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Once the great lockdown is lifted: Post COVID-19 options for the economy

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Once the Great Lockdown is Lifted; Post COVID-19 Options for the Economy

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Abstract

In 2021 lockdowns still will be necessary to keep COVID-19 in check world-wide. Vaccination might bring sufficient coverage by the end of 2021 for some countries. Priorities in the re-emergence of economies should be for sustainability, health, education, full employment and social cohesion to preserve long-term welfare.

Pressures on Government budgets are going to rise in view of the unprecedented high public debt to GDP ratio world-wide. Increased taxation of wealth and of the top 10%-income-group is a superior strategy compared to retrenchment (budget cuts in health, education and social expenditures).

International cooperation is top priority. This applies to health, but also to economic and monetary policy: it can lift economic growth in the G20 countries over the short and long run by at least one third.

The resumption of trade should be guided by rewarding the achievement of social goals and realizing sustainability. In this way the level playing field is restored for those countries which want to contribute to a sustainable world and to cooperation.

International taxation rules for profits should prevent tax havens to make this a negative sum game. This would give developing countries some of the necessary breathing space to re-emerge from the COVID-19 crisis.

Keywords: COVID-19, employment, economic development, environmental sustainability, social cohesion education, health, monetary policy, sovereign long-term interest rates, conditionalities, taxation, stock market

JEL Classification: I00, J20, H63, H74, O38, O40, O43, O44, E62, E43, Q58, F18, F23,O52 R30, I25, F30, G15, H25, H87

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1. Intro: devastation and re-emergence

We may rise from the bunkers of the partial, intelligent or full lockdown after the waves of COVID-19 bombardments and see a world with wounds and scars. Physically the trees are there, the buildings are standing, the roads still paved, but the soul of our social and economic contacts has been severely affected. Pretty much the whole world was stuck with COVID-19. Hence this paper extends to richer and poorer countries alike.

Children have learned less, anxiety and stress have increased with fewer chances for coping. Many youngsters have had a dreadful time and quite a few are likely to be scarred perhaps even for life due to the COVID-19 bombardment. The extra-mortality in particular among the elderly and the sick has far exceeded that of previous flu-epidemics. Hospitals are relieved to see that the time of an overflow of their (IC) facilities is over, but as a whole they are exhausted from the onslaught of the epidemic.

The COVID-19 epidemic is a *health* crisis. Governments sought to contain the beast by limiting social contact, to "lock-downs". In the process the economy suffered: customers could no longer buy as they wished and products could not be transported as needed. This has made the "Great Lockdown" the biggest economic shock since the Great Depression. The IMF estimate is that somewhat less than a whopping 20 % (12 Trillion US Dollars) will be lost in the global economy over 2020-21.

Economically the "Great Lockdown" caused in the first instance a "supply shock", as costumers simply could not access the supply of services (transport/mobility, entertainment, restaurants and bars, culture, tourism) or when the final supply of goods was delayed because of restrictions on transport of constituent parts of final products. Governments intervened and are still intervening massively to preclude the backlash of the supply shock on consumer and firm demand.

When firms go broke as a result of a supply shock and their work ends, workers will have less income to spend in the economy and the supply shock may result in a decrease in demand, sending the economy into a downward spiral.

As in every crisis the burden of the loss was borne by the narrowest shoulders: the lowest percentiles of income. This is the first part of paper (in section 2). Most of this is based on macro-figures and micro-simulations of the impact of the crisis on individuals. This part draws mostly on papers which use data for the period of the first wave, February-May 2020) with occasional updates in the second half of 2020.

The shock was worldwide yet with substantial differences between countries: the OECD countries and China suffered less than developing countries. International trade was affected with a decrease in the export of natural resources and decreasing commodity prices: the oil price fell to US$ 41 a barrel. Capital flows decreased. Remittances, the transfers of migrants working in richer countries to their country of origin and a major source of revenue for many developing countries, decreased. The convergence between richer and poorer countries of the period 2000-2010 had already come to a standstill in the period 2010-2020 but now changes to a sharp divergence (section 3). The flow of well-educated people from middle income countries to OECD countries is increasing, as people see better opportunities there.

Remarkably the stock market after an initial hesitation in March/April 2020 is flourishing as never before indicating a surprising optimism of investors: they reckon on high profits in the future or on a continuation of low interest rates despite heavy Government borrowing.

By January 2021 a vaccine is around the corner, but it is likely to take more than a year before sufficient coverage is achieved to completely lift all social restrictions (including the social distancing) in the advanced economies and some years (some say until 2025) in emerging economies and developing countries.

We hope and like to see societies re-emerge form the COVID-19 crisis, in a similar way as after the Great Depression. At that time US president Franklin D Roosevelt stated that "heedless self-interest is . . . bad economics and freedom from want was one of four goals shaping policy. Ideas that were controversial a decade earlier — that economies left to themselves can wreak havoc on people's lives and that governments can advance the public good—became commonplace" In the meantime many small and medium scale businesses and services in sectors which were already at risk (like retail) are broke, adding to the already high unemployment as a result of the lockdowns that wreaked havoc in tourism, air transport and the food and drink sector.

In this vein countries can in 2021 slowly restart their economies to recoup lost income on a pace which depends on the ability of the Government to raise money for the support of the economic transition (either through borrowing or through taxation). OECD countries and China are in an excellent position to do so, while developing countries have to rely on the IMF and the World Bank for support.

Countries immediate concern is to create incentives for economic, sustainable growth and to recoup the losses in health and in education. The first inclination could be to look for quick wins, even if they go against long run sustainability. Hopefully the leadership will recognize that this is not the right route. The right route is to reenergize the health system which suffered from the crisis, to create a catch up for education, to resort to full employment policies (with some hesitation as such policies have been banned in the period of ultra- capitalism) and to spur innovation. Economic restructuring will be necessary in the countries which rely for a large part of their income on oil exports.

Governments will have to reflect on ways to repay the debts incurred for fighting the economic fall-out of the crisis. There are but two options: budget cutting which would put the car before the economic horse or higher taxation. We argue that increased taxation of wealth and of the top 10%-incomes will actually both help to reduce the budgetary squeeze as well benefit social cohesion in the country leading to more trust in Government (section 4).

The COVID-19 epidemic has made it crystal clear that international cooperation in health is top priority: competition is a negative sum game. The same applies to economic and monetary policy: calculations show that increased cooperation between G20 countries can lift economic growth over the short and long run by at least one third. The resumption of trade should also be under the clear guidance that cooperation is rewarded in achieving social goals and realizing sustainability in the face of the climate crisis (Attenborough, 2020). In this way the level playing field is restored for those countries that want to contribute to a sustainable world and to cooperation. International taxation rules for profits should

prevent tax havens to make this a negative sum game. They would give developing countries some of the necessary breathing space to re-emerge from the COVID-19 crisis (section 5)

We are acutely aware that policy is not some choice determined by rational choice based on evidence and on value propositions, but rather choice based on a complex system, in which the primary forces of "culture" dominate economic and social long-term reasoning. That is why we bring "social cohesion" to the table of this overview as a means to support Government broadly in its re-emergence policies.

In the following we distinguish for 2020 between the first stage of the crisis (early 2020-mid 2020) with rather stringent lock down measures in most countries and a second stage (mid 2020-till January 1, 2021), where many countries try to open up as much as possible, but are still under serious lock down constraints. The sections 4 and 5 consider the policy-options of years 2021 and beyond. This paper builds further on an early June 2020 assessment of the impact of the COVID-19 crisis for Europe (Ritzen, 2020). The last section presents our conclusions.

2. COVID-19 impact: health, education, employment, income and debt

2.1. The COVID-19 supply shock: real and financial

In the first stage (early 2020) of the COVID-19 epidemic the lock downs caused serious disruptions in the supply of goods and services. Consumers couldn't access for example, air travel, tourism, bars and restaurants, entertainment and consumer goods in retail shops. Firms could not access to their suppliers of intermediate goods, required for their own production in the "just in time" mode where stocks of intermediate products are kept as small as possible. The danger was that in a second stage this supply disruption would turn into a decrease in demand: firms lose business and have to shed workers. Workers have to accept lower wages or a lower income when they become unemployed. They have less to spend. Now the suppliers are not hurt by the lockdown measures but by lower demand. Before you know it we are in a "supply-demand doom loop", a downward spiral (Fornaro, 2020).

This is the basic economic thinking behind the impact of the "Great Lockdown" on the economy, as for example captured in the analyses of the two major international organizations (World Bank and IMF) (Utz, 2020)(Eriksson von Allmen, 2020). The macro-financial channels and spillovers that could amplify the negative economic and financial impact of the COVID-19-19 outbreak are depicted in Figure 1. In yellow is the threat of the "doom loop" or in the jargon: "the amplification through structural macro-financial linkages".

