Domestic Savings in sub-Saharan Africa: The Case of Ghana

Charles Godfred Ackah, ISSER- University of Ghana

Monica Lambon-Quayefio, Department of Economics, University of Ghana

UNU-WIDER Development Conference

Oslo, Norway

September 6-8, 2023

Outline

- Introduction and background
- Research questions, data and empirical estimations
- Results
- Conclusion and recommendations

Introduction

- Savings is regarded as the main driver of capital accumulation and economic growth in the long run
    - Growth models therefore encourage countries to increase savings and investments to spur their economic growth.
- However, SSA countries have struggled to mobilise resources to finance the growth of their economies
    - There has been consistent declines in private savings from 1970s to 1990s from 11% to 9% (Elbadawi and Mwega (2000)
    - Declines from 30% to 20% in savings ratio from 2000 to 2020 (World Development Indicators)
- Many SSA countries rely on foreign aid and external sources of finance to drive their economic growth and development
- With the call for a development 'Beyond Aid' agenda, there is renewed interest in domestic resource mobilisation as an alternative funding vehicle to support the growth and development of economies including, Ghana.

What do we know about the determinants of domestic savings?

- Income related variables: GDP per capita; Economic growth rates, Interest rates (Verma and Wilson 2005; Freytag and Voll 2013)

- Macroeconomic variables : fiscal and monetary policy variables
  - macroeconomic volatilities and external shocks, especially terms of trade (Chowdhury 2015)
- Institutions, legal environments and regulations

(Ntow-Gyamfi et al. 2019;Feng and Yu 2020; Kebede et al. 2021).

- Gap: Existing studies focus on group of countries; heterogeneities of individual countries are often masked
- Many of the studies focus on short-run relationships; limited understanding of long run relationships for effective long-term policy making on domestic resource mobilisation.

Main Research Objective

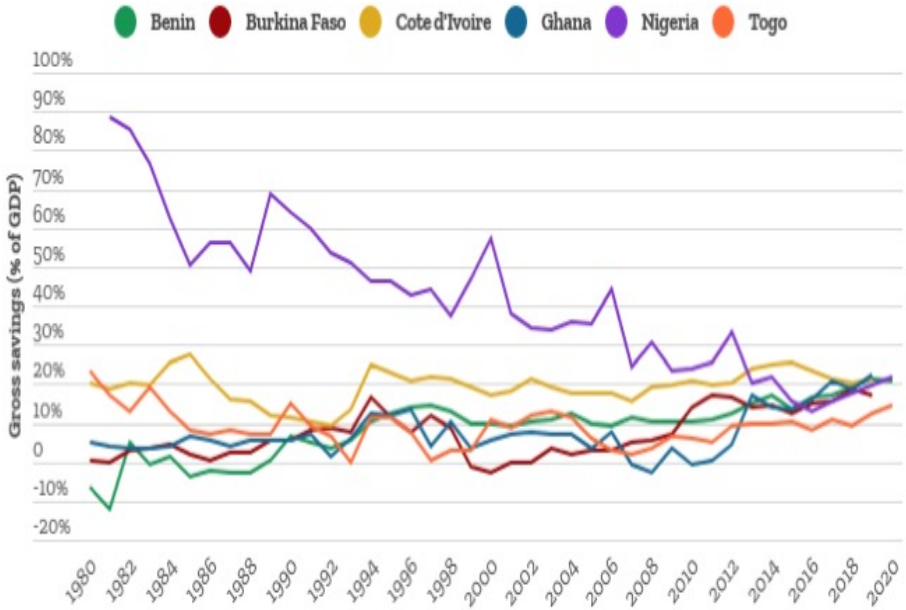
- Determine the long-term drivers of savings in Ghana

- Establish if there is a long-term relationship between savings and variables considered to be relevant in the Ghanaian context.

