

PPLOL-649 Macroeconomics: Problem Set 1

Due March xx, 2017

I. Build a set of integrated macroeconomic accounts that mimics the Indian economy in 2015.

- India's GDP in 2015 is estimated at 135,000 billion Rupees (about 1.9 trillion US\$, which is about 10 percent of US GDP)
- Private consumption about 60 percent of GDP
- Government consumption about 10 percent of GDP
- Private investment about 25 percent of GDP
- Government investment about 7 percent of GDP
- Exports about 20 percent of GDP
- Imports about 22 percent of GDP
- Government revenues about 20 percent of GDP and expenditure of about 27 percent of GDP yielding a budget deficit of some 7 percent of GDP
- The stock of bank liabilities is about 80 percent of GDP and it grows at the average annual rate of 10 percent.

(20 points for getting the saving/investment balances to balance, and 10 points for getting the financing items to add up to the balances and to be consistent across sectors)

II. To reign in its gaping budget deficit, imagine that the Indian government decides to slash 20 percent off its consumption (by letting go of retiring civil servants without replacing them and by cutting on its spending on goods and services). Assuming that private investment, government investment, exports, taxes, social contributions, social benefits remain constant in rupee term, build a new set of integrated macroeconomic accounts to reflect the impact of this fiscal contraction (also called fiscal consolidation).

To calculate the multiplier, assume that the marginal propensity to consume in India is .75 and, as stated above, imports are 22 percent of GDP. Remember that k , the multiplier, is equal to $1/(1-c+m)$, and therefore,

$$Y_1 = Y_0 + k \cdot \Delta G$$

$$C_1 = C_0 + c \cdot k \cdot \Delta G$$

$$G_1 = G_0 + \Delta G$$

$$M_1 = M_0 + m \cdot k \cdot \Delta G$$

Construct a table that summarizes this comparative statics exercise. Comment the results.

(15 points for getting the correct figures for the changes in the main macroeconomic variables and 5 points for commenting the results).

India: Comparative Statics of a 20% Cut in Public Consumption
(in billions of Rupee, unless otherwise specified)

	Initial Position	New Position	Absolute Change	% Change in %
GDP				
Private Consumption				
Taxes net of social benefits				
Public consumption				
Private savings				
Public savings				
$S_{pr} - I_{pr}$				
Budget balance				
Current account balance				
Check				
(in percent of GDP)				
$S_{pr} - I_{pr}$				
Budget balance				
Current account balance				
Check				

III. Build a set of integrated macroeconomic accounts that mimics the German economy in 2015.

- Germany's GDP in 2015 is estimated at 3,000 billion Euro (about 3.3 trillion US\$, which is a little short of one-fifth of U.S. GDP)
- Private consumption about 52 percent of GDP
- Government consumption about 20 percent of GDP
- Private investment about 15 percent of GDP
- Government investment about 5 percent of GDP
- Exports about 48 percent of GDP
- Imports about 40 percent of GDP
- Government revenues about 45 percent of GDP and expenditure of about 44 percent of GDP, with a budget surplus of about 1 percent of GDP
- The stock of bank liabilities is about 50 percent of GDP and it grows at the average annual rate of 10 percent.

(20 points for getting the saving/investment balances to balance, and 10 points for getting the financing items to add up to the balances and to be consistent across sectors)

IV. Many fingers are pointing at Germany for failing to “contribute more meaningfully to the recovery of the global economy.” Assume that Germany heeds these calls and increases government consumption by 20 percent.

To calculate the multiplier, assume that the marginal propensity to consume in Germany is .95 and, as stated above, imports are 40 percent of GDP.

Construct a table that summarizes this comparative statics exercise. Comment the results: what impact will the fiscal expansion have on its trade surplus and on its budget balance? How much more will it import from the rest of the world?

(15 points for getting the correct figures for the changes in the main macroeconomic variables and 5 points for commenting the results).

The attached article on Germany might be of interest.

Record German surplus fuels trade gap criticism

CLAIRE JONES — FRANKFURT

Angela Merkel, chancellor, wants to lower government debt — Fabrizio Bensch/Reuters

Germany has posted its highest budget surplus since reunification in 1991, inviting further scrutiny of whether the eurozone's largest economy should do more to increase spending and redress global economic imbalances.

The country had ended last year in the black by €23.7bn, the national statistical office reported yesterday. Local, state and central government coffers benefited from record-low unemployment and ultra-cheap debt finance stemming from the European Central Bank's mass purchases of sovereign bonds.

Maintaining a balanced budget is a cornerstone of the economic policy of the government of Angela Merkel, chancellor.

"These figures show that Germany is doing well," said Jens Spahn, deputy finance minister. "We invest more than ever — and still have surpluses."

However, critics will view the surplus as evidence that Berlin could be spending more to boost domestic demand. If Germans bought more goods and services from abroad, the much maligned trade gap with the rest of the world would narrow.

Germany's current account surplus — the gap between what it sells abroad and what it buys — was about 8 per cent of gross domestic product last year.

The size of the surplus has stoked criticism from economists, multilateral organisations and the new US administration that Germany's export-led growth has accompanied a build-up of debt in other countries, putting the global economy at risk.

In a sign that government spending could become a battleground in September's federal election, the centre-left Social Democrats, the junior coalition partner, have called for the €6.2bn of the surplus that is attributable to central government to be used fund infrastructure investment.

The chancellor's Christian Democrats want the surplus to be used to lower government debt, which at an estimated 68.2 per cent of GDP is above the 60 per cent ceiling set by EU rules.

Yesterday Ms Merkel acknowledged that the government needed to spend more in certain areas, such as upgrading some areas of infrastructure.

Given disagreements between the coalition partners, this year's windfall is likely to fund a cash reserve set up to support the influx of refugees at the start of the migrant crisis in 2015.

Wolfgang Schäuble, finance minister, has said he will set aside an expected surplus for 2017 to cut income tax.

Of the four biggest economies in the eurozone, Germany was the only one to record a surplus last year. France, the second-largest economy, was on track for the largest deficit.

Jens Weidmann, president of the Bundesbank, supported the CDU's calls to use the surplus to lower debt, and said a surplus was appropriate given Germany's ageing society.

Clemens Fuest, head of the Munich-based Ifo think-tank, cautioned against the use of short-term fluctuations in revenue to cut taxes or spend more.

However, he added that "in the medium to long term, there is room in the budget — perhaps around €15bn to €20bn — to spend".

Those funds should be used for income tax cuts and public investment, said Mr Fuest.

'In the medium to long term, there is perhaps €15bn to €20bn to spend'
Clemens Fuest, Ifo