Impact of the COVID-19 Outbreak on Turkey's Economy and a Policy Alternative for Protecting Labor Incomes*

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Introduction

The Covid-19 infections were first observed in the Wuhan region of PR China in November 2019 and was later announced as a *pandemic* by the World Health Organization on 11 March 2020. Over the course of the last six months, the pandemic has turned into a real threat to the global economy, affecting both the supply *side*, disrupting the value chains in trade and production, and the *demand side,* adversely affecting expenditures on consumption and fixed investments.

In its most recent report, *World Economic Outlook*, The IMF projected that the world economy will shrink by as much as 3% over 2020. In comparison to the earlier projections before the spread of the pandemic in January 2020, the new forecast meant a collapse by 6.3%. Likewise, the UN Conference on Trade and Development (UNCTAD) reported that by the end of April 2020, losses in global exports has already reached 50 billion US$; and by the end of the year this sum would likely to reach to 800 billion US$ only in the developing World.

Given this background, our aim in this study is to analyze the upon-impact effects of the COVID-19 outbreak on the Turkish economy and to investigate policy alternatives that can be implemented against these impacts. We utilize a **macroeconomic applied general equilibrium model** designed for this purpose; and examine the effects of the crisis conjuncture caused by the COVID-19 outbreak on sectoral production, employment, wages, and capital revenues, national income, and foreign trade balances. Then, we provide an analysis of defensive policies that against the crisis. (For an expanded discussion of our findings, see our PERI working paper.)

Investigation of the Economic Effects of COVID-19 Crisis

We implement the demand shocks of the Covid-19 outbreak by imposing a significant decline of **60%** in private consumption and export demand in the "restricted" sectors. In contrast, the demand for health services is assumed to increase by 20% after the shock.

In the "restricted" sectors, the formal sector real wages are assumed to decline by 18.2% given the low aggregate demand.

Under the "constraint" shocks against the Covid-19 outbreak, the macroeconomic balance of the model is used to analyze the "*upon-impact effects*" of the crisis. These *effects* go beyond the input-output connections of the national economy which are ultimately restricted to the production process. Here we follow the general equilibrium effects of the decline in the income of households and businesses as a result of income losses due to unemployment and wage contraction, leading to the decline in aggregate demand. These macroeconomic *upon impact effects* of the CovidD-19 outbreak and the associated demand shocks on the national economy are presented in Table 1. We show the sectoral production and employment effects in Figures 1 and 2.

<Insert Table 1 here>

The model results illustrate that the upon impact economic effects of the restrictions on the Covid-19 outbreak would be an annualized decline of 26.7% in national income (GDP). Shock waves from the restricted sectors decrease total employment (relative to the end of 2019) by 22.8%, from 28.2 million people to 21.8 millions; The unemployment rate is found to increase from the average of 14.2% in 2019 to 33.7%. Private disposable income declines by 26.5%, and the total private consumption expenditure demand decreases by 23%. Besides private consumption expenditures, the contraction in investment expenditures is found to reach 66.7%.

The analysis of the effects of the epidemic at the sectoral level indicate that the five sectors that experience the highest contraction in real production relative to 2019, are *accommodation and food services*, by 55.6%; *tourism*, by 51.5%; *construction*, by 48.7%; *air transport* by 47.7%; and *iron and steel* by 40.5%. In addition, private consumption expenditures show considerable declines in *air transport and accommodation and food services and tourism* (61.1%). The sectoral distribution of employment also follows the contraction in production. We further observe that the shrinking demand leads to price and general equilibrium effects spreading over to overall sectors of the economy.

<Insert Figure 1 and Figure 2 here>

Seeking for an Alternative Against the Economic Effects of the Covid-19 Outbreak: Labor Income Support Programme

Covid-19 outbreak has been taking place in a conjuncture where the Turkish economy has shown relatively weak macroeconomic balances, with especially the relatively high budget deficit of the public sector (2.9% as a ratio to GDP) and a stagnant fixed capital investment performance. By the end of 2019, when the national income (GDP) growth was only 0.9%, total employment decreased by 703 thousand people compared to the previous year; unemployment rate increased to 13.6% (16% for non-agricultural labor; 23.9% for the young labor force). In this conjuncture, where the total domestic investment expenditures contracted by 12.4% and the exchange rate (TL/US$) depreciated by

21.9%, the inflation rate remained high at 11.5%. The ongoing decline was resolved by creating a moderate surplus in the current account balance ($8.7 billion; 1.1% of GDP). This structure unavoidably restricts the effectiveness of the policy measures that can be implemented against any crisis.