But there are two other major links with the real economy of demand and supply of goods and services. These are of the monetary type, namely the impact on credit and through financial markets. It is likely

that many small firms will go bankrupt, leading to losses for banks and other credit institutions. Individuals may not be able to repay their mortgages. This may at its turn again bring banks and credit institutions to the brink of insolvency.

Financial markets embody the beliefs on the longer run development as well as the reflection on the changes in values of present investments (equity prices). The forces of supply and demand of capital determine there the interest rates.

Note that there is an external factor which is not in the picture. This is monetary policy to which we devote a separate section. (2.6). It is often viewed as simply determined by “circumstances” with limited room for maneuver. As we show in section 2.6 the reality might be different for larger economic blocks like Japan, the USA, China or Europe.

Government was in a position to try to break the doom loop and a national credit crunch by borrowing money, to support firms and workers during the supply shock and by investing in the period of the decrease in demand. These Government efforts come on top of the lending needed to compensate for the loss of fiscal revenue (taxes) due to the supply shock and the ensuing decrease in demand and for the increased costs in health care. The risks are that of an international credit crunch driven by increased Government debt (section 2.5).

The first stage of the COVID-19 crisis is characterized by massive Government and monetary intervention of a size unequaled in history. But also in the second stage Governments continue to support the economy wherever they could.

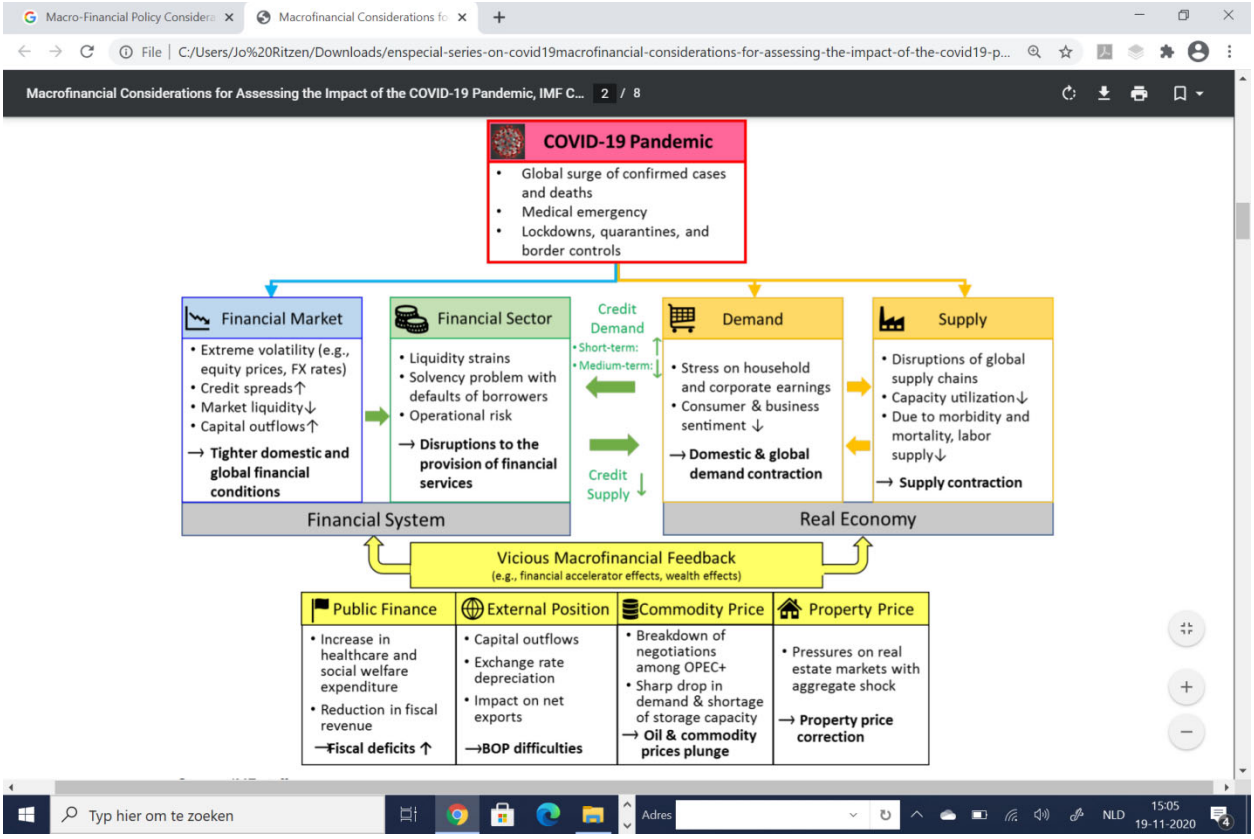

Figure 1 .Transmission of impact of COVID-19 on economy. Source: IMF.

2.2 Income

The impact of the Great Lockdown on the development of income has been assessed by all major organizations of economic cooperation and by all major financial institutions. Table 1 presents the expectations of IMF, formulated in October 2020. As the table shows, the 2020 dip is assumed to be in part compensated by economic growth in 2021. Note that these data do not represent GDP *per capita growth.* In order to get an impression of GDP per capita development one must realize that population growth is highest in the least advanced countries, almost evening out the growth differences between advanced and emerging markets and developing countries.

For the world as a whole the decline of growth between 2019 and 2020 of 7.2 % points of growth is only partly (for 2.4%) recouped in 2021, leaving the world poorer by 5 % in 2021 compared to a steady state growth of 2.8% (as of 2019). Instead of growing by 5.6% % over the years 2020-2021 the world will only grow .8%. This is much less than in the Great Depression in the 1930s. The Asia Financial Crisis of 2000 and the OECD one of 2008 also led to larger losses in the countries which were affected. Many economists reason that we may expect a V-shaped economic development: a COVID-19 dip in per capita GDP followed by a substantial recovery. This was the case in many of the financial crises in the past when the nature of the crisis was not within the economic system itself. The main doubt about the "V" is about the right hand leg of the letter: recovery might take a long time.

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COVID-19 economic impact and options

Table 1 • GDP growth 2019, 2020 and expected 2021

• Year	• 2019	2020	2021
Emerging market and developing economies •	• 3.7	• -3.3	• 6
Advanced economies •	• 1.7	• -5.8	• 3.9
• World	• 2.8	• -4.4	• 5.2

Source: IMF (https://www.imf.org/external/datamapper/NGDP_RPCH@WEO/OEMDC/ADVEC/WEOWORLD) (October 2020).

OECD data show the substantial differences between countries. For example India, South Africa and the UK are badly off in terms of the net loss in economic growth due to the great lockdown, with still substantial decreases in economic development in 2021 compared to the pre-crisis projections (Boone, 2020). The UK is in a particularly precarious position as it risks a serious recession due to Brexit. Figure 2 gives a further specification of the impact of the Great Lockdown on different groups of countries in the four quarters of 2020. Commodity exporters are here listed as a separate group (see section 3.4).

