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PANDEMIC OF INEQUALITY

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Preface

There is a platitude often resorted to in times like this: that a disease or other disaster is blind to differences of race, creed, or wealth. Yet what may serve as a useful, morale-boosting slogan—that we are "all in this together"—can also distract from the disturbing socioeconomic dimensions of this COVID-19 crisis. It is important to see clearly that in the United States, as in many other countries, we are very much not all in this together—or at least, not all in the same way.

In this policy brief, Luiza Nassif-Pires, Laura de Lima Xavier, Thomas Masterson, Michalis Nikiforos, and Fernando Rios-Avila present a range of evidence that the costs of the COVID-19 pandemic—in terms of both the health risks and economic burdens—will be borne disproportionately by the most vulnerable segments of US society. The COVID-19 crisis is likely to widen already-worrisome levels of income, racial, and gender inequality in the United States. Moreover, as the authors note, there is an element of a vicious circle at work here: not only will the pandemic and its fallout worsen inequality; inequality will exacerbate the spread of the virus, not to mention undermine any ensuing economic recovery efforts.

In order to make visible the asymmetric impacts of the spread of the coronavirus, the authors create an index that measures the clinical risk of developing a severe case of COVID-19. Examining data at the census tract level, they demonstrate that as the share of individuals living below twice the poverty line rises in a given locale, so too does the incidence of chronic diseases and risk of developing serious complications. Likewise, as the share of a census tract's minority population rises above 60 percent, the health risk increases precipitously above the national average. And to make matters worse—in a perverse feature unique to the United States—they find that those most likely to develop severe infections are also more likely to lack health insurance. Furthermore, the authors note that communities with higher poverty rates are also more likely to be exposed to the virus in the first place (due, for instance, to lack of paid sick leave, dependency on public transportation, inability to afford quarantine, and residency in smaller dwellings sharing space with more people).

Alongside these health risks, the economic disruptions caused by the distancing and shutdown measures deployed to fight the pandemic also most heavily affect those least able to withstand them or make adjustments. Job losses, for instance, are likely to be concentrated in the social expenditure sector—those sectors dependent on socialization and close contact. This is also a sector in which workers are more likely to be poor in the first place: 37 percent of those working in the social expenditure sector are living below twice the poverty line (17 percent are below the poverty line, and 20 percent are between one and two times the poverty line), which is well above the poverty rates for the employed population as a whole. These workers are also more vulnerable than average to income loss due to illness, on account of a lack of paid sick leave.

Beyond loss of income and employment, the COVID-19 crisis is more likely to lower economic well-being more broadly for those who are at the bottom of the distribution. For instance, government expenditure plays a crucial role in supporting the least well-off. School closures reduce the value of such expenditures, taking a greater toll on the overall material well-being of the poor. And as production then shifts into the household—with extra childcare and meal preparation required—the necessary household work time increases. Due to a combination of time and income constraints, those at the bottom of the distribution are less able to adapt to this increase in required labor inside the home (those who find themselves with more available time due to having lost their job or had their hours reduced are also seeing their incomes plummet). Moreover, the overall increase in household production time is likely to fall mostly on women, further widening the gender gap in contributions to household work—a key source and marker of gender inequality.

The authors underscore that our policy responses to the COVID-19 crisis must address these unequally shared burdens. Among other measures that can help blunt the regressive impact of the pandemic, they recommend provision of spaces to quarantine outside of the home, robust paid sick leave, and expanded access to healthcare, as well as a moratorium on evictions. Ignoring the regressive impact or refraining from taking action to mitigate these harms is not just an affront to principles of fairness, it can also prolong the pandemic and worsen its severity, as the authors explain. Moreover, rising income inequality has been one of the US economy's key structural weaknesses—serving to dampen aggregate demand, slow productivity growth, and increase financial fragility—and was part of the reason the expansion that just (almost certainly) ended was the weakest in the postwar period. At a time when we will require a monumental economic recovery to lift us from depression-level rates of unemployment, this pandemic may leave us with an even more structurally unsound economy.

As always, I welcome your comments.

Dimitri B. Papadimitriou, *President*
April 2020

Introduction

The COVID-19 outbreak in the United States is already imposing huge costs on society—from the death toll to job losses, the overall bill to be paid is high. Yet, rather than being equally shared, the bill is being disproportionately paid by the already-poor strata of society. Furthermore, overburdening the already poor is very likely to lead to an even higher aggregate cost. During an epidemic, failing to support those without healthcare access or the means to take sick leave is not only morally absurd, it is self-defeating.

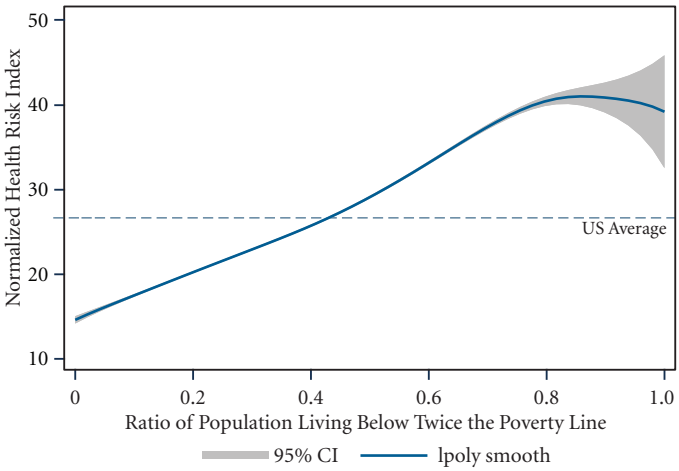
In this policy brief, we argue that extreme socioeconomic inequalities and the lack of universal healthcare are responsible for stark asymmetries in the costs borne by individuals, both in terms of health outcomes and economic well-being. As we show, minority and low-income populations are more likely to develop severe infections that can lead to hospitalization and death due to COVID-19. They are also more likely to experience job losses and declines in their well-being. Unless policies designed to combat the epidemic are sensitive to inequalities, the coronavirus outbreak will exacerbate biases and increase social, gender, and racial gaps—and consequently increase the length and severity of the crisis.

