Research Paper Commerce

A Comparative Study of Shocks, Economic Growth And The Indian Economy: An Indian Perspective

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KEYWORDS

Section 1: Introduction

Evaluatingtheimpactofdomesticandexternalshocks onthegrowthofdeveloping economies is of utmost importance, as the consequences of these shocks push millions of peopleintoabjectpovertyanddeprivation. Itis inthiscontextthatwehavestudiedthe impactof domesticandexternalshocks on the Indian economy. A closer look at the last fiftyyears experiencerevealthat broadly,therearefivedistincttypesofshocksthathave affectedtheperformanceoftheIndianeconomy,sometimesworkingintandem. The first two types are domestic shocks

1.Drought,i.e.,belownormalrainfall.Sincetheagriculturalsectoris stilla significant part of the economy and has strong demand and supply inter-linkages withtherestof theeconomy,thisisperhapstheshockthatcausesmaximum damage to the Indian economy.

2.Fiscalprofligacyofthegovernment,whichisanon-developmentalexpenditure undertaken due to political economic compulsion or to mitigate the effect of other shocks, leading to a fiscal burden.

1. Hikeintheinternationalpriceofoil(petroleum). Thisisamajorimportitemand is highly price inelastic as a result of which it has a strong impact on the economy.

2. Stagnationorfallinworldtrade. Worldtradeisastrongdeterminantof Indian exports and hence any fluctuation in this also affects the economy adversely.

3.Suddencapitaloutflow inducedforeignexchangemarketshock. Thisisa phenomenonthathasprecipitatedacrisisinmanydevelopingeconomiesand India is no exception to that.

Section 2 :EconomicShocksandtheirImpactonGrowth

Althoughdiscussionsandresearchoneconomicshock shavealonghistory,therehasbeennoattemptinthelitera ture

togivearigorousdefinitiontothisterm.ooseldefined,aneconomicshockisanunexpectedexogenousdisturbancethathasasignificant impactontheeconomicsystem. Althoughthere maybesomeshocksthathaveapositive impact (for example technological breakthroughs), the term is largely used for phenomenathathaveanadverseimpactontheeconomy. Theanalysisofshocks became popularafteraspateofsupplyshockshitthe globaleconomyduringtheseventies. Since then,variouskindsofshockshavebeenhistorically recordedandthecurrentliterature distinguishes between demand and supply shocks, domestic and external shocks, country- specific and global shocks, nominal(monetary) and real shocks etc.

Section 3 : IncidenceandImpactofDomesticandExternalshocksontheIndianEconomy

Itmaybeworthwhiletonoteatthisjuncture,thattheIndian economyhas not experiencedtheextremevolatilityineconomicbehaviorthathasbeen witnessedinother emerging economies, especially in Latin America, Africa and the formerly Soviet bloc of countries. Amajorreasonforthiskindof stable behavior could be the state control over production, consumption and prices till the earlynineties. Anotherreasoncouldbe thelowdependenceonforeigntradeand investment. Evenafteradecadeofliberalization,Indiaisoneoftheleastglobalized economies of the world. With the advent offreer markets and globalization, the economy has now become more sensitive to internal and external shocks.

TheIndianeconomyhastraditionallybeensignificantlydependenton itsagricultural sector.Agriculturehasbeenanengineofgrowthnotonly duetotheoutputfrom this sectorbutalsoduetothedemandandsupply linkages to the non-agriculturalsector.

Fiscal Profligacy

Fiscalprofligacyisawidelyusedterm inmoderneconomicsbutitishardto define. It can be literally interpreted to mean unproductive expenditure by the government.

World Trade Shock

Theshockoffallingworldtradeaffectsalmostallcountries.TheIndianeconomy isnoexceptionandsinceithasbecomemoreandmoreopeninthelastdecadeandahalf, it is now more prone tosuchshocks.

TheIndianeconomy importsabout70%ofitsoilrequirementsfrom international markets. Thismakestheeconomyvulnerableto any increases inoilpricesinthe internationalmarkets. However, the oil prices do not affectthe economy homogenously. Theeconomyandits performance is becoming less vulnerable to oil price fluctuations.

Largecapitalflows andthecrisesthatareassociatedwiththemhavebecomethebaneof globalizationinthetwentyfirstcentury. Capitalflowsaffecttheeconomythroughforeign exchangereserves,whichinturn,affect themonetarybaseandhence,themoneysupplyintheeconomy.