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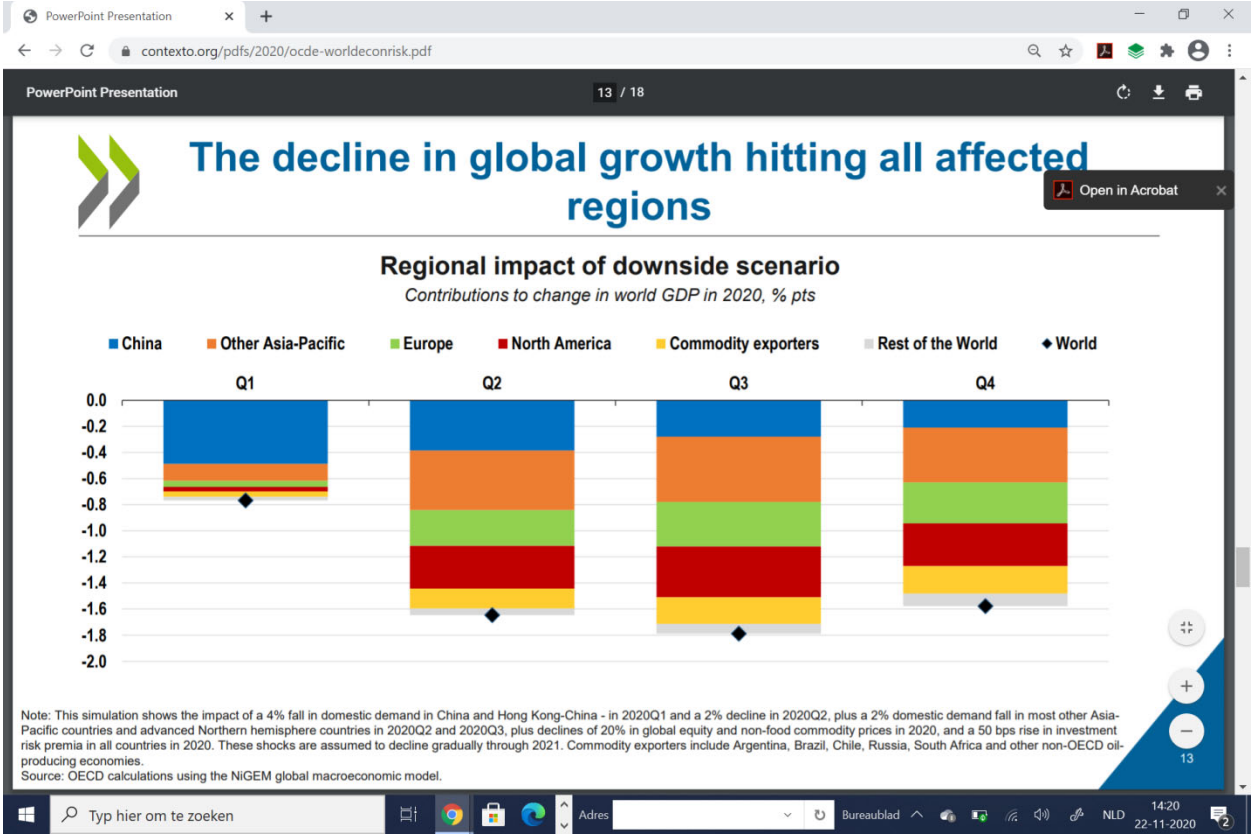


Figure 2 Impact COVID-19 on growth across the world (Boone, 2020).

COVID-19 economic impact and options

2.3. Employment

There is no country and no region which will not experience an increase in unemployment due to the COVID-19 crisis. It is also likely that unemployment will increase more in countries which already (before the crisis) had either high unemployment or a substantial size of temporary labor contracts and heavily institutionalized labor markets. "Productive specialization" (the relative size of the sectors most hurt by the lock-down like tourism or entertainment) plays a role as well. "The countries that are being hardest hit by the pandemic itself (Spain and Italy, and also the UK) are the countries more likely to suffer the worst employment implications of the confinement, because of their productive specialization and labor market institutions"(Fana, 2020).

In the recent economic downturns, like that of the "Lehman Brothers" financial crisis of 2008 unemployment increased more among men than among woman. This time it is different: in G7 countries, among them the USA (Alon, 2020) unemployment is higher among women both because their employment is concentrated in heavily affected sectors such as restaurants, and due to increased childcare needs caused by school and daycare closures, preventing many women from working.

The larger impact of COVID-19-19 on women's versus men's employment is also observed in other G7 countries including Canada and the UK. In these countries, the sectoral distribution of women's employment together with the increase in childcare and household needs accounts for a larger impact of the pandemic on women's than men's employment. It is also broadly noted that low-skilled and flexible labor-contract workers are more hurt than high-skilled and fixed contract workers.

2.3 Health and education

Health

The health care workers have been rightly applauded for their impressive commitment to help those affected by the virus, in particular at the time when so little was known about the spread of the virus and the personal risks of contagion. Taking risks for one's own safety in order to save others is truly the definition of heroic. Health systems are left behind with the clear message to the public: they should be better prepared for possible pandemics.

The health impact of COVID-19 goes far beyond those who were infected, but also extends to those who were affected by the lock down in their psychological function. This is highlighted in a special Issue: COVID-19-19: Insights on the Pandemic's Traumatic Effects and Global Implications. For example, the loss of work can be traumatic (Mimoun, 2020). But the worsening of mental health in the United Kingdom is also observed for working parents. It appears to be especially related to the increased financial insecurity and the time spent on childcare and home schooling. This burden is not shared equally between men and women, and between richer and poorer households (Massimiliano Tani, 2020). Intersecting Vulnerabilities: The Impacts of COVID-19 on the Psycho-emotional Lives of Young People in Low- and Middle-Income Countries

People's psychosocial and emotional well-being is perhaps more affected in low- and middle-income countries, where millions of people are already exposed to intersecting vulnerabilities. Chronic poverty, protracted violence, conflict and displacement, coupled with weak health, education and protection systems, provide the backdrop of many adolescents' lives. Banati et al. conclude from interviews with over 500 adolescents in Ethiopia, Côte d'Ivoire and Lebanon that the psycho-emotional toll of the pandemic on young people has been substantial (Banati, 2020)

The nutritional status and survival of young children in low-income and middle-income countries was also affected by the COVID-19 crisis. Of particular concern is an expected increase in child malnutrition, including wasting, due to steep declines in household incomes, changes in the availability and affordability of nutritious foods, and interruptions to health, nutrition, and social protection services (Headey, 2020).

This is just a selection of findings on the indirect impact on COVID-19-19 on the health and well-being of people with the general insight that the epidemic will have substantially long lasting scarring effects on the world's population, in particular as vaccination may not be available for everyone until the end of 2024..

Education

Early assessments are available on the impact of the school closures in the first stage of crisis (early –mid 2020) on school performance by comparing the change in test results between 2020 and 2019. This comparison shows what one would have feared for: the on line mode has on the whole led to a loss in progress in children's development and more so for children from vulnerable backgrounds than for those with well-educated and more affluent parents (Renaissance, 2020). Reading performance was on average only a single percentile below, while math fell by seven percentile points. The learning loss in weeks for students in grades 5 and 6 in math were more than 12. These US findings, but they are corroborated with evidence of pretty much all countries which regularly test for learning outcomes.

2.4 Income distribution and poverty

There is broad evidence that COVID-19 epidemic will leave a trace behind of increased inequality within and between countries (section 3.1). Within countries this has been pretty well established for all countries and all continents (exempting China, for which no data are available). In the OECD countries the findings point all in the same direction, even though many are still based on micro-simulations than on actual observations. The following examples give an impression:

- The poverty rate in the San Francisco Bay Area is likely to increase from 17.1% to 25.9% (in the absence of social protection) and the lowest income earners would suffer the most in relative terms (computed with a model)(Amory Martin, 2020).

- In contrast in the US others find that at the start of the pandemic, government policy effectively countered its effects on incomes, leading poverty to fall and low percentiles of income to rise across a range of demographic groups and geographies (Han, 2020).

- In Latin America (in Argentina, Brazil, Colombia and Mexico) Lustig et. al (2020) have simulated the distributional consequences of COVID-19-19-induced lockdown policies in Argentina, Brazil, Colombia and Mexico (Lustig, 2020). Contrary to prior expectations, they find that the worst effects are not on the poorest, but those (roughly) in the middle of the ex-ante income distribution. In Brazil, poverty among the afro-descendants and indigenous populations increases by more than for whites, but the offsetting effects of expanded social assistance also are larger for the former. In Mexico, the crisis induces significantly less poverty among the indigenous population than it does for the nonindigenous one. In all countries the increase in poverty induced by the lockdown is similar for male- and female-headed households but the offsetting effect of expanded social assistance is greater for female-headed households.