The Costs to Public Health

The toll of social inequality in healthcare is well-known. A clear relationship has been repeatedly demonstrated between social determinants—such as income, education, occupation, social class, sex, and race/ethnicity—and the incidence and severity of many diseases. This association holds true for infectious respiratory illnesses such as influenza, SARS, and also for COVID-19, as Figure 1 shows. The consequences of this imbalance are particularly catastrophic when there is a massive disease outbreak. The precise mechanisms by which social determinants drive the unequal disease burden during these outbreaks are harder to assess. On the one hand, there is a strong association of social determinants with clinical risk factors for respiratory illnesses such as chronic diseases; on the other hand, social aspects of poverty increase the risks of individuals contracting infectious diseases.

To establish the relationship between poverty and the clinical risk of a severe case of COVID-19, we estimate a health risk index as a function of poverty and percentage of minority population. We use data from the Centers for Disease Control and Prevention's "500 Cities" project (CDC 2019) and the American Community Survey. The risk index accounts for the incidence of chronic obstructive pulmonary disease, diabetes, coronary disease, cancer, asthma, kidney disease, and high blood pressure, as well as the percentage of smokers, proportion of individuals with poor physical health, and the proportion of the population over 65 years old. All data is available at the census tract level and results are presented in Figure 1 and Figure 2.[2]

Figure 1 **Estimated Health Risk by Share of Population in Poverty by Census Tract (US, 2017)**



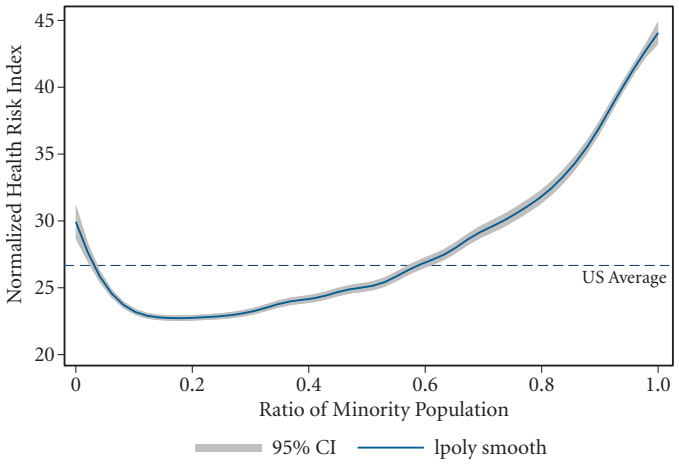
kernel = gaussian, degree = 1, bandwidth = .07, pwidth = .04

Source: Authors' calculation using American Community Survey data retrieved from IPUMS (2020) and the 500 Cities project (CDC 2019).

As Figure 1 shows, the incidence of risk factors is much higher in poor communities. In neighborhoods where the share of the population living below twice the poverty line is 45 percent or greater, the risk factor index is above the national average. At least one of the chronic diseases included in our risk index was reported in one-fourth of COVID-19 cases, and they were even more prevalent in cases requiring intensive care or resulting in death. Chronic obstructive pulmonary disorders, for instance, have been shown to raise the risk of severe COVID-19 2.6-fold, and diabetes and hypertension by about 60 percent (Guan et al. 2020). Not surprisingly, these comorbidities also disproportionately affect socioeconomic minorities, making these populations alarmingly vulnerable to COVID-19, as illustrated in Figure 2.

Furthermore, there is reason to believe that the health effects of being socioeconomically disadvantaged extend far beyond these clinically recognized risk factors. Studies that

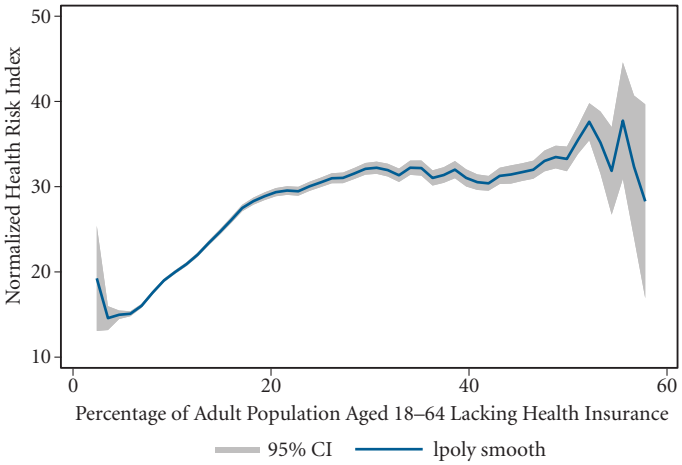
Figure 2 Estimated Health Risk by Minority Share of Population by Census Tract (US, 2017)



kernel = gaussian, degree = 1, bandwidth = .03, pwidth = .05

Source: Authors' calculation using American Community Survey data retrieved from IPUMS (2020) and the 500 Cities project (CDC 2019).

