strategy with the characteristics that have been discussed in Mexico during the current government, brief considerations will also be presented regarding some policies that should be applied for certain of the growth fronts to contribute to the success of the project.

1. Final mass consumption goods and services and commerce

In the scenario where the lowest wages rise, the growth fronts on which the impact is greatest are, unsurprisingly, final mass consumption goods and services, and commerce. The latter is significantly boosted by the spread of mass consumption. While the two fronts were responsible for about 35% of GDP in 2013, they account for 47% of the increase in GDP in the two simulations (see tables 7 and 8).[9] The effect on employment is even stronger. While these two fronts employed approximately 50% of the labour force in 2013, in both simulations the increase in employment there accounts for 73% of total employment growth.

It is observed in the simulations that, as the number of workers benefiting from a substantial increase in income grows, i.e., in moving from the first to the second simulation, activities oriented towards the production of final mass consumption goods and commerce grow in a similar proportion and by more than total GDP. While total GDP grows by 2.0% and 4.0% in simulations 1 and 2, respectively, the GDP of the two growth fronts mentioned above grows by 2.7% and 2.6%, respectively, in the first simulation and by 5.5% and 5.2% in the second.

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[9] Since the composition of GDP is the same in the two simulations, the percentage point contribution of each growth front is also the same in both cases. A similar reasoning applies with respect to employment.

As regards employment, while it grows by 2.1% and 4.4% overall in simulations 1 and 2, respectively, the estimated expansion of employment in final mass consumption goods and services industries is 3.0% and 6.0%, respectively; i.e., the income elasticity of employment is very high. It is even higher for commerce, where employment in the two simulations increases by 3.6% and 7.3%, respectively. Imports of intermediate goods destined for final mass consumption goods and services increase by slightly more than GDP in both simulations (the income elasticity of imports is 1.2). In the case of commerce, they increase by slightly less than GDP (income elasticity of 0.9). As seen in the considerations regarding the aggregate results, the redistributive model is also superior to the current one with respect to the external constraint.

As regards policies applicable to both growth fronts, on the demand side the experience of mass consumption models in developed countries suggests that the effects of a rising total wage bill need to be reinforced by a number of complementary policies. These include an adequate supply of consumer credit, whose expansionary effects on demand in the medium and long term usually depend crucially on interest rates being kept moderate. This prevents a situation where interest payments absorb a large part of real wage increases and households become overextended, which can impose major constraints on the continuity of growth. Other important elements linked to the model of growth induced by the domestic mass consumption market are distributional improvements in tax collection and the composition and quality of public spending (including minimum income or universal basic income programmes), because they have a direct impact on the income available for household consumption.

On the supply side, production and investment are essentially driven by the domestic market (supported by export dynamism). Businesses decide on their investments in a way that is induced by the actual and expected expansion of demand and conditioned by their international competitiveness. However, it is important to note that the model of expansion relying on the domestic mass consumption market is highly dependent on investment, like any growth model that is sustained in the medium and long term. The existence of a development bank that supplies long-term capital needs and offers low interest rates facilitates the accelerating effect of private investment. The role of public investment is also critical because of its direct and indirect effects on total investment, especially in sectors where private enterprise struggles to take on investment risks.

Before turning to the other growth fronts, three additional comments are in order. First, the fact that Mexico's population is large (126.6 million people in 2019, according to the National Population Council) and that Mexico is already a middle-income economy provides an opportunity that distinguishes the country from all others in Latin America (except for Brazil). This opportunity is to move through successive productivity increases (by scale) towards a mass production and mass consumption economy and to transform the profile of its exports, as happened successfully in the United States, European and Japanese economies over several decades in the post-war period.

Second, both production and commerce for mass consumption are likely to be carried out to a substantial degree by microenterprises and small and medium-sized enterprises. If so, policies should be adopted to promote the formalization of these enterprises and provide them with financial and technical support in order to increase their productivity and make the desired development model sustainable in the medium and long term. Tax incentives can also be used to achieve greater formalization of enterprises while increasing access not only to social security benefits, but also to credit.

Third, although the production of final goods for the most disadvantaged classes of the population appears to be intensive in low-skilled labour, it also involves very technology-intensive sectors and production chains, not least because of the sophisticated intermediate and capital goods required. This points to the need to intensify technological efforts in these production chains and ensure a fair distribution of productivity gains. It is also important to remember that boosting the economy through growth in the lowest wages leads to increases in income and demand across all social classes, including those that are consumers of more technology-intensive and technologically sophisticated goods.

Looking beyond the scenarios simulated in this study, it should also be noted that if the incomes of the most disadvantaged classes grow sustainably in the long run, the composition of their demand will shift towards more technology-intensive goods and services, including those forming part of the other growth fronts, discussed below.