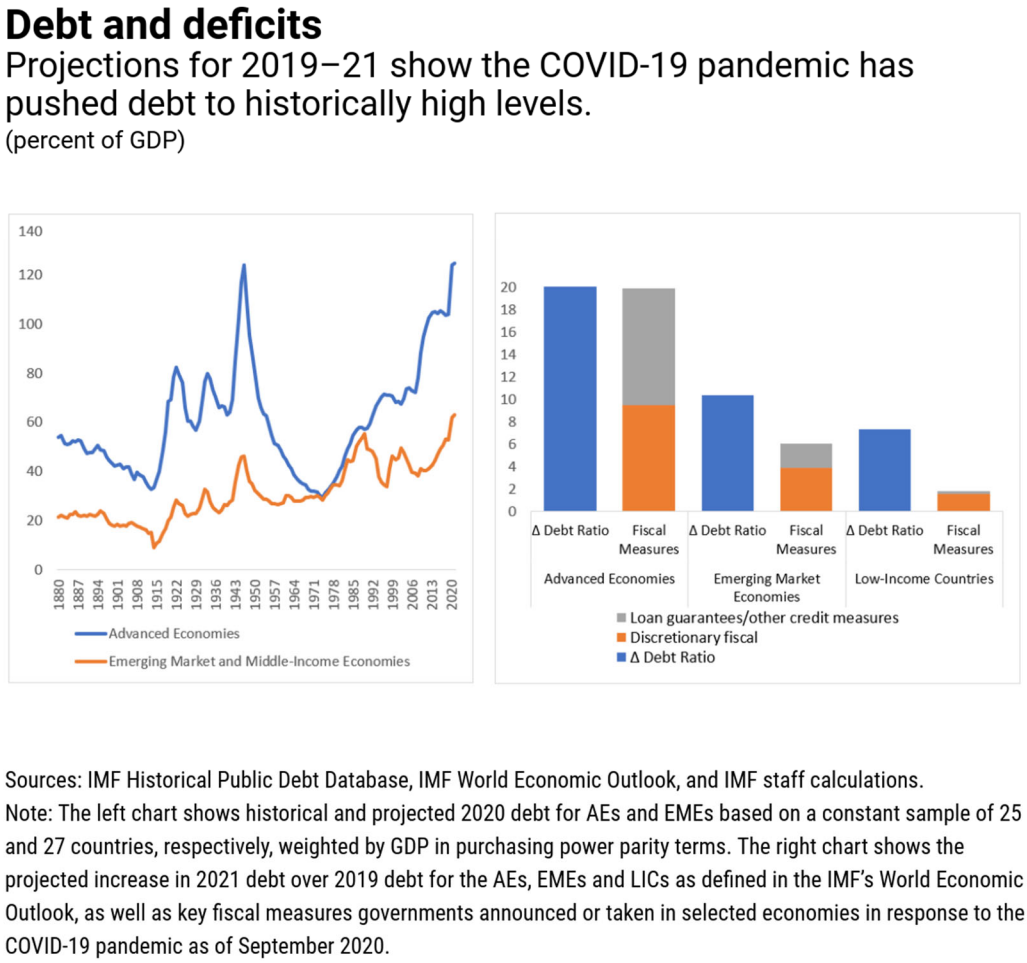
- In South Africa the impact of the COVID-19 crisis on employment was severe. There was a 21 percentage point net decline in the percentage of working age adults in active employment between February and April, but between April and June there was an 11 percentage point recovery in the percentage of working age when the lock down was partially lifted. Social Relief of Distress Grants have greatly contributed to reduce the negative impact of the lockdowns on income. In June, approximately one third of job losers had at least one recipient of such a grant in their household, while at the bottom half of the income distribution approximately 10% of the adult population received such grants. Without the Social Distress Grants the poverty would have been 2% percentage points higher in June (Jain, 2020)

-- A similar story applies to the Philippines (using a simulation study) (Albert, Abrigo, Quimba, & Vizmanos, 2020). In a (medium case) scenario declines of incomes of 10 percent emerge across the entire income distribution. The emergency financial subsidies (i.e., the social amelioration program and the small business wage subsidy in. place) that targeted 90 percent of households, the worsening of poverty conditions has been managed so that only 1.5 million (rather than 5.5 million) would fall into poverty (Albert, Abrigo, Quimba, & Vizmanos, 2020).

COVID-19-19 poses a real challenge to the UN Sustainable Development Goal of ending poverty by 2030. Global poverty could increase for the first time since 1990. Such an increase could represent a reversal of approximately a decade in the world's progress in reducing poverty. In some regions the adverse impacts could result in poverty levels similar to those recorded 30 years ago. Under the most extreme scenario of a 20 per cent income or consumption contraction, the number of people living in poverty could increase by 420–580 million, relative to the latest official recorded figures for 2018 (Sumner, 2020). In another study the baseline case suggests that globally the number of people living below US$1.90 per day will increase by 68 million in 2020 alone; this rise could however approach 100 million, should the recession turn out to be more severe than initially expected, as many practitioners fear. The fallout from the pandemic will also exacerbate the geographic concentration of poverty, to the extent that the Least Developed Countries, with only 14% of the global population, are set to represent the main locus of extreme poverty worldwide (Valensisi, 2020).

2.5 Private and public debt

The interventions of Governments with income support and financial support for firms has softened the economic blow of COVID-19 lockdowns on employment and income. Yet they have brought Government finance in a difficult position. Before the COVID-19 crisis the levels of public and private debt were already historically very high. But the crisis will certainly bring them to *the highest levels ever* as shown in Figure 3.



Sources: IMF Historical Public Debt Database, IMF World Economic Outlook, and IMF staff calculations.
Note: The left chart shows historical and projected 2020 debt for AEs and EMEs based on a constant sample of 25 and 27 countries, respectively, weighted by GDP in purchasing power parity terms. The right chart shows the projected increase in 2021 debt over 2019 debt for the AEs, EMEs and LICs as defined in the IMF's World Economic Outlook, as well as key fiscal measures governments announced or taken in selected economies in response to the COVID-19 pandemic as of September 2020.

INTERNATIONAL MONETARY FUND

Figure 3 Debt to GDP ratio's 1880-2020

The IMF calculates that private debt (nonfinancial) amounted before the COVID-19 crisis to US$ 152 trillion, or 225 percent of world GDP, while public debt had increased by 15 percentage points of GDP between 2000 and 2015 (Okamoto, 2020).Median debt in 2021 is now projected to be up by about 17

percent of GDP in advanced economies; 12 percent in emerging economies; and 8 percent in low-income countries. US debt has reached a height of US$ 27 trillion (with a GDP of 25 trillion). That is an alarming rise. With fewer resources and less capacity, low-Income countries are particularly vulnerable: about half of them were already in, or at high risk of, debt distress prior to the crisis onslaught.

There is substantial discussion on the level of debt that countries can incur if their level of economic growth is higher that the level of interest for that country (de Vette, 2020). If expected economic growth is higher than the interest rate, then borrowing money is like "a free lunch": it can easily be repaid. It is on this notion that quite a view OECD countries had decided before the onslaught of the COVID-19 crisis to borrow substantial funds for national investment funds. The notion is that the rate of return to these investments is likely to be higher than the interest rate for borrowings.

Now the pressing question is how international interest rates are going to develop in view of the tremendous increases in borrowing. The basic notion is that if the demand for money increases, then the price for money (the interest rate) would go up. This would invite the parties who provide money to save more and offer it for public and private debt. In other words: the interest rate is likely to go up through increased Government borrowing. Yet, one should realize that the OECD economies are characterized by "secular stagnation" (Summers, 2019) which have led to decreasing interest rates. However, the COVID-19 crisis has intensified this stagnation (driving down interest rates)(Goy, 2020). The jury is still out on the net effects of increased Government debt on the interest rate. The previous peak (see Figure 3 in debt to GDP-ratio's was just after the Second World War. Interest rates were then at a very low rate. However, interest rates were at an all- time high at the time of the high debt to GDP ratio's after the Great Depression.

2.6 Monetary policy

The US and the EU the Central Banks have –since the Lehman Brothers crisis of 2008 - engaged in buying up substantial amounts of private and public debt as a means to keep the economies from falling into the deflation trap with demand supply loop depicted earlier. The earlier fears for inflation and a rise of interest rates were belied as predicted by School of the Modern Theorist (Kelton, 2020). Debt may not be much of a problem if it is incurred for "investments in the economy" as the old Keynesian thinking would have it. Even debt, financed through money creation does not have to be a problem as the huge amounts of money created to "buy up private and public debt" after the financial crisis showed. The early experience with debt buy-up programs in Japan in the 1990's showed that buy-up programs indeed can thwart deflationary pressures.

Also with the advent of the COVID-19 crisis the Central Banks of the US and Europe have stepped in. This was in Europe debated as a possible "Hamiltonian Moment". The reference of course is to America's first Treasury Secretary, Alexander Hamilton, who consolidated the war debt of the thirteen colonies with the issuance of common debt. German Finance Minister Olaf Scholz described the €750 billion reconstruction package (of 2020) with a historical reference to the former American Treasury secretary.

In the US the "monetization of US debt" or the "quantitative easing of debt"(meaning the issuance of new money for debt[1]) has had a longer history. During the financial crisis the "Fed" (US Central Bank) started to buy up private and public debt (Amadeo, 2020). By the start of 2015 the Fed ended up with roughly US$ 4.5 trillion on its balance sheet. In March 2020 the Fed announced that it will buy up some US$1.25 trillion of debt. The European Central Bank has ramped up its pandemic trillion Euros in June 2020. bond-buying to Euro 1.35 trillion also in addition to earlier buy-up programs from the era of the financial crisis.

The buy up programs provide confidence to financial markets that their money used to fund debt are safe, so that interest rates can be low. This was in particular important in Europe for Italy and Spain. In de beginning of the COVID-19 their Government interest rate went up. When the ECB made it clear with the buy-up program that these borrowings are secure, the interest rates came down again.

