The background features a stylized landscape with rolling green hills in various shades of green. A blue sky with light blue waves is at the top. On the left, there is a red bird in flight, a green tree, a purple flower, and an orange flower. A brown path winds through the hills.

Relationship of IMF Programs with Income Distribution and Corruption in LDCs

An Empirical Analysis

Acknowledgment

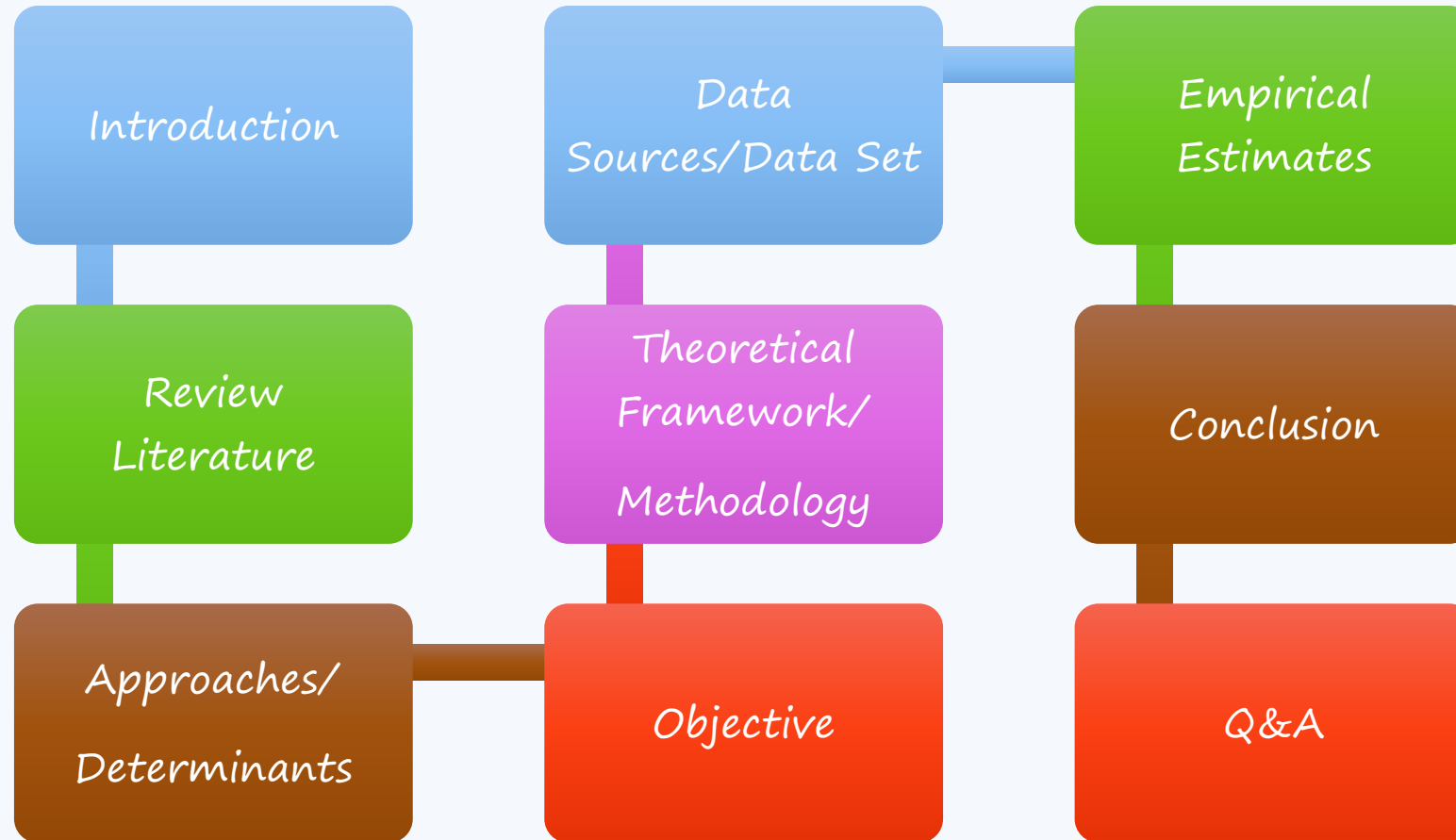
- Madam Shaista Alam(AERC)

- For her continuous support and guidance

- Review Committee

- Providing opportunity and platform

Agenda



Introduction

- Finding the impact and relationship of IMF Programs with the improvement of social indicators is less discussed.
- The impact of policies on the income distribution and whether it has increased the inequality gap and poverty levels
- To link the increase of corruption in less developed countries (LDCs) with foreign funding along with to relate the non economic social parameters, is the objective of this paper.



