



Policy Brief



EVALUATION OF DIFFERENT TAX REFORM PROPOSALS

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(This document is unedited author's version submitted to RASTA)

INTRODUCTION

To provide people with public goods, infrastructure and to foster economic activities, governments need funds which are mainly collected through taxes. The choice of tax structure directly affects tax revenues, economic growth, and income distribution. Therefore, while developing a comprehensive taxation system, the governments must be cautious to take proper account of its macroeconomic and distributional impact. Consequently, now a days, the impact of tax reforms is analyzed using general equilibrium approach by considering the interrelationships between all the sectors of economy which allows to gauges the effects of tax policy change on all the sectors of the economy.

This study aims to evaluate various tax rate reform proposals with respect to their impact on key macroeconomic indicators of Pakistan economy using general equilibrium framework. Specifically, the study identifies and quantifies the direction and magnitude of impacts of reducing marginal income tax rate, decreasing the number of slabs, and introducing a flat income and corporate tax rate with reduction in sales tax and custom duty etc. on economic growth, consumption, exports, various sectors, and income etc.

METHODOLOGY

This study uses Computable General Equilibrium (CGE) model to analyze the proposed tax reforms. We utilized Input-Output (IO) table 2017 developed by Asian Developed Bank, data from national income accounts, Labour Force Survey and Household Integrated Economic Survey (HIES) for the same year to develop Social Accounting Matrix (SAM) based on 2017. This is then used as basic data source for CGE model.

The rich information gathered from various resources to build SAM captures heterogeneity of production activities, incomes, and expenditures. This strongly interconnected information helps policy makers to perform structural analysis and allows to study the distributional impact of a change in a policy parameter. SAM 2017 includes 34 commodities produced by 34 activities; 24 factors owned by 8 categories of households. Government earns income mainly by collecting tax revenue. However, government also earns some capital income and receives aids and loans. On expenditure side, government provide public goods administration to the public, makes transfer payments and gives subsidies to households and firms. Along with all these, some of the government expenditures are because of the debt servicing.



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After constructing this database, we use computable general equilibrium (CGE) model to study the impact of tax changes. Main inspiration for developing a CGE model for this study are based on ORANI-G, Applied General Equilibrium Model for Fiscal Policy Analysis (AGEFIS) and previously developed CGE models for Pakistan. ORANI-G is generic CGE model developed for various kinds of policy analysis, whereas AGEFIS is a CGE model based on SAM, specially developed for conducting fiscal policy analysis. In this study, we introduced two simulation scenarios, one with lowering marginal income tax rate and reducing the slabs whereas second with introducing flat personal income tax rate along with lowering corporate tax rate, introducing lower and flat sales tax and customs duty and abolishing all other taxes.

RESULTS

The results show that the reduction in personal income tax rate (SIM 1), leaves households with more disposable income which goes into financing increased consumption expenditures. As savings grow slowly, which is reflected by smaller growth in investment, the domestic production fails to match with higher domestic demand so demand for imports increases. The aggregated demand is also fuelled by higher government expenditures and therefore, in case when balancing budget is not binding, might lead to governments accumulating more debt and leaving less for private sector. This together results in decreasing the GDP in the long run.

The long run results of simulation 2 can also be interpreted on the same lines. In this case, real GDP increases because of positive growth in private consumption, investment, government consumption, and higher trade. Significant difference can be noted in exports which experience an increase of 0.162% compared to a decline of 0.389% in case of lower PIT only. This is primarily because of low financial and compliance cost because of simplified tax system which encourages more investment, and spares energies of business managers to be devoted to work.

In short run, GDP growth is positive even in scenario 1. The other difference is that there is price increase even in case when all the taxes are lower. This shows that decrease in the cost of production due to lower taxes is not passed through to the consumers in short run which is an indication of some kind of market power that is with the firms and some frictions in the economic system.

Table 1: Key Macroeconomic Indicators

Indicators	Long Run Impact		Short Run Impact	
	SIM 1	SIM 2	SIM 1	SIM 2
GDP	- 0.102	0.158	0.024	0.031
Private Consumption	0.4	0.417	0.422	0.455
Investment	0.006	0.019	0.001	0.002
Govt Consumption	0.032	0.029	0.041	0.059
Exports	- 0.389	0.162	- 0.189	0.015
Imports	0.069	0.098	0.130	0.131
CPI	0.119	- 0.079	0.298	0.137

Note: Simulation Results.

Sectoral impacts

As different sectors of an economy have strong forward and backward linkages, therefore, the effects of change in the cost of production and thus the price, transmit from one firm to the other and the transmission mechanism is stronger for input producing industries. The results show that with a decrease in personal income tax, significant growth in the output of the firms is not observed. Whereas, if we look at second scenario, a cut in rates of all kinds of taxes and reducing number of taxes, the firms are now able to reap higher profits and hence look forward to expanding their production capacity. This specially suits export industry as it reduces its cost thus making the exports more compatible. Both these scenarios result in increasing the take home income of various categories of labours, shown in table 3, and hence the income of the households.

