National Economic Performance

Andrew B. Abel
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Overview

I. Measuring Economic Activity
II. Fundamentals of National Income Accounting
III. Determinants of Aggregate Demand
I. Measuring Economic Activity

A. Users of Economic Data
B. National Income Accounts
C. Employment Statistics
D. Price Levels and Inflation
E. Wages, Productivity and Unit Labor Costs
I.A. Users of Economic Data

- **Policy Makers**
  - Guide the direction of policy
- **Businesses**
  - Forecast demand, costs of materials, and cost of funds
  - Tax consequences of inflation
  - Exchange rates
I.A. Users of Economic Data (cont’d)

- Labor Unions
  - Need to know unemployment rate and inflation rate when negotiating contracts
  - COLA's
- Voters
  - Political business cycle
- Financial Managers
  - Interest rates, exchange rates
I.B. National Income Accounts

• Gross Domestic Product (GDP)
  • Definition: Market value of final goods and services produced within a country over a period of time
    • market value
    • final goods and services
      – excludes intermediate goods and services
      – avoids double counting
      – equivalent to value-added
Definition of GDP

(cont’d)

- Produced ... over a period of time
  - Excludes trades of assets
    - new vs. existing homes
    - includes commissions on trades of assets
  - Typically annualized
- Produced in a country
  - Produced inside the country
  - GNP: produced by domestic factors of production anywhere in the world
    - GNP = GDP plus receipts of factor income from rest of world minus payments of factor income to rest of world
Problems in Construction of GDP Data

- Identification of Final Goods
- Quality Changes
- Underground Economy
- Seasonality
Deficiencies in Concept of GDP

- Ignores Use of Exhaustible Resources
- Ignores Deterioration of Environment
- Does Not Value Leisure
- Government Services Valued at Cost
- Aggregation
I.C. Employment Statistics

• Labor Force
  • Demographic changes
  • Participation rates
    • Secular changes
      – women
    • Cyclical changes
      – secondary earners
  • Seasonal changes
    – teenagers
Employment Surveys

• Household Survey (counts people)
  • Employed
  • Unemployed
    • actively seeking work
  • Not in Labor Force

• Establishment Survey (counts jobs)
  • Cannot be used to measure unemployment
## The U.S. Employment Situation
### November 1998

<table>
<thead>
<tr>
<th>Category</th>
<th>Millions</th>
<th>% of LF</th>
<th>% of Adult Pop</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed</td>
<td>132.154</td>
<td>95.6%</td>
<td>64.1%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>6.099</td>
<td>4.4%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Labor Force</td>
<td>138.253</td>
<td>100.0%</td>
<td>67.1%</td>
</tr>
<tr>
<td>Not in Labor Force</td>
<td>67.851</td>
<td></td>
<td>32.9%</td>
</tr>
<tr>
<td>Adult Population</td>
<td>206.104</td>
<td></td>
<td>100.0%</td>
</tr>
</tbody>
</table>
## Employment Situation
### South Africa - 1997

<table>
<thead>
<tr>
<th>Category</th>
<th>Thousands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment in Non-Agricultural Sectors</td>
<td></td>
</tr>
<tr>
<td>Public Sector</td>
<td>1773</td>
</tr>
<tr>
<td>Private Sector</td>
<td>3372</td>
</tr>
<tr>
<td>Total Non-Agricultural Employment</td>
<td>5145</td>
</tr>
<tr>
<td>Registered Unemployed</td>
<td>310</td>
</tr>
<tr>
<td>Workdays Lost to Strikes/Work Stoppages</td>
<td>650</td>
</tr>
</tbody>
</table>
Deficiencies with Overall Unemployment Rate

- Masks Differences Across Demographic Groups
- Qualifications of Job Seeker
- Discouraged Workers
- Does Not Measure Duration
- Out-Sourcing Non-Core Activities
I.D. Price Levels and Inflation