Review Literature

Impact on Inequality/Poverty

- Aggravated by
 - Layoffs, Subsidies, Higher/new taxes, & Privatization
 - Hyper-Devaluation and Hyper-Inflation worsen them
 - Trade Liberalization
 - Removal of protection
 - Demand for unskilled labor
 - Trade with high income countries
- Adversaries disappear in LR

Impact on Corruption

- Cyclic nature generates inequality that further enhances corruption causing poor to suffer
- Size of government and taxation are the foundation
- Highly related with
 - Dictatorship, Centralized government, Military Spending
- Reduction of Investment, FDI & Small business

Review Literature (Cont'd)

Impact on Stabilization

- Empirical evidence of economic growth is ambiguous
- Fund Experts claim its success in short run at least
- Data confidentiality is major obstacle

Impact on Politics

- Approvals increased with alignment of policies toward influential countries
- Considerations can be political, historical or cultural factors rather economical
- Growth & Inflation forecasts are sometime biased too

Approaches

- *Limitations*
 - *Short and Long Run*
 - *Data Confidentiality*
 - *Systematical Differences*
 - *Hypothesis design is complex*

*Before and
After*

*Actual vs.
Targets*

*With-Without
Approaches*

*Simulation
based*

Determinants



Demand Side:

Reasons for a country to look towards IMF



Supply Side:

Variables for which IMF decision is based

Objectives



IMF



Corruption



Inequality

Reverse Causality among

Theoretical Framework

IMF	Corruption	Inequality
Corruption	IMF	IMF
Inequality	Inequality	Corruption
poverty	Privatization	Poverty
Import/Export	Poverty	Hunger Index
Reserves/GDP	GDP Per Capita	GDP/Capita
Exports (raw material)	Industrialization Growth Rate	GDP Growth
Agriculture Income/GDP	Government Spending	Agriculture Income
Industrialization Growth Rate	Military Spending	Military Spending
Political Stability	Social Progress Index	Human Development Index
Herfindahl-Hirschman Index		

$$IMF_{it} = \beta_{0it} + \beta_1 CPI_{it} + \beta_2 HDI_{it} + \beta_3 PHC_{it} + \beta_4 GHI_{it} + \beta_5 IMG_{it} + \beta_6 IMD_{it} + \beta_7 MLX_{it} \\ + \beta_8 EXD_{it} + \beta_9 EXR_{it} + \beta_{10} AGRI_{it} + \beta_{11} INDG_{it} + \beta_{12} HHI_{it}$$

$$CPI_{it} = \alpha_{0it} + \alpha_1 IGN_{it} + \alpha_2 GDPC_{it} + \alpha_3 PHC_{it} + \alpha_4 GHI_{it} + \alpha_5 IMD_{it} + \alpha_6 EXG + \alpha_7 EXD_{it} \\ + \alpha_8 AGRI_{it} + \alpha_9 INDG_{it} + \alpha_{10} FH_{it}$$

$$IGN_{it} = \gamma_{0it} + \gamma_1 IMF_{it} + \gamma_2 HDI_{it} + \gamma_3 PHC_{it} + \gamma_4 IMD_{it} + \gamma_5 EXG + \gamma_6 EXD_{it} + \gamma_7 AGRI_{it} \\ + \gamma_8 INDG_{it} + \gamma_9 FH_{it} + \gamma_{10} MLX_{it}$$



Methodology

Simultaneous Equation Model

2SLS

Methodology (cont'd)

- Endogenous Variables are

- IMF = $\begin{matrix} 1 & \text{if a country is in program of that year,} \\ 0 & \text{Otherwise} \end{matrix}$

- CPI = Corruption Perception Index

- IGN = Gini Coefficient Index

- Exogenous/Instrument Variables are

- HDI = Human Development Index

- GHI = Global Hunger Index

- PHC = Poverty Headcount Ratio @US\$1.99

- GDPC = Gross Domestic Product Per Capita (Current, US\$)

- GDPG = Gross Domestic Product Growth

Methodology (cont'd)

- EXD = Exports of goods and services (% of GDP)
- EXG = Exports of goods and services (Growth)
- IMD = Imports of goods and services (% of GDP)
- IMG = Imports of goods and services (Growth)
- EXR = Agricultural raw materials exports (% of merchandise exports)
- MLX = Military expenditure (% of GDP)
- AGRI = Agriculture, value added (% of GDP)
- FH = Freedom House Index
- DP = 1, if a country privatized its units in that year, 0 otherwise
- HHI = HH Market concentration index
- SPI = Social Progress Index
- INDG = Industry, value added (annual % growth)

Data Sources

- *Corruption Perceptions Index (CPI) by Transparency International*
- *Country Financial datasets by IMF*
- *Quality Growth Index by IMF*
- *IFS Database of IMF*
- *GINI index (World Bank estimate)*
- *Multidimensional Poverty Index (MPI) by UNDP*
- *Poverty & Equity Data of World Bank*
- *Privatization Database by World Bank*
- *WITS database of Worldbank*
- *SIPRI database for Military Expenditures*
- *Herfindahl-Hirschman Index (HHI) by World Bank*
- *Social Progress Index*
- *Human Development Index (HDI) by UNDP*
- *Global Hunger Index (GHI) by International Food Policy Research Institute (IFPRI)*
- *Living Standards Measurement Study (LSMS) by World Bank*
- *Trade Outcomes Indicators by World Bank*
- *World Economic Outlook (WEO) by IMF*
- *World Development Indicators (WDI) data sets by The World Bank*
- *OXFAM Inequality reports*
- *Reports by Freedom House*
- *Quality Growth Index (QGI)*
- *Deiningner, Klaus and Lyn Squire Database*
- *Barro-Lee data sets*