Table 2: Sectoral Impacts of Tax Reforms

Commodities / Industries	Long Run Impact				Short Run Impact			
	SIM 1		SIM 2		SIM 1		SIM 2	
	Output	Price	Output	Price	Output	Price	Output	Price
Agriculture	0.096	0.205	0.107	0.012	0.101	0.199	0.103	0.013
Mining	- 1.023	0.283	0.210	0.016	- 0.233	0.263	0.119	0.019
Food	0.062	0.124	0.114	- 0.103	0.132	0.167	0.122	- 0.094
Textile	- 0.413	0.249	0.179	- 0.002	- 0.019	0.255	0.154	0.001
Leather	- 0.104	0.201	0.246	- 0.011	0.043	0.198	0.260	- 0.019
Wood	- 0.219	0.103	- 0.097	0.037	- 0.037	0.110	0.008	0.042
Paper	0.023	0.021	- 0.107	0.011	0.040	0.073	0.067	0.013
Coke	- 0.017	0.107	0.109	- 0.005	0.001	0.113	- 0.013	0.001
Chemicals	0.132	0.128	0.140	- 0.010	0.122	0.129	0.144	- 0.007
Rubber	0.097	0.094	0.107	0.004	0.101	0.100	0.121	0.010
Nonmetallic Minerals	- 0.521	0.066	- 0.877	- 0.016	- 0.239	0.072	- 0.767	- 0.008
Metals	0.012	0.100	0.093	0.009	0.107	0.106	0.104	0.012
Machinery	- 0.059	0.223	0.108	- 0.031	0.011	0.230	0.112	- 0.024
Electric Eq	0.394	0.195	0.455	0.009	0.104	0.202	0.461	0.011
Transport Eq	- 0.021	0.197	- 0.122	0.003	- 0.009	0.214	- 0.013	0.004
Manufacturing	- 0.031	0.182	0.140	- 0.011	0.016	0.186	0.140	- 0.017
Utility Supply	0.173	0.132	- 0.061	0.004	0.214	0.129	- 0.003	0.005
Construction	- 0.109	0.114	- 0.002	0.001	- 0.021	0.130	0.010	0.004
S&M of Vehicals	0.104	0.092	0.113	0.003	0.022	0.099	0.142	0.090
Wholesale Trade	0.098	0.057	0.102	- 0.017	0.100	0.070	0.079	- 0.009
Retail Trade	0.084	0.103	0.084	0.008	0.069	0.111	0.103	0.010
Hotels	0.102	0.034	0.214	0.011	0.092	0.053	0.200	0.012
Inland Trans	- 0.034	0.192	0.098	0.009	- 0.043	0.199	0.106	0.008
Water Trans	0.117	0.279	0.216	0.010	0.124	0.286	0.223	0.009
Air Trans	0.097	0.226	0.100	- 0.017	0.103	0.233	0.099	- 0.012
Trans Services	0.037	0.198	0.049	0.007	0.078	0.201	0.063	0.014
Telecom	0.010	0.154	0.021	- 0.006	0.031	0.193	0.101	- 0.001
Financial Inst	0.242	0.245	0.249	- 0.011	0.098	0.267	0.216	- 0.003
Real Estate	0.131	0.271	0.102	0.018	0.129	0.290	0.113	0.012
Renting Business	0.034	0.109	0.021	- 0.007	0.029	0.111	0.016	- 0.003
Pub Admn	- 0.140	0.112	0.138	- 0.010	- 0.024	0.109	0.171	0.002

Education	0.152	0.158	0.168	0.001	0.155	0.169	0.201	0.009
Health	0.126	0.151	0.159	- 0.005	0.121	0.162	0.189	- 0.001
Comm Services	- 0.042	0.023	0.003	0.008	- 0.019	0.030	0.021	0.012

Note: Simulation Results.

Table 3 Impact on Labour Income

Labour Classification	Long Run Income Effect		Short Run Income Effect	
	SIM 1	SIM 2	SIM 1	SIM 2
Punjab Rural Low Skilled	0.245	0.297	0.099	0.313
Punjab Rural High Skilled	0.341	0.439	0.162	0.492
Punjab Urban Low Skilled	0.279	0.301	0.103	0.381
Punjab Urban High Skilled	0.358	0.513	0.217	0.599
Sindh Rural Low Skilled	0.242	0.289	0.064	0.294
Sindh Rural High Skilled	0.281	0.357	0.103	0.401
Sindh Urban Low Skilled	0.299	0.348	0.199	0.481
Sindh Urban High Skilled	0.446	0.792	0.342	0.829
KP-Rural Low Skilled	0.241	0.331	0.197	0.367
KP-Rural High Skilled	0.34	0.392	0.223	0.396
KP-Urban Low Skilled	0.282	0.310	0.203	0.344
KP-Urban High Skilled	0.353	0.412	0.299	0.396
Baluchistan Rural Low Skilled	0.221	0.299	0.193	0.334
Baluchistan Rural High Skilled	0.253	0.398	0.210	0.402
Baluchistan Urban Low Skilled	0.25	0.351	0.144	0.377
Baluchistan Urban High Skilled	0.316	0.443	0.231	0.476

Note: Simulation Results.

POLICY RECOMMENDATIONS

This analysis leads to some simple but important policy recommendations. One of the policies that can be recommended is that simplifying the tax regime and lowering taxes will result in higher income to the citizens and corporations, sectoral shift in favor of competitive and efficient sectors and resultantly higher economic growth. This higher growth will result in increasing the tax revenue without overburdening the citizens and businesses. Secondly, reducing rates of only one or few kinds of taxes will not work as effectively as lowering tax rates of all the taxes, reducing total number of taxes and letting various sectors compete on the basis of productivity and efficiency. The results of the study also show that reducing tax rates will result in increasing fiscal deficit, however, if government is restricted to keep budget balance or deficit under control, this may compel government to cut down unnecessary expenditures and reduce its footprint in the economy, which will result in lowering labour demand in public sector and releasing it for private firms and reducing market distortions. Although this study does not extend to the area but literature suggests that combining simplified tax regime based on low tax rates benefits more to higher income groups than lower and hence it increases inequalities which need to be taken care off well using suitable policies.