All the above implies the need to diversify the production structure and make substantial technological efforts. Policies must be implemented to promote productive development right across the economy, in terms of backward and forward linkages, labour training, research and development, and technological innovation. This is important to achieve endogenous technical progress and to boost the economy's potential growth fronts and labour productivity, as well as to avoid future supply-side constraints and balance-of-payments effects that could undermine the continuity of growth.

2.   Housing

The demand for housing-related activities (building, water and gas supply and real estate services) depends on three factors. First, it is linked to the large deficit of residential accommodation in Mexico, which makes housing one of the major social demands. Second, it depends on the existence of long-term financing at low interest rates and of extensive housing subsidy mechanisms for the most disadvantaged groups of the population. The third factor is the demand from high-income classes (part of which is associated with investment portfolios based on speculative financial logic).

The simulations (see tables 5 and 6) and the growth accounting tables (see tables 7 and 8) show housing as one of the growth fronts having the largest impact on GDP in absolute and relative terms, with a growth rate similar to that of final mass consumption goods and services and of commerce.

Interestingly, the large impact that the simulations show the housing sector having on GDP is not matched by a similar impact on employment, which is expected to grow by very little. This is counter-intuitive because housing is supposed to be a labour-intensive activity. One hypothesis, to be tested, is that as low incomes rise, there is an intensification of self-construction by poor households, whose work on their housing is captured in the National Household Income and Expenditure Survey.[10] This type of work is not counted as part of self-consumption and thus may not be included in GDP accounting. However, it contributes to the dynamism of the construction materials and inputs sector.

In the case of imports of intermediate goods, there is no surprise: the simulations show them expanding very slowly, with income elasticities of about 0.2. This points, as expected, to a domestic response to the demand for building inputs, especially in low-income housing.

For most families in Mexico, the monthly costs associated with the purchase of a house are excessively high given their current income. The major constraint on house-buying, which is essential for the well-being of the population, is therefore the lack of long-term public and private financing systems with low interest rates. Especially in the case of low-income housing for the poorer classes, fiscal space and political will to implement subsidy schemes are also key factors. However, existing housing improvement programmes, such as those implemented by the Mexico City government, should be considered for their dynamizing effect on the building materials sector and local job creation in residential districts and housing estates.

In principle, this is a promising growth front in the new development model sought for the Mexican economy. However, a resolute public policy is required for it to realize its full potential and produce significant economic and social impacts.

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[10] This is captured specifically in the household expenditure questionnaire. In the latest surveys, however, INEGI has estimated self-consumption from the household business questionnaire.

3.   Infrastructure services

This potential growth front includes electricity, transport and communication services (the supply of piped water and gas has been included in the housing sector). These are sectors where demand is strongly associated with growth rates in the economy as a whole, with elasticities that differ across subsectors. They may also be associated with the existence of large infrastructure gaps, which have negative impacts on the systemic competitiveness of the economy. On the supply side, fiscal space, the ability to mobilize significant amounts of financial resources and political will are the main determinants of the infrastructure growth needed to make the expansion of services viable.

Its importance for the welfare of the population is strikingly illustrated in the simulations, with growth far exceeding that of total GDP. This indicates that poor households, where demand is heavily suppressed by low incomes, increase their consumption of services such as energy, transport and communications by a much larger proportion when those incomes increase. The two simulations give GDP growth rates of 3.4% and 6.9% for this growth front, the highest of all fronts and much higher (by about 70%) than total GDP growth rates. This front also has the second-highest employment growth rate in both simulations (see tables 5 and 6). Infrastructure services are the fourth most important growth front in terms of their share of total GDP growth (see table 7) and the third most important front in terms of their job creation rate (see table 8). This is also the front that drives the highest inflation rate in both scenarios: 0.6% in scenario 1 and 1.2% in scenario 2, which is 50% higher than the overall inflation rates of 0.4% and 0.8%, respectively. Likewise, its intermediate goods imports are the fastest-growing, even though this does not amount to much when set against total intermediate goods imports, since its share of this aggregate is very small.

All this should sound a strong warning: since the redistributive model is very demanding of infrastructure services, these need to be planned for to prevent bottlenecks in the future, considering that the necessary investment involves complex financial equations and relatively long implementation time frames. The signals provided by the simulations are also likely to be significant from the point of view of urban mobility planning, particularly in the outlying metropolitan areas where lower-income households live. The use of mechanisms to cross-subsidize the charges for these services, which can have a major impact in terms of social justice, would enhance the importance of this growth front in the proposed socioeconomic model.

At the same time, it is essential to adapt infrastructure to the requirements of the economy and society of the twenty-first century. What is needed is an economic and social structure that is increasingly intensive in data transmission and digitalization in general. Effective broadband access for very substantial sectors of the population, including the lowest-income deciles, is an essential part of infrastructure policies that open up extensive opportunities for public and private investment to help bridge the digital divide. Accordingly, as ECLAC has pointed out, it is important for the entire population to have access to a basic digital basket.