Figure 3 Estimated Health Risk by Lack of Health Insurance Among Adults Aged 18–64 Years by Census Tract (US, 2017)



kernel = gaussian, degree = 1, bandwidth = .66, pwidth = .99

Source: Authors' calculation using American Community Survey data retrieved from the 500 Cities project (CDC 2019).

combine data from previous infectious respiratory pandemics provide strong evidence that the increased risk in this population might be largely driven by factors such as inadequate access to healthcare and other differences in living and work conditions (Lowcock et al. 2012; Mamelund 2017). Uninsured people are less likely to seek early treatment, making the lack of health insurance in the United States another risk factor in developing a severe case of COVID-19. The lack of health insurance, another aspect of poverty, is also more prominent in areas where the population measures higher on the health risk index (Figure 3), adding yet one more layer of vulnerability for poor communities. Similarly, during the 2009 H1N1 pandemic, socially disadvantaged populations showed increased prevalence of hospitalization, illness severity, and mortality, both in the United States and abroad (Tricco et al. 2012). In the United States, however, neighborhood disadvantage, absence of sick leave policies in the workplace, and opposition to school closings were shown to be key social determinants of influenza transmission and illness, with clinical risk only partially mediating this effect (Lowcock et al. 2012; Cordoba and Aiello 2016). Similar imbalances were also found during the 2003 outbreak of Severe Acute Respiratory Syndrome (SARS-CoV), which is genetically related to the current SARS-CoV-2 causing COVID-19. In Hong Kong, the most severely hit city during the SARS outbreak, an investigation of the influence of socioeconomic status and the spread of SARS found a significant negative correlation between the incidence of that disease and median income levels (Bucchianeri 2010). This correlation was primarily driven by differences in living conditions, such as living in housing complexes with higher usage of public transportation, communal facilities, and a greater number of floors and therefore elevator sharing. Investigations of the United States and Sweden during the 1918 influenza pandemic also demonstrated that education, occupation, and homeownership were related to mortality (Grantz et al. 2016; Bengtsson, Dribe, and Eriksson 2018). At the extreme end of vulnerability, homeless people are at increased risk of contracting infectious diseases in crowded spaces, and more likely to develop severe symptoms because of underlying medical conditions and limited access to healthcare. In cities with a large population of homeless people, the effects of COVID-19 could be disastrous (Fuller 2020).

The prevalence of chronic respiratory disorders—an identified risk factor for severe COVID-19—is also sharply higher among the poor and in African American communities. This imbalance is present in both children and adults, and is predominantly attributed to environmental exposures, such as tobacco smoke, crowding, and stress (Margolis et al. 1992; Hedlund, Eriksson, and Rönmark 2006; Pawlińska-Chmara and Wronka 2007). In the state of New Jersey, asthma rates in African American children can be twice as high as their peers',

and are determined by whether children live in a "black" zip code, with racial differences in incidence of asthma completely disappearing when correcting for their address (Alexander and Currie 2017). These studies demonstrate a clear relationship between respiratory health problems and socioeconomic inequalities, such as environmental segregation and residential racism, and should serve as a warning of inequality's devastating effects during viral respiratory pandemics. Unfortunately, Figure 2 indicates that similar perverse results are likely to happen during a COVID-19 epidemic.[3]

In summary, people who are socioeconomically disadvantaged are at increased risk of acquiring COVID-19 and of having worse outcomes, but are also the least likely to seek medical attention due to high out-of-pocket healthcare costs in the United States. Approaches to tackling the health and economic effects of the pandemic that do not acknowledge and address these factors will necessarily fail.

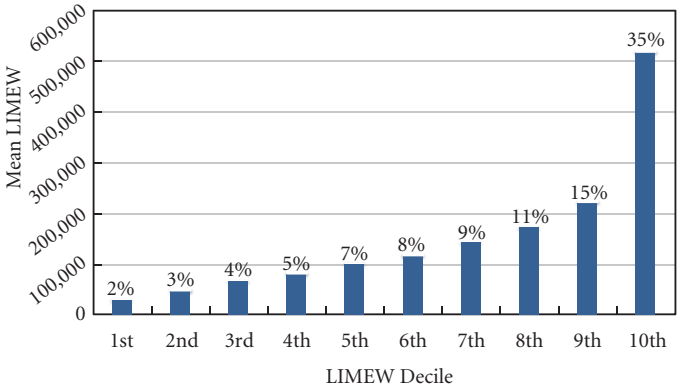
The Costs to Economic Well-being

Another alarming aspect of personal inequality is quantified through the Levy Institute Measure of Economic Well-being (LIMEW) (see Zacharias, Masterson, and Rios-Avila 2018). The LIMEW is composed of households' income that is derived from paid work ("base income"); total social benefits given to households, minus tax contributions ("net government expenditures"); and the value of rental services on owner-occupied housing and an annuity based on net nonhome wealth, life expectancy, and historical rates of return on financial assets ("income derived from wealth") Additionally, a monetary value is assigned to the time spent on productive activities done inside the home that are not exchanged in the market ("value of household production"). Such activities are not accounted for in GDP, but they add to the well-being of individuals. Examples of these activities are childcare, cooking, cleaning, and taking care of the elderly.