As an alternative policy package we utilize the macroeconomic general equilibrium model to investigate an alternative strategy of *Labor Income Support* (LIS) programme. The priority of this package is directed to the purpose of supporting household incomes, and it is envisaged to be implemented in the form of a direct income support from the public sector. Technical elements of the package are summarized as follows:

(i) support for wage earners with a continuous annual income transfer, which corresponds to 50% of the average wage of formal labor;
(ii) support for the small and medium-sized companies and self-employed; and
(iii) increased public consumption expenditures by 20%.

The model results show that the fiscal burden of the *LIS programme* will be on the order of 123.5 billion TL in 2019 fixed prices and will reach 2.9% of the 2019 national income. As a result of the implementation of the package, 85% of households' wage income losses are to be compensated, and gross domestic product yields a 60% increase relative to the level likely to be created by the Covid-19 outbreak (see Table 1 above).

Thus, relative to the pre-epidemic values realized in 2019, the loss in labor income remains below the program only at 6.67%. Supporting labor incomes in this way will primarily stimulate private consumption demand. Model results indicate that the consumption expenditures under the LIS program will increase by a 6.67% acceleration relative to the effects of the Covid-19 epidemic. Thus, with these multiplier effects, gains spread throughout the economy. The stimulated incomes through the intermediate input-output linkages lead to a 14.43% expansion in national income (GDP), resulting in national income losses that will be relative to 2019 as 16.17%.

The LIS program also creates relatively positive results in public sector budgetary balances and reduces the budget deficit to below half of what had been projected under the Covid-19 scenario. Along with the indirect effects due to the economic recovery, public budget revenues have increased by 45% relative to the COVID-19 environment. Therefore, against the 274 billion TL in the COVID-19 balance, 57.3 billion TL (274mil - 217mil) of the package cost is "recovered" thanks to the revival created by the proposed alternative strategy. Thus, the ratio of the budget deficit to GDP is reduced from 12.3% under the Covid-19 outbreak, to 6.3% under the LIS package application (2019 level was 2.87%).

The sectoral distribution of production recoveries is displayed in Figure 5. Model results indicate that the sectors that showed the fastest increase compared to the Covid-19 outbreak are *construction* (54%), *iron* and *steel* (51%), *cement* (35%), *chemicals* (17%) and *machinery and household appliances* (22%). The revival, which is ultimately based on invigorated consumer demand, is maintained primarily through intermediate goods and investment sectors. On the other hand, these results are due to the increase in the demand for the economy's fixed capital investment by 124% relative to the Covid-19 scenario, decreasing from 66% to 25% relative to 2019.

In conclusion, we find that the benefits of an income transfer programme targeting labor incomes will produce quite conducive results, and furthermore, it’s fiscal costs will be modest. Yet, conditions for applying such a policy package will surely be dependent on the political will and political determination.

Table 1.

The Covid-19 Pandemic in Turkey and Labor Income Support Programme: Macroeconomic Results

	Covid-19 Pandemic	**Labor Income Support Programme**	
	Changes Against end of 2019 (%)	**Changes Against end of 2019 (%)**	**Changes Against the Effects of Covid-19 Pandemic (%)**
GDP	-26.74	-16.17	14.43
Private Disposable Income	-46.48	-14.19	60.32
Labor Income Households	-44.75	-6.67	68.91
Capital Income Households	-47.39	-18.18	55.53
Private Consumption Expenditures	-22.96	-17.82	6.67
Investment Expenditures	-66.65	-25.14	124.48
Total Exports (Billons US$)	-27.79	-19.27	11.80
Total Imports (Billions US$)	-29.50	-20.46	12.83
Current Account Balance / GDP (%)	-6.96	18.54	27.41
Exchange Rate Real Depreciation (TL/US$)	-30.49	-2.60	27.89
Labor Markets			
Total Open Unemployment	137.57	20.20	-49.40
Unemployment Ratio (%)	33.74	17.07	-49.40
Total Employment	-22.77	-3.34	25.15
Public Sector (Central Administration) Budget Balance			
Total Expenditures	-22.13	-9.70	15.96
Public Consumption Exp.	-26.26	-11.51	20.00
Total Revenues	-48.70	-25.50	45.23
Taxes on Production and Employment (Inc.	-51.70	-23.03	59.35
Taxes on Consumption (VAT + SCT)	-47.72	-21.01	51.10
Income Taxes - Households	-46.48	-46.48	0.00
Income Taxes- Corporate Sector	-49.18	-35.42	27.06
Budget Deficit	123.49	76.89	-20.85
Budget Deficit / GDP (%)	12.35	6.34	-48.64
Domestic Debt Stock / GDP (%)	61.63	39.99	-35.11