Data and Research Context

- Data from 1980 to 2020
- Analytical period chosen to capture the effects of the various major policies that have been implemented over the period
- Macroeconomic policies:
  - 1980s: Economic Recovery Program and Structural Adjustment Program
  - 2000s: GPRS I & GPRS II
- Monetary and Financial Reforms:
  - Repressive government measures discouraged financial deepening and savings
  - -disclosing bank details of customers; freezing of accounts; withdrawal of notes, high required ratios.
    - Reversal of policies in the early 1980s
    - FINSAP I and II (1990s)
- Several other policies including the financial sector clean up in 2017

Ghana's domestic savings rate remain low

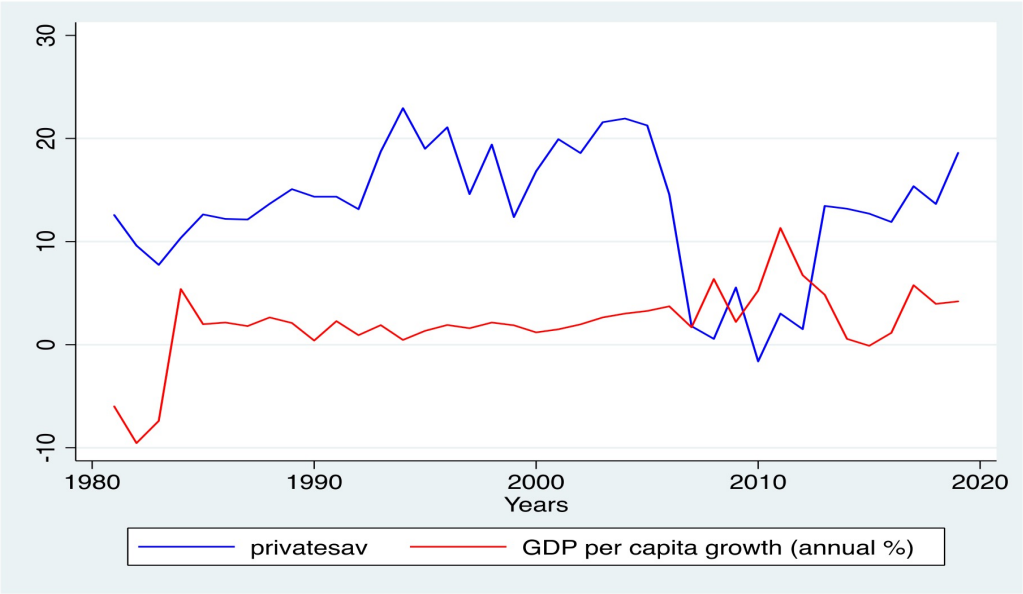


- Average: about 7.5 % between 1980-2020
- Savings remain low compared to other countries:
  - Benin : 8.5%
  - Cote d'Ivoire:19.3%
  - Nigeria: (41.7 per cent)
  - Togo (9.1 per cent).

Ghana's domestic savings remain low with increasing GDP per capita

- Savings (% of GPD) remains unresponsive to increases in GDP per capita.
- Contrary to the absolute income hypothesis (positive relationship between income and savings)
- Data suggest generally low incomes and with high MPC, savings are low

Ghana's domestic savings remain low with increasing GDP per capita growth



- Private savings increase during economic downturns and reduce when the economy is doing better.
- In 1981, both economic growth and savings reduced significantly.
- Between 2013 and 2019, savings increased significantly with growth declines.

Source: authors' calculations based on data from WDI.

Summary Statistics

Variable	Mean	Std.
Savings (% of GDP) (SAV)	13.6	6.46
GDP growth (%) (GDPG)	2.91	2.25
Square OF GDPL (GDPLSQ)	1,263,981	1,693,614
GDP per capita ($USD) (GDPL)	886.749	701.218
Inflation rate (%) (INF)	20..29	12.11
Real interest rate (%) (RIR)	-7.574	15.705
Money supply (% of GDP) (MON)	23.974	6.103
Domestic credit to private sector (% of GDP) (DOMCRE)	9.997	4.578
Terms of trade index (%) (TOT)	96.386	24.388
Remittances (% of GDP) (REM)	1.710	2.481
External debt stock (% of GNI) (EXT_DEBT)	63.383	34.866
Observations	35	

Empirical Analysis

- ARDL technique to determine the long-run relationship between series with different orders of integration.