4.   Widely used intermediate goods

As in the case of the commerce sector discussed above, there are goods sectors whose products are also in widespread use throughout the economy. They should be grouped as a separate growth front because their behaviour is not subject to specific supply and demand logics. They are economy-wide sectors that are associated with the behavioural logics of several or all the other growth fronts.[11]

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[11] As mentioned, the criteria used to classify branches as widely used intermediate goods and services branches for the purposes of the simulations are explained in detail in Bielschowsky and others (2021, annex 4).

Accordingly, and unsurprisingly, the results of the two simulations for widely used intermediate goods, as compared to the other growth fronts, bear some resemblance to the results for the economy as a whole in terms of GDP and in terms of employment (where they are somewhat lower). Regarding the concern about the external constraint, it should be noted that the income elasticities of intermediate goods imports are slightly lower than one.

This growth front comprises a set of branches of production that vary greatly in scale and technology requirements. Given its importance for the Mexican economy, and the trade balance in particular, import substitution should be planned for with a long-term perspective, and technological modernization and innovation capacity should be stimulated to secure the competitiveness of companies operating in Mexico.

5.   Oil and mining

The other potential growth fronts, including oil and mining, are relatively unaffected by the sudden change in earnings. Demand in the oil and mining sectors is associated with both the domestic market and exports. The decisive factor in the expansion of supply is the availability of oil at a competitive cost. The PEMEX investment decision-making process also plays a role in ensuring that the increase in energy demand expected to accompany a dynamic economy does not lead to higher oil and gas imports and aggravate Mexico's already compromised energy security. One possible explanation for the outcome of the simulations is that poor households' share of total consumption of oil and oil products is very low, so that an increase in demand from them has only a small effect on total production. The result may also be influenced by the fact that the ratio of petrol imports to domestic refinery production is high. In fact, this growth front has the highest income elasticity of imports of all those examined (about 1.6 in both simulations).

As is well known, there is a major debate in Mexico about the need for investment in the oil and oil products complex. Although the additional demand for hydrocarbons would be relatively low at the beginning of the redistribution process, in the medium and long term insufficient domestic production capacity in this key sector of the economy could have adverse effects on the balance of payments and the external constraint on growth. The country's hydrocarbon production capacity therefore needs to be expanded. For environmental reasons, among others, it is also necessary to make a transition towards a greater share of alternative energies, such as solar and wind, in the Mexican energy mix.

6.   Health, education and government services

Together with higher employment and worker incomes, access to housing, health care and education is the great social demand in Mexico. This is because of their effects in reducing poverty and improving quality of life and income distribution. The demand logic is driven by the social need for better and more extensive public services, while in the case of private services it relies on an increase in the total wage bill of the higher-earning sectors in the population. The supply logic essentially depends on fiscal space and the political will of governments to increase the share of social spending in total government expenditures.

Besides their social and civilizing consequences, the expansion and strengthening of health and education services have two basic effects on the economy. First, they help to increase the productivity of the labour force. Second, when these services are free or subsidized by the government, they increase the household budget available for mass consumption and investment in housing.

What is observed in the simulations is a very modest supply-side reaction in health, education and other typical government services. However, it should be noted that no simulations of the impact on public expenditure have been carried out. The result is that GDP on this front grows only modestly

in both simulations (0.3% in simulation 1 and 0.6% in simulation 2, compared to 2.0% and 4.0% total GDP growth, respectively).

This is because these are simulations in which earnings growth occurs in groups of households belonging to the most disadvantaged classes, and thus the increases are generally not spent on education or private health care. Since these population groups rely on public health care, it is important to strengthen this service (as the federal government is doing) to avoid a rise in out-of-pocket spending on health care due to the shortcomings and limitations of public care. As effective progress is made in removing health care and education from the market sphere, household disposable income will grow. Wage increases can then be used to meet other needs rather than to purchase goods and services that should be provided universally and free of charge because they are human rights.

The main significance of this result in the fields of health and education is the need for a substantial increase in direct State action, as the Mexican government recognizes. Otherwise, this potential growth front will not be able to contribute to productivity growth and will therefore work against the redistributive (and civilizing) model desired. It should be remembered, incidentally, that education and health were among the pillars of the model of full employment and social well-being successfully implemented in post-war Western Europe. One of the virtues of this model is that it creates very high demand for teachers, doctors and nurses, among others, leading to increased employment and qualification requirements for the working class.