Data from the US LIMEW estimates for 2016 is presented in Figure 4, where we can see that the total value of economic well-being produced in the United States was highly unequally distributed, with the first decile accounting for only 2 percent of the total well-being, while the top decile enjoyed 35 percent.

Some perverse consequences of income inequality with regard to the coronavirus have been exposed by the NPR/PBS NewsHour/Marist Poll data collected March 13–14, 2020 and summarized in Table 1. On the one hand, those at the lower end of the income distribution have a higher level of concern about the virus; on the other hand, more of those at the top have prepared by stocking up on food and have been able to adjust their work routine. The same poll captured a worrying aspect of the crisis: the lower end of the income distribution is

Figure 4 Mean and Share of the Total Levy Institute Measure of Economic Well-being by LIMEW Deciles (US, 2016)



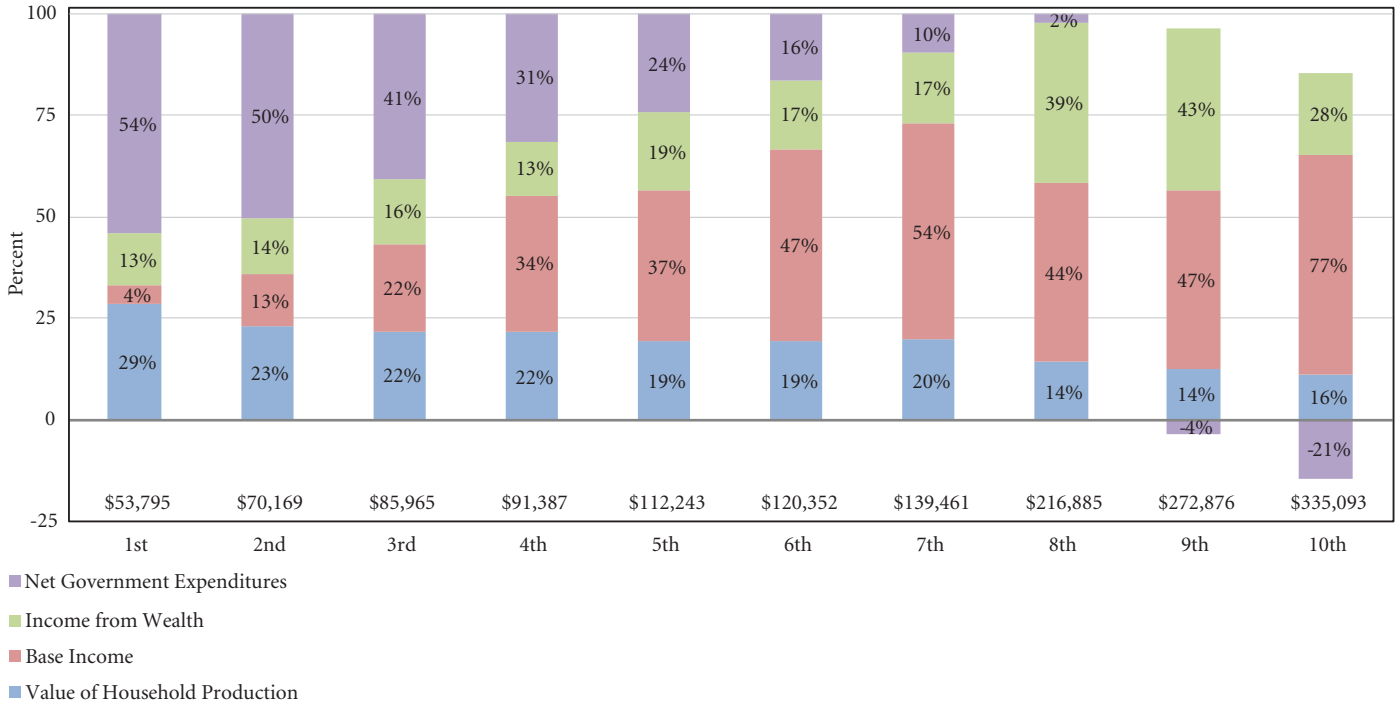
Source: Author's calculations based on Levy Institute Measure of Economic Well-being (LIMEW) estimate for the US, 2016.

Table 1 Selected Survey Results Regarding the Level of Concern and Impacts on Work of COVID-19 by Income and Gender

	Level of concern about the spread of coronavirus to their community (percent)				People that are part of households that experienced one of the following (percent)		
	Very concerned	Concerned	Not very concerned	Not concerned at all	Stocked up on food or supplies	Change in work routine	Loss of work or hours reduced
Less than $50,000	34	38	20	8	39	23	25
$50,000 or more	30	41	21	8	45	39	14
Men	21	44	23	11	41	31	16
Women	40	35	18	7	42	36	21

Source: NPR/PBS NewsHour/Marist Poll conducted March 13–14, 2020

Figure 5 Share of the Components of the Levy Institute Measure of Economic Well-being with Mean Values by Income Deciles (US, 2016)



Source: Author's calculations based on Levy Institute Measure of Economic Well-being (LIMEW) estimate for the US, 2016.

already paying a higher price in terms of lost work hours and, consequently, wages.