For economists this was unchartered territory. Indeed, interest went down at first instance, but at the same time the money supply went up, potentially giving rise to inflation and in turn higher interest rates, with the possibility of an interest-price spiral. Fortunately this did not occur during the buy up programs during the financial crisis as – is the explanation- "secular stagnation": the rise of savings resulting from the ageing of the population (Summers, 2019).

Once again the unchartered territory is that the combination of the rise in Government (and private debt) together with the huge size of "monetizing" debt is not a certain recipe for an increase in interest rates world-wide. To be sure: financial markets (and the analysts which advise investors) do not believe that this is the case and still count that stocks give a better return than investments in country debt (section 2.6).

Monetizing debt is reserved for countries with a strong financial standing and a sufficiently large size. This limits monetization as a policy option for most countries in the world. Note that monetary policy in most countries is not part of Government policy, but is independent.

Central Banks have become aware that monetary policy does not only affect price stability and economic growth, but also the distribution of income (Jakob, 2020). Since income distribution stands so centrally in relation to social cohesion, which in turn has a positive effect on growth, we may expect from Central Banks to take income distribution more into account.

2.7 Innovation

The COVID-19 global lockdown triggered an unprecedented experiment. Millions of professionals had to do from home what they used to do in offices using ZOOM, Teams or any of the many other means for teleconferencing. Teachers taught on line. In one school-district in the Netherland 80% of the teachers became able to work with ICT for teaching (up from some 10-15%). Teleworking was promoted to viable long-term solution from temporary fix or precarious freelancer arrangement (Adriano, 2020).

[1] The Central Banks buy Government or –in Europe- private debt. They do not have to print money, but give credit to the Commercial Banks or the Governments, reducing the debt position of these parties, and allowing them in this way

Teleworking will stay with us long after the crisis, reducing the costs of mobility to firms and to the public (for Government services). Here the substantial differences between richer and poorer countries play also out. In poorer countries the means for using telecommunication for schools or for work were only available on a limited scale. International Labour Organization researchers estimate that less than one in five workers worldwide are in occupations and live in countries with the infrastructure needed for effective working from home. That average disguises wide disparities. In North America and Western Europe, the proportion is 1 in 3; in sub-Saharan Africa it is 1 in 17.

3. COVID-19 impact: international: trade and capital flows, and inequality between nations

3.1 Inequality between nations

The poorest countries – with limited resources and constrained capacity – are hit hardest: growth in low-income nations will be at a standstill this year, compared with 5% last year.

Without necessary action, this group of about 70 countries, representing more than 1 billion people, faces unprecedented human and economic devastation. The decades-long declining trend in global poverty is being pushed into reverse, with as many as 90 million additional people falling into extreme poverty, mostly in sub-Saharan Africa and south Asia.

Just this month, the UN warned of famine. There is also the fear that the pandemic will set back health progress for decades as well as reverse progress on other crucial fronts such as gender equality.

3.2 Debt international

Just as people with weak immune systems are more vulnerable to the virus, so low-income countries with weak fundamentals are more prone to its economic effects. More than half of these countries were already at high risk of – or actually in – debt distress before the crisis began.

The pandemic has exacerbated this with a poisonous cocktail of external shocks: sharply falling exports and commodity prices (see: section 3.4), collapsing trade, evaporating tourism and less capital inflows. Remittances, which are the main source of income for many poor families, have been hit hard – by almost 20% in countries such as Bangladesh (IMF, 2020)**.**

There have been significant developments in sovereign debt restructuring involving private-sector creditors since the IMF's last stocktaking in 2014. While the current contractual approach has been largely effective in resolving sovereign debt cases since 2014, it has gaps that could pose challenges in future restructurings. As the COVID-19-19 pandemic halted business activity around the world, the IMF fielded emergency loan requests from more than half of its 189 members, the most in its history.

3.3 Trade

Trade has been affected in the first period (March-June, 2020) as air transport halted. More over countries closed their borders for the export of medical essentials. Global value chains (GVC) were disrupted, leading to the conclusion that firms could no longer rely on "just in time" delivery of

intermediate products, but needed to create more buffers. Agarwal et al. have analyzed the impact of previous health shocks (SARS and MERS) on "global value chain" based products. They find no evidence for "reshoring" in response to each of these virus outbreaks. Their analysis also suggests that import shares from China and UAE declined during each outbreak, concluding that COVID-19 might lead to diversification away from China" (Agarwal).

3.4 Natural resources

Commodity prices have reacted strongly to the crisis, reflecting changes in supply and demand due to policy measures to limit contagion. Commodity-dependent developing countries are therefore confronted with an unprecedented combination of shocks. The crisis has brought to the fore the need for less dependency on commodity exports and mechanisms to stabilize commodity prices as well as strategies for economic diversification (Tröster, 2020).While metal and agricultural commodities have recouped their losses from the COVID-19 pandemic and are expected to make modest gains in 2021, energy prices, despite some recovery, are expected to stabilize below pre-pandemic levels in 2021 (WorldBank, 2020).

Oil prices are expected to average US$44 per barrel in 2021 (up from US$ 41 per barrel in 2020. Demand is expected to rise only slowly as tourism and travel continue to be held back by health concerns and as global economic activity is anticipated to return to pre-pandemic levels only in 2022 or 2023. The high price levels of 2011-2014 of around US$ 120 a barrel are not going to return in this decade. This puts a tremendous strain on countries that depend on oil for more than 50% of their GDP to quickly restructure their economies away from oil dependency.

Agriculture prices are expected to rise slightly in 2021, following an estimated 3% increase in 2020 following some shortfall in edible oil production. Concerns about food insecurity remain relevant in several emerging market and developing economies. These concerns are prompted by hits to incomes from the global recession, bottlenecks in food availability at the local level, and border restrictions that have constrained labor supply. Food price inflation has spiked in several countries (WorldBank, 2020).

3.5. The stock market

The COVID-19 crisis has often been compared to the Great Depression. In at least one element there is a remarkable difference: the stock market. Figure 4 shows the difference between the development between December 1927 and August 1929 with the COVID-19 period December 2019 through August

2020, while Figure 5 gives a more detailed picture for three different stock-markets.