Figure 1

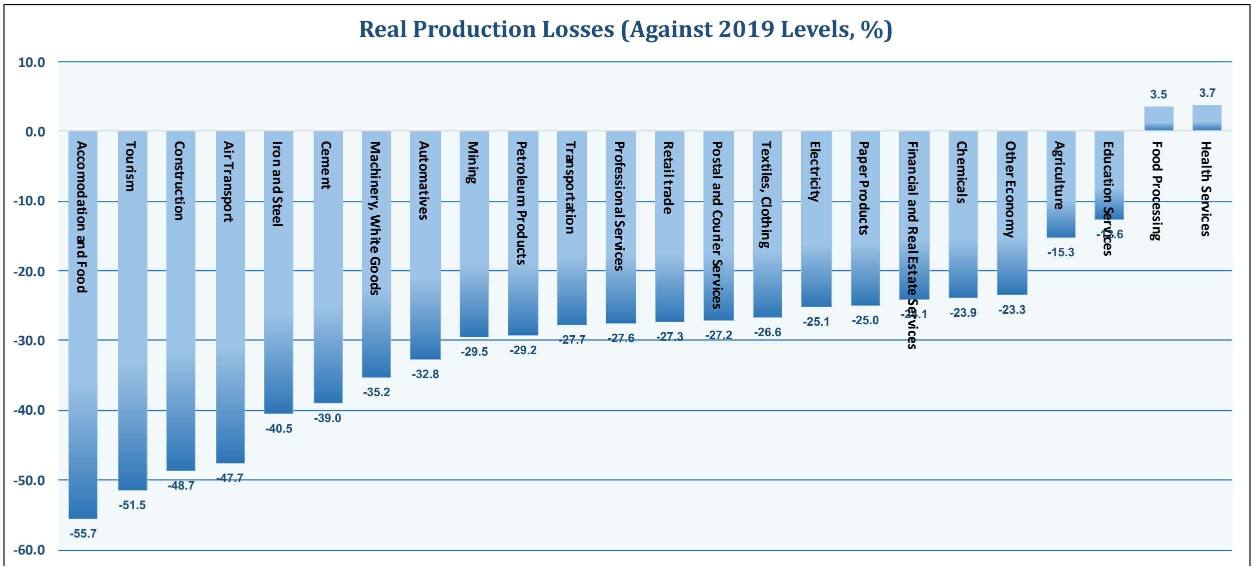
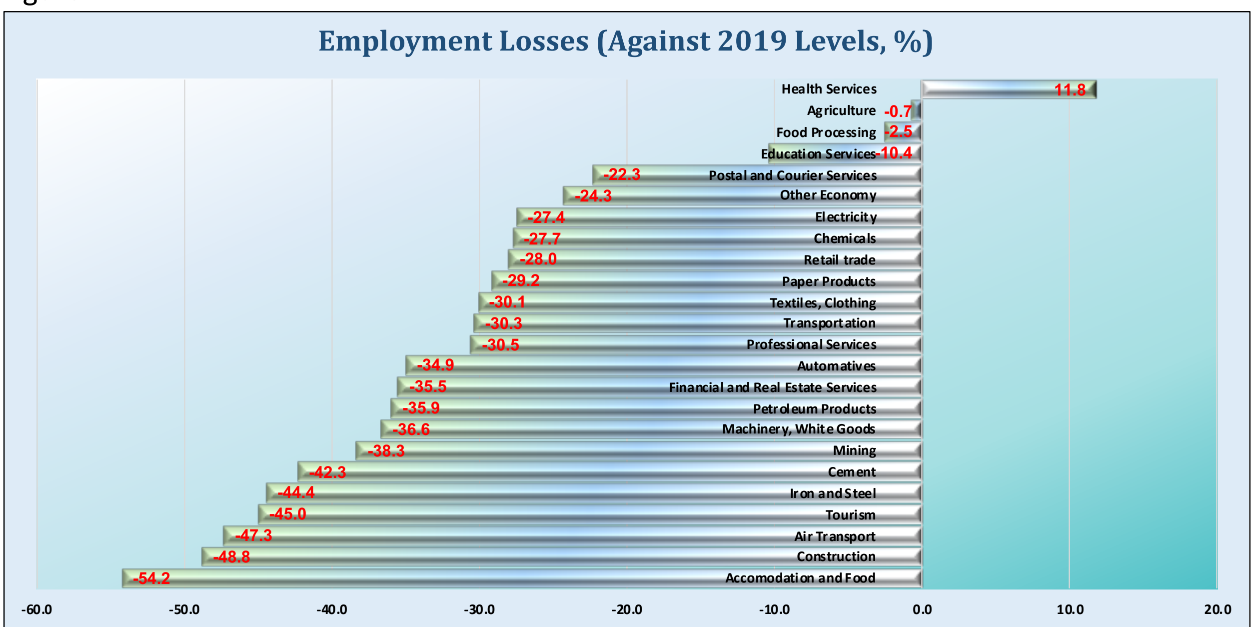


Figure 2



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