7. Capital goods and consumer durables in the framework of the United States-Mexico-Canada Agreement (USMCA)[12]

The machinery and equipment industry, for both capital goods and consumer durables (the mechanical, electrical and electronics industries, among others), is concentrated in maquila plants, so that its production dynamics are essentially tied to the performance of the United States market and only secondarily to sales in the domestic market. In the branches belonging to this front, the ratio of exports to gross value added is over 50% (see Bielschowsky and others, 2021, annex 3).

For this reason, the supply of and demand for consumer durables, which should in principle be categorized as final mass consumption goods and services, and likewise the supply of and demand for capital goods, which should be considered an economy-wide growth front, have been classified as constituting export-centred supply in the USMCA regime. This potential growth front shows a modest impact in both simulations in terms of GDP, employment, imports and prices.

There are three possible reasons for this. The first is that low-income households are likely to increase their consumption of durables by relatively little. The second is that the impact of low incomes on total investment in the economy is also likely to be relatively small, something that can be attributed to a low capital-output ratio (or high labour-output ratio) in the production on which the demand of low-income households centres, as concluded from the simulation data. The third cause is intrinsic to the Leontief model; i.e., the model does not absorb the accelerating effect of growth on investment, which is the demand variable that drives the production and import of capital goods.

While the simulations, dealing as they do with the consequences of growth in low incomes alone, show little of importance on this growth front, this set of branches is nonetheless the focus of concern in the country in relation to the trade balance. The simulations do not measure the consequences for business as usual in all its ramifications in an economy that is highly dependent on imports of capital goods and consumer durables. According to the Mexican national accounts, approximately 50% of

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[12] USMCA replaced NAFTA.

total imports of capital goods (final and intermediate) is absorbed by this growth front. For this reason, among others, and as with intermediate goods production, it is essential to implement a programme for increasing domestic value added in production chains, which presupposes the planning and implementation of incentives for import substitution and innovation, in order to create endogenous production capacity for capital goods. This growth front, as is well known, represents the main pillar of global technical progress. Whether an income-concentrating or -deconcentrating development model is adopted, then, international competitiveness and the scope for growth without balance-of-payments problems are determined by success in stepping up local production in these value chains.

8.   Construction

Construction is a typical economy-wide front. It consists of building activities for all economic activities, and the construction of infrastructure in particular. It is the potential growth front that, together with capital goods and the construction or improvement of housing, constitutes gross fixed capital formation in the economy. It is observed to grow by proportionally much less than GDP in both the scenarios simulated.

The likely causes are similar to those explaining the relatively low increase in domestic output of capital goods. First, the change in the composition of output due to income redistribution seems to be redirected to capital formation to a lesser extent than the increase in GDP. This is due to the high income elasticity of employment in industries whose output is consumed by lower-income workers. Second, the accelerator effect of GDP growth on investment is not present in the simulations.

The main government effort should focus on providing the sector with financing mechanisms with adequate terms and modest interest rates. This is especially important in the case of small and medium-sized construction companies, which do not have access to international financing. This initiative could be supplemented by public policies to improve housing, residential districts and urban environments.

V.   Conclusions

A national development strategy is the deliberate design of a desired and feasible development pattern for a nation to be led by government and social actors. Accordingly, this study used simulations based on the input-output matrix to analyse, first, the effects of increasing the minimum wage on GDP, employment, intermediate goods imports and prices for the Mexican economy as a whole. It also studied the effects of increasing the minimum wage on these variables by groups of sectors called "potential growth fronts". It has been argued that each growth front comprises a group of sectors that are alike in that they behave according to similar demand and supply logics. The analytical power of the method was supplemented by some indications of public policies and their instruments, differentiating them by potential growth front. It is possible to conclude that the method serves to help establish a hierarchy of priorities, i.e., to determine the relative importance of each type of policy and instrument according to the government's strategic objectives in the desired social and productive transformation.

The analysis provides very favourable indications for the viability in Mexico of growth with income redistribution, essentially driven by the domestic mass consumption market.[13] The main conclusion is that stimulating demand growth among lower-income households by raising the minimum wage has very positive potential effects on the economy. It favourably affects GDP and employment, while its impact on both inflation and imports is relatively modest and much smaller than that of the model in place in recent decades.

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[13] In balance with reinvigorated exports, in accordance with the logic of genuine competitiveness.

In other words, gradually doubling minimum wages in real terms is a good way to start reorienting Mexico's economic development towards growth with social justice. Achieving this growth obviously requires other redistributive policies, such as tax progressivity, and greater access to quality education, health and housing.

Lastly, the model of growth with income redistribution is an important part of a future growth agenda that is not only in the interests of the poorest. The whole economy will benefit from the boost provided by the doubling of the minimum wage. This is true of other workers, owing to the employment multiplier effect, and of employers, since rising demand boosts profits. The main development in distributional terms will be that the incomes of the poorest households grow by more than other incomes. This will help close inequality gaps and fulfil the 2030 Agenda for Sustainable Development.

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