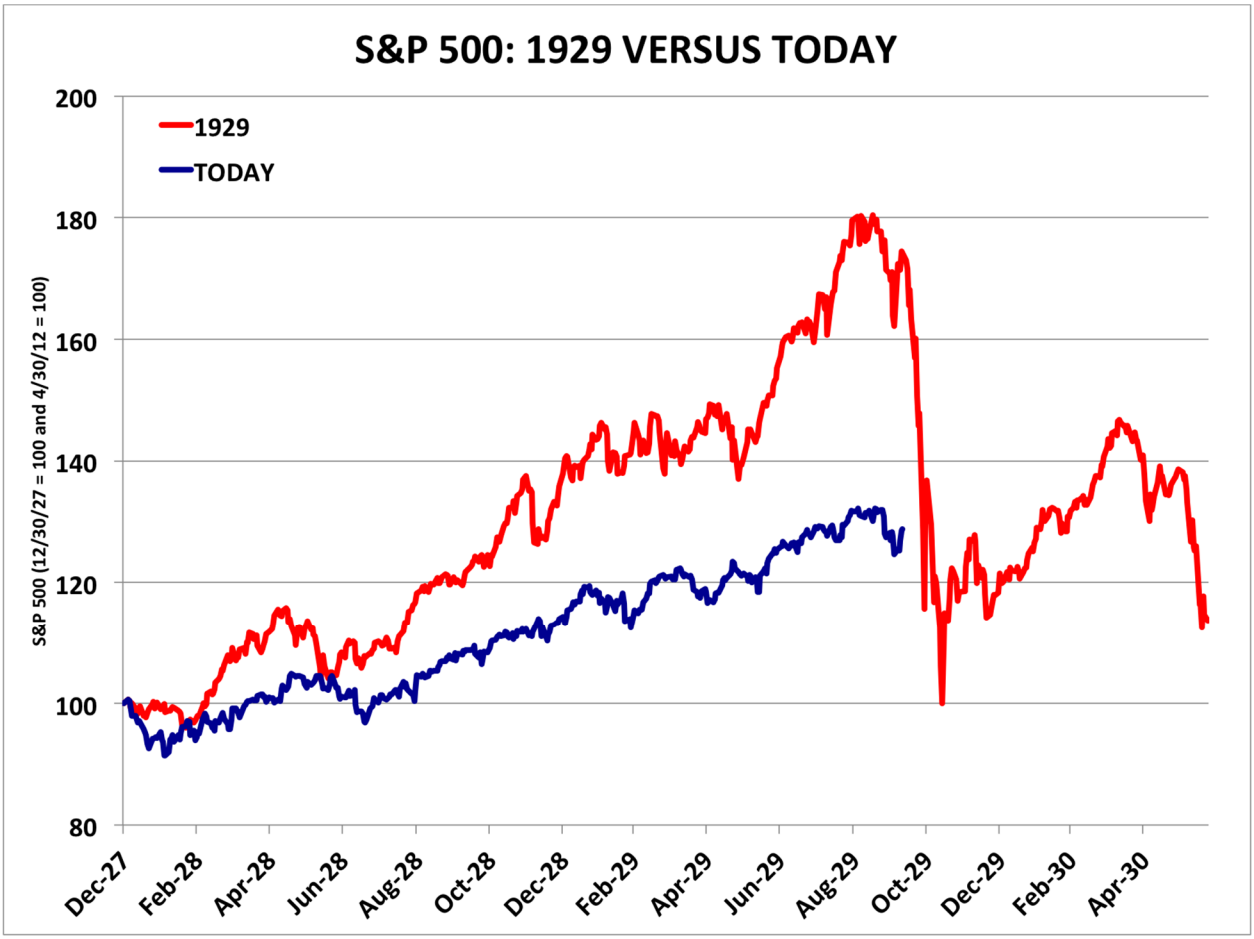


Figure 4 Stock market prices 1929 and 2020

Figure 5 Stock-market prices February-July 2020

Of course not all stocks have followed the same upward trend. Wei and Zhang distinguish between stay-at-home stocks (SAH stocks) and the go-outsides stocks (GO stocks). In particular, the SAH stocks mainly contain the stocks in the categories of Cold Chain Logistics, Beer, Dairy, Webcast, Cloud Office, Cloud Games, and Online Education and the GO stocks consist of the stocks in the categories of Sports, Ride-hailing, and Travel (Wei, 2020). The SAH prices have risen more than the GO prices declined, with an overall upward effect.

Baker et al. explain the unprecedented stock market reaction to the COVID-19 pandemic by the alertness and interference of Government (Baker, 2020). The bottom line is that the stock market – which expresses the beliefs of investors-, reflects a highly positive development of future profits.

4. Options 2021 and beyond: realigning resilience in national economies with sustainability

World-wide COVID-19 has changed our views of the role of public policy in our societies. In this respect it is comparable to earlier crises like the Depression and the Second World War (Carlin, 2020). The public has realized that it is public policy which is needed to first to minimize the impact of the crisis on the short run as well to prevent "scarring" – long-term loss of human and economic capacity as a result of

the lockdowns. It is also public policy which will contribute to the re-emergence of vibrant economies. “Markets will do the job”, used to be the imperative in most of the world before the crisis. However now we realize that markets can only function when Government provides the right side conditions, in funding and in institutions.

Now, at the end of 2020, we speak after most Governments have done their utmost to support the medical sector dealing with COVID19-patients, to prevent contagion through lockdowns and testing, but also to break the economic doom loop. Most Governments, but not all, have done "whatever it takes" (Krugman, 2020).

But the crisis is not over. In the advanced economies the years 2021-2022 will still be needed to achieve a sufficient coverage of vaccination to lift lockdowns completely, while during those years partial lockdowns will be essential to cope with the pressure on the medical system. In developing countries there is a real fear that the anti-COVID-19 vaccine will not be available in sufficient coverage for the next three to four years. Partial lockdowns with their negative impact on the economy might still be necessary.

So what are the policy options for the years to come?

Vaccination is not an option but an imperative. Countries which can afford to buy the vaccine will soon find that they will open up for all those who are vaccinated. It would not be surprising if by the end of 2021 for example air travel or the use of public transport or access to large crowds is reserved for those who are vaccinated, even if at present any such discussion might lead to a different conclusion.

The options are around priorities to be set by Governments to ensure that the long run effects of the crisis are mitigated and economies re-emerge from the dark COVID-19 days. Figure 3 presents a list of the options used in the first year of the COVID-19 crisis. These options are still relevant for the period when vaccination has not yet received full coverage: Governments need to secure access to opportunities – education, jobs, financing to start businesses – for the generation of young people upon whom the future of these countries depends, at a time when unemployment has risen and many firms are broke. This all means: additional resources for the State while fiscal revenue is declining.

Sustainability

While the COVID-19 crisis raged, world temperatures still went up. This was a signal that the climate crisis which makes the world unfit for habitation and nutrition for its 11 billion people by 2100 (Attenborough, 2020) is creeping faster ahead than imagined, even while CO_2 emissions were reduced as a result of the COVID-19 crisis. Any Government policy should be imbedded in the Paris Agreements.

Health

The jury is still out on the best strategy for vaccinations. Which groups should be prioritized? From a public health perspective the physically weaker and the older are the first targeted group. This is likely to be most effective in reducing the “over-morbidity” (additional number of deaths due to COVID-19, compared the previous years). Health workers need to have a high priority as they carry great risks in dealing with COVID-19 infected patients.

Yet Angus Deaton and Anne Case (2020) point to the "death by despair": people who come desperate, because they have no means to sustain themselves: the tremendous mental health impact of poverty and unemployment. Doesn't this imply a priority for vaccinations for groups at risk in the population?

And what about those in education, in particular in high school and university, both students and staff? We owe the youngsters to return as quickly as possible to a normal life, which implies that also the (older) staff should have a high priority in the vaccination campaign

Education

Education is a special point. The crisis has delayed the advancement in intellectual and personal development of youngsters (section 2.3). A substantial "catch-up" exercise will be needed to compensate for that. The rate of return of the costs of such an exercise is likely to be substantial, as higher performance means in general higher economic growth (Hanushek, 2016).

Investment in innovation

Before the COVID-19 crisis some Governments in the advanced economies had already set out plans for substantial new investment propositions, based on newly emerging technologies (like ICT). More in general countries must look to transform their economies for a very different tomorrow – including by incentivizing the transition to a climate resilient and low-carbon economy, and by building digital skills and infrastructure. For example, expanding internet access in sub-Saharan Africa by 10% could increase real per capita GDP growth by up to an estimated four percentage points.

In other countries, like the countries in the Gulf region major structural transformations of the economies away from oil dependency were already on the way, like Vision 2030 in Saudi Arabia.

Oil exporting countries will have to realize that the oil price is likely to remain depressed for an extended period of time. The World Bank (Ayhan Kose) states: "In the post-COVID world, these countries need to be more aggressive in implementing policies to reduce their reliance on oil revenues." (WorldBank, 2020). The general tendency away from fossil fuel –as a means to save the planet- will also contribute to depressed oil prices.

It appears urgent to ensure that earlier structural transformation plans need to be ramped up as a means to re-emerge out of the COVID-19 crisis. Structural transformation is a matter of investment, but also of the "right" institutional arrangements to make these investments profitable. Time and again it is shown that that institutions matter (Kozhan, 2020).