The most economically vulnerable are less able to prepare for the crisis. The lower incidence of stocking up on food, as the poll shows, is not a consequence of less concern, but likely the result of a lack of cash availability. Besides leaving them less able to minimize the number of trips to the grocery store, thus increasing potential exposure, being cash-constrained leads them to incur even higher costs. As the richest are able to work from home and stock up on food, toilet paper, and cleaning products, the poor are left with declining incomes and low stocks of basic goods, and consequently inflated prices.

Another aspect of inequality can be seen by examining how the shares of each of the components of well-being vary according to the LIMEW distribution, as displayed in Figure 5. At the bottom of the distribution, well-being is derived mostly from government aid and household production, while at the top it is overwhelmingly income and wealth.

One of the first impacts of the closure of schools and nonessential establishments is to move demand and production inside the household. This has an aggregate effect of decreasing GDP, but it does not necessarily mean that the consumption of such services decreases, as households compensate by increasing the hours they spend doing activities such as taking care of children and cooking. Nonetheless, the amount of available hours is not equally distributed and not all households can compensate for the lack of privately and publicly offered services.

On the lower end of the distribution, an overall fall in well-being is expected, with income loss and decrease in net government transfers. As shown in Table 1, those households are already dealing with paid-work reductions. Additionally, school closings decrease the total value of government transfers and impose a cost on the family that is now obliged to feed and care for children at home. Since those households face tighter constraints, they will not be able to completely compensate for income and government transfer losses through increased hours of production inside the home. Those that are able to keep their jobs will maintain their income but face an even sharper increase in their time poverty.[4] Only an increase in government expenditure could compensate for those drastic effects.

On the higher end of the distribution, the impact of school closings also imposes an increase in household production.

Regarding losses, they will most likely be a consequence of a decrease in income from wealth. Damages to the financial market and business losses will affect annuities and rates of return, imputed as income from wealth in the LIMEW. With respect to base income, white-collar workers are more likely to be able to adapt their work routine without incurring job losses; therefore, although some will see a reduction in base income, in the short run it will be less acute than the losses at the bottom of the social strata, as corroborated by data presented in Table 1. As has happened in previous crises, such as the stock market crash of 1929 and the 2008 financial crisis, the impact on wealth is strongest in the short run in absolute terms and hits the top of the distribution. Nonetheless, it is those at the bottom that face the tightest constraints and are unable to absorb the impacts.

Finally, the increase in household production that is expected for all groups will disproportionately affect women. Data regarding the unequal allocation of time between men and women is consistent across countries. Not only do men spend fewer hours doing domestic work, they are also less likely to engage at all in such labor. Furthermore, unemployed men do not compensate by increasing domestic work hours, and may resist doing so in order to reinforce their male identity (Morris 1990; Brines 1994). There are three competing theories to explain the unequal allocation of hours of domestic work. The gender ideology theory predicts that social norms overburden women with household production. The resource availability theory predicts that the partner with fewer financial resources, and consequently less bargaining power, will spend more time in domestic activity. Finally, the time availability theory hypothesizes that among couples, the partner who spends more time in paid employment outside the home will spend less time on household work. Although there is a dispute within the literature regarding the best explanation, they all agree that the burden falls disproportionately on women.

As the coronavirus leads to production being shifted into the household, there is a danger that this will raise individual time poverty, which is more acute at the bottom of the distribution. Furthermore, the gap between female and male participation in domestic activities might also increase. Equalizing the allocation of household production time between men and women is one of the targets established by the United Nations to achieve gender equality. As Table 1 showed, more women than men have already reported that someone in their household has experienced changes in routine and a reduction in work hours, indicating that women are being more affected by the restructuring of the economy toward a quarantine setup. This rearrangement takes us further away from the gender equality goal by exacerbating underlying gender roles and making domestic abuses more acute. A worrisome piece of evidence from China is the observed increase in domestic violence during the lockdown, which is already higher in lower-income communities (Wanqing 2020; Matos de Oliveira et al. 2020; Bonomi et al. 2014).

It is also important to understand the linkages between income inequality and the US macroeconomic structure. Low-income households tend to consume all their income, creating a large multiplier effect in the economy. As those households lose income, their demand decreases, impacting sales and signaling to businesses that this is no time to invest in increasing production. Meanwhile, households in higher income brackets tend to save a large fraction of their income. Furthermore, because of the uncertainty created by the crisis, their saving rate might even increase temporarily. Therefore, a fall in income at the bottom of the distribution has a larger negative impact on demand than a fall in income of equal value at the top. The recent Coronavirus Aid, Relief, and Economic Security (CARES) Act, which extends unemployment benefits and provides one-time cash payments to eligible households, moves in the right direction. Nonetheless, these measures might not be sufficient if the downturn persists for more than a few months, as is most likely.

Macroeconomic Dimensions of the Pandemic

The pandemic has created a very large macroeconomic shock in the United States and almost everywhere else in the world. It affects both the supply and demand sides of the economy. On the supply side, production has temporarily halted, and global production chains have been severely ruptured. On the demand side, as argued above, the current situation puts negative pressure on both consumption and investment. Furthermore, the global dimension of the pandemic also implies very weak export demand.