Section 4 :Methodologyforevaluatingimpactofshocks

The steps of the methodology may be summed up in terms of the following:

1. Constructing a model of the macro economy on the basis of a theoretical frameworkandwithachosendegreeofdisaggregation. Theframeworkwill incorporatethesectors andvariablesthatareaffectedbytheshocksaswellas policy variables that can beused to counter them.

2. Acquiringtimeseriesdataforallthevariables(endogenousaswellasexogenous)

for the period to be studied.

3. Estimatingthebehavioralequationsonthebasisoftheaprior-

itheoriesandthe time series data. Suitablechanges can be made to the behavioralequations during the course ofthis exercise.

4. Thewholemodelincludingthetechnicalequations,identitiesandthebehavioral equations is solved (simulated) using the Gauss-Seidel method in order to generate the predicted values of the endogenous variables.

5.The model is then used to simulate base-run (normal)growth rates and counterfactualsituations caused by asingleormultipleshocksaffectingthe economy.

Keeping in view the factors mentioned abovewehavebuiltamacromodeltomeasure themacroimpactofdomesticandexternal stocks.The Indian economy is heterogeneous in terms of production, investment and pricebehavior.Hence we have dividedtheeconomy intothreeparts,i.e., theagricultural sector, the industrial sector and the tertiary sector.

Section 6 :Anevaluationoftheimpactofdomesticandexternalshocksontheeconomy

Oncethebehavioralequations areestimatedandthe identitiesandtechnical equationaredetermined,themodeliscompleteandreadyforsimulation.Thesimulation isdoneusingtheGauss–Seidelmethodology thatsolvesfortheendogenousvariables correspondingtoalternativeassumptionsabout theexogenous variables.

EXTERNAL SHOCKS Oil price shock

Thefirstscenariorepresentsanoilpriceshock.Weassumethatthepriceindexof oil importsrisesby100%overactualvaluesin1997and1998. Thus itis a plausible shock though not of the extreme nature as the first and second international oil price shocks.

The second scenario represents a world trade shock. Itmaybenotedthatalthoughstagnationinworldtradecanalsoleadto changesinpricesof imports,thisscenariodoesnotassumeanysuchchangesinimport prices.

Thethirdscenariorepresentsa capitalflowshock.Itmaybenotedthattheinitialyearsof the simulation period saw the incidence of global financial market instability and the resultantEastAsiacrisis.AlthoughIndiawas left largely untouched by this shock, it would be worthwhile to see what would have happened if it did have an impact.

Thefourthscenariorepresentsarainfallshock. Itmayalso benoted, thatalthoughsuchconditionsareusuallyaccompaniedbygovernmentintervention, this scenario does not assume any reaction to the drought by the government.

Thefifthscenario representsacaseoffiscal profligacy. Aswehavediscussedearlier, there is no objective definition of fiscal profligacy though it is loosely used to describe unproductiveexpenditureofthegovernment. Forourstudy,wehaveassumedfiscal profligacy to mean an increase in the state's revenue expenditure, which is financed (at least partly) by cutting back capitalexpenditure.

Oneoftheobjectivesofthisstudywasto examinetheimpactofmultipleshocks. Inthenextsimulationwedothisbyassuming thatallthefiveshocksthatwehave discussedearlierimpactthe economysimultaneously.

EFFECT OF LIBERALIZATION

Themodelthatwehave presentedinan earlier section has incorporatedvarious aspectsoftheliberalizationprocessthat wereinitiatedsincethemideightiesand particularly after 1991. These liberalization effectshavebeencapturedbyanumberof structuraldummiesthatwehaveusedintheestimationofthebehavioralequations.

Section 7 :Summaryandconclusions

Theprimaryfocusinthisstudyistheeffectof shocks on theaggregategrowth rates. Inthiscontext,itisfairtosaythatrealisticrainfallandfiscalprofligacyshocks haveastrongergrowthretardingeffectcomparedtorealistic scenariosof theotherthree shocks, both in the short as well as the long run. Thesecondissueofinterestisthepervasiveness of the shocks, i.e., theirlong run persistence. Thethirdissuethatisofinterestfromthepolicypointofviewiswhetherthe shockleadstoastagflationarysituationornot. Thisisbecausedemandmanagement policies can be used in non-stagflationary situations while stagflationary situations sometimesworsenwiththeuseofsuchpolicies. Wefindthattherainfallshockand fiscal profligacy is stagflationary in the long run, while the oil price hike, capital flow shock and world trade shocks are not stagflationary in the long run.Thefourthandfinalpointofinterestis tostudywhetherthe shockleadstosome instabilityinthegrowthprocessbyenlargingthedisequilibrium inthefiscalorthe externalsectors.

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