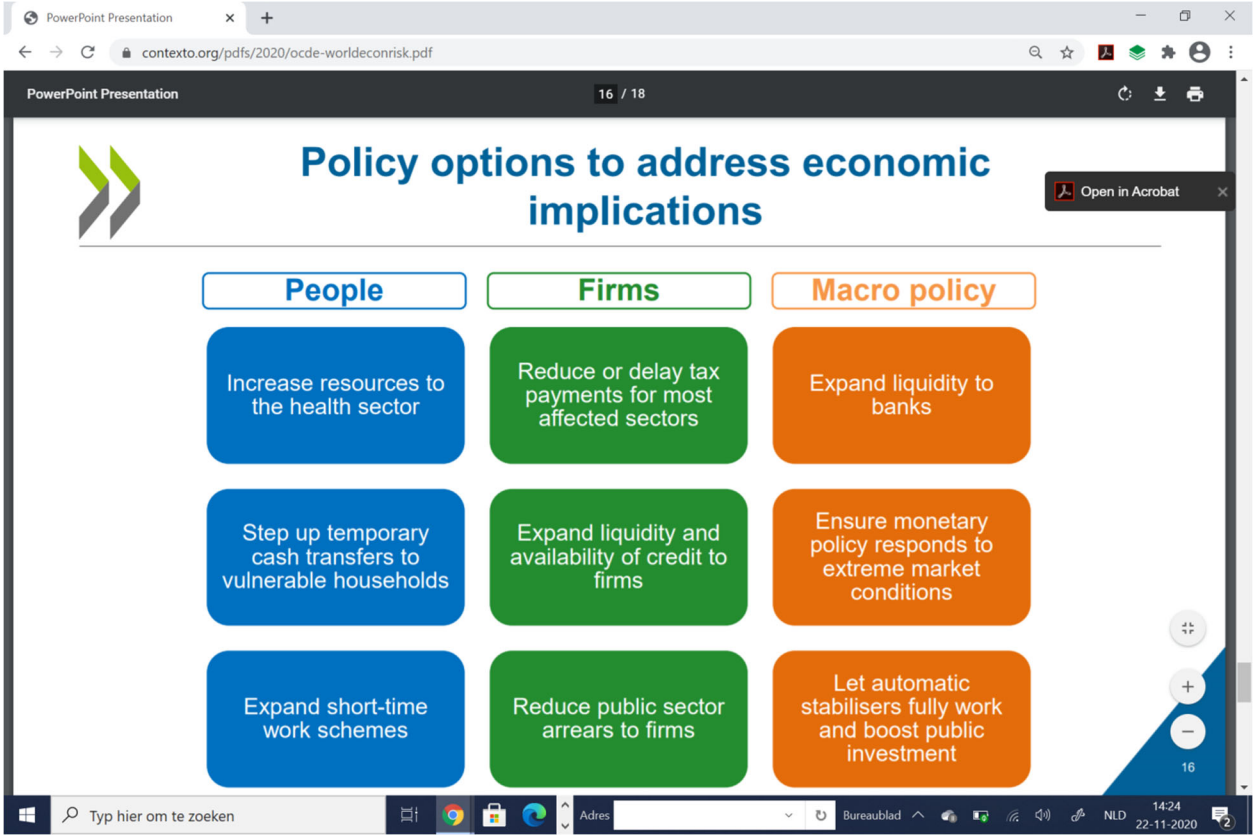


Figure 6 Policy options to address economic implications

Taxes

Government will have to exert themselves to manage the debt incurred during the crisis with new fiscal measures. Taxes on wealth and on the top incomes of countries have to be mobilized in order to ensure sufficient resources on the one hand with the least effect on the economy. In the process income inequality might be reduced which helps the necessary social cohesion in the process of restructuring and contributes to future economic growth (Easterly, 2006) An aggressive move towards higher taxes is urgently needed to avoid an austerity drive in much of the world in order to repay the debt (and the interest incurred on it). An austerity drive would harm the social infrastructure, government effectiveness and in particular health and education.

Social cohesion and polarization

The “license” of Government to act is surely related to “social cohesion”. This is a nebulous notion indicating the trust in Government as acting to support the future of individuals in society whatever their identity is. Limited social cohesion translates in limited trust in Government and political polarization. In turn it limits Government to act decisively in the crisis. An example is the US where due to polarization no agreement could be reached in 2020 on a package of financial support measures breaking the doom-loop. In turn this is likely to lower US growth in the years to come.

5. Options: international cooperation

Health

The crisis has shown the overriding need for international health coordination. Viruses do not care about borders. A borderless response is therefore an immediate necessity. The WHO has proven to be an organization which can do the job of international coordination but requires better funding and better regulation of authority, supervision and inspection. It simply took too long for the WHO to have access to the Wuhan experience with the virus.

COVID-19 produced an unparalleled increase in demand in personal protective equipment, medical products and devices, which far outpaced the ability to increase supply. The outcome was a shortage in these products, which lead several countries to introduce export restrictions (Puccio, 2020). The establishment of a new normative framework involving both WHO and WTO to avert supply shortages and export restrictions during any future pandemic is urgently needed (Puccio, 2020)

International economic cooperation in the economic re-emergence mode

International cooperation has a great pay-off as Figure 4 shows for a scenario in which all G20 countries choose *simultaneously the same* fiscal, monetary and structural measures, raising in the long run GDP growth by 1% point (approximately 1/3 of expected long run growth) (Boone, 2020).

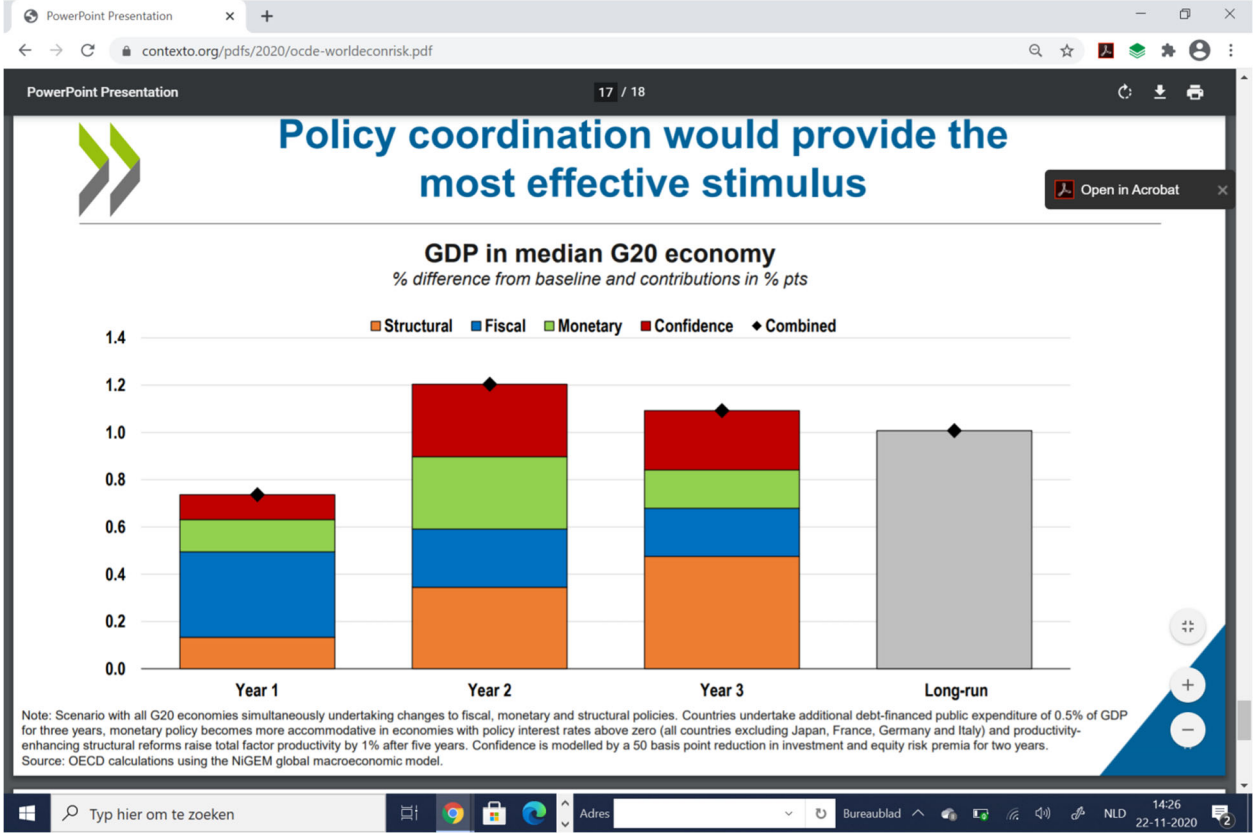


Figure 7 The impact of policy coordination between the G20 countries on economic growth

Investing in peace as an economic strategy

Coordination is one form of compromising on joint strategies as a positive sum game. Even greater would be returns to peace between countries at conflict with each other. Dividends to peace are substantial. From a human as well from an economic point of view all investments in peace have a substantial return.

Developing countries have been the hardest hit by the COVID-19 crisis. They lacked the health infrastructure and the fiscal and monetary resilience of many of the emerging and advanced economies This approach demands an increase of aid resources in the form of grants, concessional loans and debt relief. Responding to the IMF and World Bank's call, the G20 has suspended official bilateral debt payments from the poorest countries – freeing up about $5bn this year for 42 low-income countries. The initiative could be extended along with increased participation by commercial creditors.

The IMF is playing its part. It has tripled its capacity to provide zero-interest loans to low-income countries, disbursing over $30bn in emergency financing to 76 countries, including over $10bn to 47 low-income countries – without traditional conditions but with fiduciary safeguards. Also the IMF provided immediate debt relief, in grant form, to 29 of our poorest member countries. Preventing such a crisis can make the difference between a lost decade and a rapid recovery that puts countries on a sustainable growth trajectory. As IMF research has recently shown, waiting to restructure debt until after a default occurs is associated with larger declines in GDP, investment, private sector credit, and capital inflows than preemptive debt restructurings.

The international community must do even more in the years to come. Helping low-income countries gain equitable access to vaccines is an imperative. So is securing universal access to the internet and catching up in education.

Taxation

The years to come will demand for higher income from taxes in order to repay the debts incurred to combat the crisis. Taxes can have substantial negative effects. These effects have to be weighted in the types of taxes to be collected. Income taxation might dis-incentivize work. However, this does not apply to the top 1to 10 percentiles of income. In most countries – like the US (Putnam, 2020) - the percentages of total income going to these top incomes has risen substantially. The dis-incentive effect on work is likely to be negligible.