Preliminary Chinese data show that in January and February of 2020, retail sales decreased by 20.5 percent compared with the same months a year ago, while industrial production and investment fell by 13.5 percent and 24.5 percent, respectively.[5] In the United States, data on unemployment claim benefits confirm that the shock is also large. According to the Department of Labor, during the third week of March,

unemployment insurance claims increased by roughly three million: from 282,000 to 3,283,000!

This shock has led to a very rapid drop in the stock market, which, as of March 27th, was 25 percent below its peak on February 19th. March 12th and March 16th saw two of the biggest one-day drops in the market's history. As a consequence, the Federal Reserve moved to rapidly decrease—in only two steps—its effective interest rate to zero. At the same time, Congress passed and President Trump signed a $2 trillion stimulus bill (the CARES Act), the biggest stimulus in US history.

The size of the pandemic shock will be undeniably large, although at this point it is anyone's guess how large. However, we cannot fully understand its implications without reference to the financial fragility of the US and other economies (Nikiforos 2020). In the United States, the last four decades saw a secular process of the financial sector's domination of the economy, which was accompanied by a rapid increase in stock market prices and increasing indebtedness of households and firms. The coronavirus shock—large as it may be—precipitated an adjustment that would have to take place sooner or later.

Previous reports (Nikiforos and Zezza 2017, 2018) using the Levy Institute macro model estimated that, under optimistic assumptions, a drop in the stock market together with a private sector deleveraging would lead to a cumulative loss in the real GDP growth rate of roughly 10 percentage points compared to its baseline performance over a three-year period (a loss of 2.8 percent, 4 percent, and 3.3 percent, respectively), and therefore a loss of real GDP of around 12 percent.

The consensus baseline growth rate for 2020 and the years after was recently around 1.5 percent to 2 percent (see Papadimitriou, Nikiforos, and Zezza 2020). Hence, these simulations imply an overall negative growth rate that would fall below –2 percent.

Because of the size of the coronavirus shock, these figures represent a best-case scenario. For example, even in the absence of financial fragility, assuming that GDP falls by 15 percent in just one quarter of 2020—which is on the lower side of the preliminary Chinese figures mentioned above—and does not grow for the rest of the year, there will be a drop in GDP of close to 4 percent this year.[6] However, because of the situation in the stock market and the preexisting balance sheet fragility, the impact is likely to be deeper and more severe—and the recovery slower, as is always the case with balance sheet recessions.

The $2 trillion stimulus package that was recently signed will definitely mitigate the effects of the crisis. However, because this is a structural crisis combined with a very large shock, it is unlikely that the stimulus—despite its size—will be able to avert a severe downturn.

Another aspect of the financial fragility is the high indebtedness of US households. Although household balance sheets are in better shape now than in the period before the 2007–9 crisis, the pandemic can still have a huge impact. As noted, the impact on income at the bottom of the distribution is already severe and will undoubtedly lead to higher indebtedness. In New York, for example, although renters are protected from evictions and utilities shutoff for the next three months, payments are still due.

The high indebtedness of households was an important factor in explaining the 2008 crisis, and its persistence is one of the main reasons for the slow recovery of consumption and output after 2009. Unfortunately, the pandemic is likely to further increase families' debt-to-disposable-income ratios, turning it into an even bigger challenge for the future.

Short-Run Impacts

Although longer-term impacts on the economy are inevitable, more immediate impacts are already being felt, as sporting events, concerts, and Broadway plays are cancelled. This is in addition to the cancellation of travel plans, curtailing of eating out, etc., that continues to expand due to people following social distancing orders from governors and mayors, being cautious or fearful, or, if already infected or exposed, self-quarantining.

This immediate impact is already drastically reducing employment in specific sectors, as evidenced by the Department of Labor's Unemployment Insurance Weekly Claims released on March 26th, which indicated an increase of over three million new unemployment insurance claims from the prior week (DOL 2020). This means that approximately 2 percent of all employees in the United States lost their jobs in just one week. All states reported the COVID-19 virus as the ultimate cause of the layoffs. Some of the largest losses were in Pennsylvania (with 379,000 new claims), Ohio (189,000), and California (188,000), but of course these are among the most populous states. The largest proportional increases were in smaller states: New Hampshire (3,308 percent), Maine (3,243 percent), Louisiana (3,120 percent), and Rhode Island (3,098 percent). Sectoral

breakdowns of employment losses are not yet available, but the reduction in people going out and spending money on socializing activities (social expenditures) is the obvious candidate for the source of the increased unemployment.

The group of sectors that we identify as being most affected by these reductions in household spending—what we will refer to as the "social expenditure sector," i.e., sectors offering goods whose consumption depends on socialization and gatherings—includes entertainment, transportation, and lodging occupations. Temin (2017), Storm (2017), Taylor (2020), and others have recently emphasized that the US economy has slowly reverted into a dual economy over the last four decades, with an increasing share of workers employed in low-productivity, low-wage (and relatively low-profitability) sectors, such as those in the social expenditure sector. The concentration of the shock's first round in this sector also explains why the employment effect has been so severe in such a short period of time. While some sectors, especially health services, may see an increase in employment, this increase will likely be significantly smaller than the losses in the social expenditure occupations.