- PSAV= F(GDPG,GDPC,GDPCSQ,INF,RIR,MON,DOMCRE,TOT,DEPRATIO,REM)
- Variables based on theoretical models
- Relevant tests: ADF Tests (stationarity of the variables); Philips-Perron Tests (ascertain the order of integration of all variables)

Unit Root Tests for Stationarity

		ADF test		Phillips-Perron	
Variable	SBIC lag	t-statistic	Crit. value (5%)	t-statistic	Crit. value (5%)
SAV	1	-1.955	-2.966	-2.182	-2.964
GDPG	1	-4.604***	-2.966	-3.471**	-2.964
GDQSQ	1	0.446	-2.964	-0.108	-2.964
GDPLevel	1	0.592	-2.966	0.524	-2.966
INFLATION	1	-2.583	-2.966	-6.270***	-2.964
RIR	0	-5.237***	-2.969	-5.237***	-2.966
MON	1	-1.374	-2.966	-1.474	-2.964
TOT	1	-2.889**	-2.966	-3.527**	-2.964
DOMCRED	1	-1.534	-2.966	-1.498	-2.964
DEPRATIO	2	-0.217	-2.972	-1.302	-2.966
REMGDP	3	0.357	-2.972	-1.281	-2.964
EXT_DEBT	1	-4.914	-2.966	-1.569	-2.966

Note: *** p<0.01, ** p<0.05, * p<0.10.

Source: authors' computations from data.

- At levels, only a few variables show stationarity:
  - GDP growth, INF, RIR, TOT
- After first differencing, all the non-stationary variables become stationary

Test for cointegration shows no long-run relationship

F-statistic	95% lower bound	95% upper bound	90% lower bound	90% upper bound
1.905	2.06	3.24	1.83	2.94
N = 35				

Source: authors' computations.

- Null hypothesis of the bounds test
  - No long-run relationship exists among the variables
- Alternative hypothesis:
  - A long-run relationship exist among variables.
- The estimated F-statistic : 1.905
  - (lower- and upper-bound values of the critical values)
- we accept the null hypothesis of no cointegration (no long run relationship between variables)

Estimates shows significant short-run relationships for some variables.

Variables	Coefficients	t-stats
SAV (L1)	0.305	1.01
GDPG	-0.483	-0.86
GDPG (L1)	-0.511	-1.34
GDPLSQ	1.45E-05	2.02*
GDPLSQ (L1)	2.78E-06	0.30
GDPL	-0.05	-1.84*
GDPL (L1)	0.003	0.08
INFLATION	-0.046	-0.47
INFLATION (L1)	-0.046	-1.08
RIR	0.078	0.85
MON	-0.488	-1.12
MON(L1)	1.332	3.02**
DOMCRE	-0.850	-1.51
DOMCRE (L1)	0.408	0.57
TOT	0.043	1.06
TOT (L1)	0.004	0.11
REM_GDP	0.788	1.37
REM_GDP (L1)	-0.139	-0.27
REM_GDP(L2)	0.096	0.13
REM_GDP (L3)	-0.660	-0.98
EXT_DEBT	-0.050	-0.57
EXT_DEBT(L1)	-0.07	-0.56
R-square	0.934	
Adjusted R-square	0.777	
Observations	35	
Diagnostics	Test value	P-value
Breush-Geofrey test for serial autocorrelation	11.108	0.0009
Breush-Pagan test for heteroskedasticity	0.30	0.58

Note: *** p< 1% significance, ** p< 5% significance, and * p< 10% significance.
Source: authors' computations.

- Short run analyses shows significant effects of:
- GDP per capita, GDP per capita squared and money supply

Summary

- Main research objective:
  - Explore the determinants of savings in Ghana
  - Establish if there is a long-run relationship between savings and the other variables such as inflation, interest rate, and GDP growth.
  - Data from 1980 to 2020

- Findings from Trend Analyses
  - Economic down turns associated with high savings (consistent with rational behaviour of economic agents)
  - Monetary (deposit interest rate, money supply) and Fiscal Policies (budget deficits and external debt stock) important for savings

- Findings from Econometric Analyses
  - No compelling evidence of to support the existence of a long run relationship between private savings and other variables considered
  - Evidence shows short run relationship between savings and some variables

Main Recommendations

- Continuously pursue policies to keep income levels of households high to trigger savings, as continuously rising income beyond a certain point would encourage savings so far as the basic needs of households are catered for.

- Policies that promote financial deepening should be pursued to improve savings in the country.

- Sound monetary and fiscal policies need to be pursued to encourage savings and domestic resource mobilization.

- Significant effect of previous year's money supply on current savings is indicative of the importance of previous policies on financial deepening on current savings behaviour.

Thank you!