Inheritance taxation equally has only few negative economic incentive effects, as they signal to the population social mobility and may contribute to social cohesion (Piketty, 2020).

Yet the biggest gains may come from a serious overhaul of international tax rules for the taxation of business profits. Most multinational firms get away with very low rates of taxation on their profits, due to the ability to channel on paper these profits to countries with very low tax levels (rather than the more or less regular range of 25-35%). For all countries together this a negative sum game: the losses in the countries where the tax should have been paid are much greater than the gains in the "tax havens".

Developing countries are the prime losers. Their Governments agreed on tax rulings which made it attractive for firms (often in the natural resource exploitation) to invest in their country (so that Foreign Direct Investment –FDI- would flow to them and not the next door country. At least 30% of global FDI is intermediated through tax havens, according to IMF data. Offshore FDI links are particularly strong between colonial powers and their current and former colonies, depriving developing countries from taxes (Haberly, 2015).

Trade

Trade has been in the past a road to prosperity. Indices of openness of countries to trade always turn out to be good predictors of economic growth (Kozhan, 2020). However, it the same time we have realized that unrestricted trade can lead to a "race to the bottom" in terms of working conditions and of the impact of production on the environment. More and more groups of countries aim for the inclusion of standards of production in trade regulations, so that a level playing field exists.

This seems to be a profitable road for policy coordination: to include all negative "externalities" due to individualistic Government policy into trade agreements as a penalty or a constraint. For example: if G20 countries agree on the benefits of joint coordination of policies as in Figure 4, they could decide to put a penalty in trade for countries which deviate from the agreed rules.

The same might be the case for CO2 emissions in the production of goods as well as in the kerosene used for air travel.

This is a crisis like no other and we are responding like never before. It would also an excellent opportunity to revamp the way we think about "just" trade and "just" taxation– particularly to support the most vulnerable countries and the most vulnerable people.

6 Summary and conclusions

The onslaught of the COVID-19 virus on the economy world-wide has been met in 2020 by an unheard of, almost universally shared, Government response. Lock-downs were needed to keep the health systems from collapsing and reducing mortality. They caused havoc in the economy as well as in society at large.

In response Governments did all they could to avoid an economic doom-loop where reduced incomes would lead to less purchasing power and in turn to more unemployment and less personal income. They provided generous support to individuals and firms who lost income. Often party-polarization .or denial of the existence or seriousness of the virus stood in the way of Government intervention. In those countries the social and economic consequences will be more substantial.

Nevertheless, the impact of the crisis in 2020 has been everywhere enormous: reducing income, in particular of the lower deciles in the income distribution, increasing unemployment, a strain on the health system which needs reparation, lost progress in intellectual and social development of youngsters. More-over total debt (public and private) to GDP has reached the highest level ever. There is only one positive point: the shock has demonstrated that working from home is a realistic and cost-

effect alternative to working at the office. There is also a slight positive effect for schools: the majority of the teachers were forced to become quickly ICT literate opening up possibilities to use EdTech to support the teacher in achieving better scores for youngster in math and literacy. Of course this positive effect is only available to the economically advanced countries that have a good network of internet connections and can afford the necessary computers.

For the world as a whole the decline of growth between 2019 and 2020 (estimation November 2020) is in part likely to be recouped in 2021. The two years together leave the world poorer by 5 % in 2021 compared to a steady state growth. This fall in income is much less than in the Great Depression in the 1930s, the Asia Financial Crisis of 2000, or the Financial Crisis of 2008 and substantially less than earlier expectations by IMF.

Economically the "Great Lockdown" caused in the first instance a "supply shock", as costumers simply could not access the supply of services (transport/mobility, entertainment, restaurants and bars, culture, tourism) or when the final supply of goods was delayed because of restrictions on transport of constituent parts of final products. When firms go broke as a result of a supply shock and their work ends, workers will have less income to spend in the economy and the supply shock may result in a decrease in demand, sending the economy into a downward spiral.

As in every crisis the burden of the loss was borne by the narrowest shoulders. Micro-simulations show that the lowest percentiles of income were more hurt than others, females more than man, indigenous populations and by migrants more than the mainstream.

The Government response to the crisis has mostly been effective in preventing a doom-loop in most countries. Governments were handicapped to deal with the economic fall-out of the lockdowns in countries where substantial political polarization existed or were political leadership played down the possible impact of the crisis on health and the health system.

At the same time Government debt (in relation the GDP) increased to the highest level ever. This begs questions on the interest rates. How will they react to the increased demand for money? The present wisdom is that they will remain low, because the borrowed money is used for a good purpose. Yet, the jury is still out on the long run development. Remarkably monetary policy (set by independent Central Banks) has been used on a large scale in advanced economies to "monetize away" part of Government and private debt. This happened also in Japan in the 1990 after a real estate bust. It then did not lead to a surge in inflation, as may also not be the case in this period. Monetizing away debt is reserved for the happy few of economically advanced countries with a serious size. It is not available for most emerging and developing economies.

The shock happened worldwide yet with substantial differences between countries: the OECD countries and China suffered less than emerging economies or developing countries. International trade was affected with a decrease in the export of natural resources and decreasing commodity prices: the oil price fell to US$ 41 a barrel. Capital flows to developing countries (so called Foreign Direct Investment) decreased. Remittances, a major source of revenue for many developing countries decreased. The

convergence between richer and poorer countries of the period 2000-2010 had already come to a standstill in the period 2010-2020 but now changed to a sharp divergence.

Countries dependent for a substantial part of their income on oil-exports are now forced to restructure much faster than they anticipated in plans, like the Vision 2030 in Saudi Arabia. Also the US will have to restructure considerably. The US became the largest oil exporter due to new technologies to force oil out of stone reservoirs (shaling/ fracking). The costs per barrel of producing shale oil are in the same order of magnitude (around 40 US$ in contrast to 10 US$ in Saudi Arabia) as the price per barrel at present and in the near future.

Remarkably the stock market after an initial hesitation in March/April 2020 is flourishing as never before displaying a surprising optimism on future profits of investors. This is in sharp contrast to the 1929 crisis when stock prices tumbled.

About half of the low-income countries and several emerging market economies were already in or at high risk of a debt crisis. The further rise in debt induced by the COVID-19 crisis is alarming. Just as they are starting to recover from the pandemic, many of these countries could suffer a second wave of economic distress, triggered by defaults, capital flight, and fiscal austerity. The international community should do its utmost to ensure a stable convergence in welfare between the poorer and the richer nations, as a moral imperative but also as an economic must in order to create a virtuous cycle through trade.

It is likely that 2021 will still be a year in which lockdowns are necessary to keep the beast in check. At the same time the vaccination will start, hopefully bringing sufficient coverage by the end of the year at least in advanced countries which have already made commitments to several pharmaceuticals to buy sufficient vaccines for full coverage of the population. Vaccination is starting in January in some countries. Priority for vaccination will be first for medical staff and for population groups at risk. Countries should consider lower income groups as a second priority. Generally this group has less space to keep social distancing as it lives and works in more crowded conditions.

The general heading for all re-emergence should be sustainability, as the temperature changes of this year have made it clear that the climate crisis is even more serious than was thought before. Under that heading countries need to create incentives for innovation. They need to recoup the losses in health and in education. Full employment policies have the benefit of yielding substantial happiness.

The pressure on the Government budget is going to rise further in 2021 with more support for those affected in their income by lockdowns. This will force countries to think about fiscal strategies: retrenchment (and budget cuts in health, education and social expenditures) or higher taxation. It is clear that increased taxation of wealth and of the top 10%-income-group is a superior strategy as it contributes to more social cohesion and more trust in Government which in turn contributes to economic growth. The fall-out from these taxes on economic activities is negligible, this in contrast to the political opposition against such taxes, where the groups concerned represent substantial power in societies.

COVID-19 economic impact and options

International cooperation in health is top priority: competition is a negative sum game. The WHO needs to get a renewed and broad support. But also increased cooperation in economic and monetary policy is a no-brainer: it can lift economic growth in the G20 countries over the short and long run by at least one third.

The resumption economic on trade should also be under the clear guidance that cooperation is rewarded in achieving social goals and realizing sustainability in the face of the climate crisis (Attenborough, 2020). In this way the level playing field is restored for those countries which want to contribute to a sustainable world and to cooperation.

International taxation rules for profits should prevent tax havens to make this a negative sum game. They would give developing countries some of the necessary breathing space to re-emerge from the COVID-19 crisis. Here also political opposition will be relentless from parties with power and money. However there is little alternative. We risk a deepening of the divide, within countries and globally, between the rich and poor, giving rise to embitterment, to polarization and potentially to conflict.

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