The vulnerability of workers in the social expenditure sector to losing income due to illness is also much higher than average. According to the Bureau of Labor Statistics' Employee Benefit Survey,[7] while 71 percent of all workers have paid sick leave, only 52 percent of service employees do. In addition, much of the employment in these sectors is part-time, and part-time workers are the least likely to have paid sick leave (39 percent). Moreover, work by the Economic Policy Institute showed that high-wage workers are more than three times as likely to have access to paid sick leave as low-wage workers (Gould 2020).

If we look at the characteristics of those employed in the social expenditure sector (see Table 2), we reveal an unfortunate, if predictable, parallel with the vulnerabilities previously outlined in this brief. Over 17 percent of those working in the social expenditure occupations live in households already below the poverty line. Another 20 percent live between one and two times the poverty line. This is significantly higher than the overall rates for the employed population (11 percent and 14 percent, respectively). The mean and median wage incomes of workers in social expenditure employment are lower than the other sectors as well: $25,200 and $14,000, compared to $43,200 and $29,000 overall. Thus, those most likely to be directly negatively impacted by the reduction in social expenditures are on average much less able to deal with a shock to their incomes.

In addition, the racial composition of workers in these sectors is quite distinct and is drawn from the population most vulnerable to the disease (see Table 3). While white Americans are less likely than average to be working in the social expenditure sector, all other racial/ethnic groups are more likely. African- and Asian-Americans are also more likely to be working in health occupations. Although those workers are less likely to lose their jobs, it is a smaller share of employment and comes with increased risk of infection.

Thus, we can see that those most likely to see a reduction in employment (if not layoffs) are those identified to be most at risk of contracting the illness, as well as those most likely to be unable to cope financially with either health expenses or income loss due to illness and/or lack of work. This is one set of dynamics in which income inequality and inequality of access to healthcare reinforce each other in a crisis such as the one we are

Table 2 Poverty Status of Employed Individuals in Social and Health Occupations, 2018 (percent)

	Occupational Category			
Poverty Status	**Social**	**Health**	**Other**	**Total**
Poor	17.3	4.5	9.7	10.6
Between 101% and 200% of Poverty Line	19.8	8.5	13.0	13.8
Above Twice the Poverty Line	62.9	87.0	77.3	75.6

Source: Author's calculations using American Community Survey data retrieved from IPUMS (2020).

Table 3 Sectoral Employment Composition by Race, 2018 (percent)

	Occupational Category		
Race	**Social**	**Health**	**Other**
White	13.5	4.1	82.3
African American	15.9	4.7	79.4
Latinx	17.3	2.5	80.3
Asian American	15.1	4.9	80.0
Other	18.3	3.7	78.1
Total	14.7	4.0	81.4

Source: Author's calculations using American Community Survey data retrieved from IPUMS (2020).

experiencing. Policymakers crafting responses to the epidemic need to take all of these factors into consideration, not just to reduce the direct risk of illness, but also to address the indirect impacts over which the most vulnerable have no control and a limited ability to absorb.

Policy Implications

The coronavirus has many perverse distributional effects. It is likely to cost more lives in poor communities and increase gender and racial inequalities inside and outside the home. Furthermore, the job and income losses and bankruptcies that will be disproportionately felt at the lower end of the distribution will further increase the gap between the poor and the rich.

The increase in inequality is a social cost in itself—as such, there is a moral obligation to address it. Moreover, as we argued, taking action against the coronavirus's regressive distributional effects can decrease the acuteness and length of this crisis. From a public health perspective, providing vulnerable people with the chance to quarantine and recover can prevent infection within families and flatten the curve. From an economic perspective, an increase in income inequality can lead to a vicious circle, where lack of income leads to a decrease in demand that would make it even harder for the economy to recover. Therefore, we propose a set of policies designed to address the crisis as it unfolds while protecting the most vulnerable in society, both in health and economic terms.

Policies aimed at avoiding the uncontrolled spread of new pathogens in crowded and underserved areas start with our ability to develop tests and use them early on to identify infected people, including mild cases, in order to isolate them and track close contacts. For cities such as New York, Los Angeles, and Seattle, it is far too late, but for many places, widespread testing integrated with social distancing policies are crucial. Such an approach was taken early on in South Korea and Hong Kong, but not in the United States. The failure in accurately tracking the virus's spread is likely the reason for the high number of cases in New York. Data from China suggests that the disease is most easily spread between family members who are in frequent contact with one another (Huang et al. 2020), and the lockdown efforts do not protect from infections within households, which also have a higher impact in poorer communities where more people share smaller spaces. Thus, the home quarantine model makes poor households even more vulnerable. Repurposing spaces such as hotels, gymnasiums, and dorms to give individuals with mild infections or who have been in contact with cases the option of quarantining and recovering outside their homes can protect their families. This is especially important for individuals living in small apartments or houses and sharing space with vulnerable populations.

Some economic policy implications are straightforward, and some have already been incorporated into the CARES Act, such as the expansion of unemployment insurance to cover part-time employees and gig-economy workers.

Two other distribution-sensitive policies that have potentially very large macroeconomic consequences at the moment are the provision of paid sick leave and access to healthcare. The CARES Act includes provisions for paid sick, family, and medical leave. However, these provisions do not apply to employers with more than 500 employees, while small businesses with fewer than 50 employees can also ask for an exemption. As a result, only 25 percent of private sector employees are covered.[8] The more employees that have access to paid leave, the less severe will be the direct impact on the macroeconomy. Employees forced to take unpaid leave, as is now common, will consume less and so reduce consumption and overall demand. Access to paid leave will also decrease the rate of spread, as it will keep individuals from going to work despite being ill. Therefore, we need to guarantee paid sick leave for everyone (part-time and gig-economy included), which should be subsidized by the government in the case of small businesses.