Albania	Malawi
Armenia	Mali
Azerbaijan	Mauritania
Bangladesh	Moldova
Bangladesh	Mongolia
Bolivia	Mozambique
Burkina Faso	Nepal
Cambodia	Nicaragua
Cameroon	Pakistan
Chad	Philippines
Congo, Dem. Rep.	Rwanda
Dominican Republic	Senegal
Gambia, The	Sierra Leone
Georgia	Sri Lanka
Guinea	Tajikistan
Guinea-Bissau	Tanzania
Honduras	Togo
Kenya	Uganda
Kyrgyz Republic	Vietnam
Madagascar	Zambia

Data Sets

40 out of 78 PRGF Countries

2004-2017

Dependant Variable: IMF (Causal Relationship of IMF Progrm with Inequality & Other determinants)

Endogenous Variable

Corruption Perception Index(-1)

0.05 (2.27**)

Exogenous Variables

Human Development Index

-6.48 (2.35**)

Difference (Import, Export)

0.01 (2.10**)

Imports (%GDP)

-0.02 (1.99**)

GDP Per Capita

-1E-4 (1.66*)

Military Expenditure (%GDP)

-0.12 (1.52)

Global Hunger Index*IMF(-1)

0.02 (1.81***)

Poverty Headcount Ratio*IMF(-1)

-0.01 (0.62)

Privatization*IMF(-1)

-0.12 (1.21)

- Unclear about demand/supply determinants
- Lagged, negative and significant (@5%) relationship with Corruption
- Lower HDI level reduces to go into Fund Program
- Higher imports lowers chances of Fund but approval is contingent upon Imports higher than Exports
- Negative Military Exp Relation but unlikely to be key determinant
- GDP/Capita is not the criteria that IMF decides for, or isn't the factor that being low, will push a country to opt for funding.
- Both Poverty Indicators impacts same
- Program doesn't induce privatization

Empirical Estimates

Number of Observations

316

R²

0.28

Joint Significance (Prob > F)

0.000

*** (1% Significance Level) ** (5% Significance Level) * (10% Significance Level)

Dependant Variable: CPI (Causal Relationship of Corruption with Inequality & Other determinants)

Endogenous Variable

Gini Coefficient* 1.02 (2.16**)

Exogenous Variables

Imports (%GDP) -0.05 (1.94**)

GDP Per Capita 0.002 (1.75***)

Global Hunger Index -0.57 (3.93*)

Agriculture Income(% of GDP) -0.21 (1.73***)

Privatization 0.35 (0.32)

Number of Observations 327

R² 0.48

Joint Significance (Prob > F) 0.000

- Unexpected results as inverse relationship among Corruption and Inequality

- The negative relationship of imports shows that, custom tariffs, procedures and import policies are not friendly, hence inducing corruption.

- Though inverse but not quantifiable relationship with GDP/Capita

- Poverty along with agro-economies increase corruption levels.

- No significant impact of privatization on corruption level

Dependant Variable:GINI Coefficient (Causal Relationship of Inequality with IMF Programs)

Endogenous Variable

IMF 4.95 (1.99**)

Exogenous Variables

Privatization*IMF(-1) 2.79 (1.53****)

IMF(-1) -4.48 (1.61***)

Privatization(-3)*IMF(-3) 3.59 (1.80***)

Poverty Headcount Ratio 0.36 (5.22*)

Poverty Headcount Ratio*IMF -0.16 (2.63*)

Freedom House 0.04 (0.86)

Number of Observations 340

R² 0.86

Joint Significance (Prob > F) 0.000

- IMF Programs are very much associated with Inequality
- IMF program in previous year, & privatizing next year raises inequality too
- Surprisingly lagged impact of program reduces the inequality by same magnitude
- we can relate the result of previous that it's IMF conditionalities, which though increases the inequality in current year, but controls corruption somehow
- combinational lagged impact of 3rd year widens the inequality gap
- Higher PHC ratio corresponds higher inequality
- Reduced slightly if a country is in IMF Program

Conclusions & Recommendations



- Inequality gap widens with IMF Programs
- Despite that, corruption is reduced
- No quantifiable impact on poverty and growth, contrary to its major targets
- Privatization may not necessarily be reason of funding
- Privatization may not be cause of inequality, corruption



- No confidentiality of Data
- Measures to take for export enhancement
- Military expenditure control should be conditionality of program
- Revision of import policies to curb corruption
- Transformation of agri-economy towards industrialization
- Domestic influence during privatization must be minimized



Questions