Access to healthcare has similar benefits. With the spread of the pandemic, it has become abundantly clear that lack of access to healthcare can have important negative spillovers. People without access to healthcare not only get sick themselves (which is obviously important in its own right), but are also more likely to spread the virus to others. At this point, because of the structure of the US healthcare system, we face the paradox of people losing access to healthcare (mostly because they lose their jobs) at a time when they—but also the society and economy as a whole—need it most. In order to mitigate the impact and duration of the COVID shock, we need to have broad, open access to testing and treatment for the coronavirus, regardless of immigration[9] and insurance status, that is cost-free to patients. It is also important to extensively publicize how to access free testing and treatment to undocumented and uninsured individuals and encourage them to seek assistance as soon as needed, to avoid an unnecessary increase in the risk of severity and in the rate of spread.

In addition to a freeze on foreclosures, a nationwide moratorium on eviction should be instituted for at least the duration of the crisis. Renters are more likely than homeowners to lack the funds to pay housing costs; without such a moratorium we will observe an increase in the homeless population, one of the most vulnerable groups. Furthermore, for individuals and small businesses whose income is affected by COVID-19, rent and utilities forgiveness should be granted, so we do not observe an increase in indebtedness. Similarly, the six-month freeze on student loan payments in the CARES Act is a start, though outright student loan forgiveness would be even better (Fullwiler et al. 2018).

We need to provide childcare and/or school lunches at home for essential but low-paid workers whose children are now not going to school. A direct transfer payment of the kind contained in the CARES Act is a useful supplement to the above, but it should be on a monthly basis for the duration of the crisis, rather than a one-time payment. All of these policies are necessary to ensure that those who are most vulnerable to both the disease itself and the economic impacts, in the immediate and medium term, are shielded from this disaster that they had no part in creating.

There needs to be an effort to map and design specific policies to protect highly vulnerable groups such as undocumented immigrants, the homeless population, inmates, victims of domestic violence, and the nursing home population, to cite only a few. Each of these groups requires a taskforce of its own to design appropriate policies.

This crisis also teaches us some lessons regarding policies for the medium run that would make us less vulnerable to crises. The lack of adequate access to healthcare for many Americans needs to be addressed. Some form of single-payer insurance, such as Medicare for all, would go a long way to removing individuals' reluctance to seek care (anxiety about out-of-pocket costs, searching for in-network care providers, etc.) and slowing the spread of future pandemics, as well as relieving budgetary pressure on states during crises, resulting from their responsibility for funding Medicaid.

Finally, increasingly high income inequality is one of the main structural problems of the US economy, and one of the main reasons for its recent poor macroeconomic performance (Nikiforos 2016, 2020). The stagnation of wages over the last 40 years is also one of the major explanations for the slowdown of productivity growth over the same period, as relatively cheap labor implies a weaker incentive to innovate and introduce labor-saving production techniques. Unfortunately, neoliberal policies such as financial deregulation, tax cuts for the wealthy, social spending cuts by the federal government, and attacks on worker protections only reinforced this problem. Reversing these policies and strengthening our labor laws and unions can go a long way to addressing this issue.

A reduction in income inequality is one of the most important—if not the single-most important—structural changes that needs to be implemented so that the US economy can return to a sustainable growth path in the medium run. Had these issues been addressed already, the pandemic's impacts on the United States would have been less severe. Maybe this time we can at least learn from our mistakes.

Notes

1. The author would like to thank Isabella Weber for insightful conversations and comments.
2. For this exercise, we perform a local polynomial regression between an estimated health risk index, constructed through principal component analysis, and the percentage of population living below two times the poverty line in census tracts, for Figure 1, and between the health risk index and percentage of nonwhite population for Figure 2. For details on the methodology or the data, please contact lnassifpires@levy.org.
3. As expected, significant racial disparities are showing up in the preliminary reports (Johnson and Buford 2020; Mays and Newman 2020).
4. Official measurements of poverty assume that households are equally able to dedicate time to fulfilling necessary activities inside the home. As argued in Zacharias et al. (2018), by ignoring time constraints we are underestimating the extent of poverty and should therefore add a dimension to such measures that accounts for "time poverty."
5. Note that the Chinese economy was affected only after the lockdown in Wuhan on January 23rd.
6. Although at this stage no one knows with any reasonable certainty what will be the depth of this shock, the numbers mentioned here are in the order of magnitude of other recent discussions (see, for example, Fazzari 2020).

7. Table 32. Leave benefits: Access, private industry workers, March 2018. https://www.bls.gov/ncs/ebs/benefits/2018/ownership/private/table32a.htm. Accessed March 23, 2020.
8. From the Bureau of Labor Statistics' National Business Employment Dynamics Data by Firm Size Class, Table F: https://www.bls.gov/web/cewbd/table_f.txt, accessed March 30, 2020.
9. Unfortunately, recent changes to immigration law that consider immigrants relying on governement programs such as Medicare and Medicaid a "public charge" impose an extra obstacle to adressing this problem. Tepepa (2020) provides a careful analysis of this.

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