• Major Price Indices
  • Implicit price deflator to deflate nominal GDP
  • CPI - urban household of four
  • PPI
Consumer Price Index in South Africa
(1995 = 100)
Inflation

• Definition: General and Continual Upward Movement in Prices
  • General: not a single good
  • Continual: not a once-and-for-all change

• Important Distinctions
  • Price level vs. inflation
  • Deflation vs. disinflation
Inflation in South Africa

percent per year

1991 1993 1995 1997
Deficiencies of Price Level and Inflation Measures

- Substitution Bias
- New Product Bias
- Quality Change Bias
- Outlet Bias
Wages, Productivity, and Unit Labor Costs in South Africa

<table>
<thead>
<tr>
<th>Description</th>
<th>1990</th>
<th>1997</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Remuneration per worker-current prices</td>
<td>100.0</td>
<td>245.8</td>
</tr>
<tr>
<td>(2) Remuneration per worker-constant prices</td>
<td>100.0</td>
<td>123.2</td>
</tr>
<tr>
<td>(3) Labor productivity index</td>
<td>100.0</td>
<td>119.7</td>
</tr>
<tr>
<td>(4) Nominal unit labor costs</td>
<td>100.0</td>
<td>205.5</td>
</tr>
<tr>
<td>(5) Real unit labor costs</td>
<td>100.0</td>
<td>102.9</td>
</tr>
</tbody>
</table>
Nominal Growth Rates: Wages, Productivity, ULC
Real Growth Rates: Wages, Productivity, ULC

![Graph showing real growth rates for wages, productivity, and unit labor costs from 1991 to 1997.](image)
II. Fundamentals of National Income Accounting

A. Income and Expenditure
B. Saving
C. International Transactions
D. Saving Identity from Balance Sheets
II.A. Income and Expenditure

• Income
  • Wages
  • Profits
  • Indirect Taxes
### Income Approach to Measuring GDP in South Africa - 1997

<table>
<thead>
<tr>
<th></th>
<th>R billions</th>
<th>% of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remuneration of Resident Employees</td>
<td>310.8</td>
<td>52.3</td>
</tr>
<tr>
<td><em>plus</em>: Gross National Operating Surplus</td>
<td>203.6</td>
<td>34.2</td>
</tr>
<tr>
<td><em>equals</em>: GNP at Factor Cost</td>
<td>514.4</td>
<td>86.5</td>
</tr>
<tr>
<td><em>plus</em>: Indirect taxes less subsidies</td>
<td>65.3</td>
<td>11.0</td>
</tr>
<tr>
<td><em>equals</em>: GNP at Market Prices</td>
<td>579.7</td>
<td>97.5</td>
</tr>
<tr>
<td><em>less</em>: NFP</td>
<td>-15.1</td>
<td>-2.5</td>
</tr>
<tr>
<td><em>equals</em>: GDP</td>
<td>594.9</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Expenditure

- Private Consumption
- Private Investment
- Government Purchases
- Net Exports
# Expenditure Approach to GDP

South Africa - 1997

<table>
<thead>
<tr>
<th></th>
<th>R billions</th>
<th>% of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Consumption</td>
<td>366.7</td>
<td>61.6</td>
</tr>
<tr>
<td>Investment</td>
<td>99.0</td>
<td>16.6</td>
</tr>
<tr>
<td>Government Consumption</td>
<td>127.0</td>
<td>21.3</td>
</tr>
<tr>
<td>Net Exports</td>
<td>6.8</td>
<td>1.1</td>
</tr>
<tr>
<td>Residual Item</td>
<td>-4.6</td>
<td>-0.8</td>
</tr>
<tr>
<td>GDP</td>
<td>594.9</td>
<td>100.0</td>
</tr>
<tr>
<td>NFP</td>
<td>-15.1</td>
<td>-2.5</td>
</tr>
<tr>
<td>GNP</td>
<td>579.7</td>
<td>97.5</td>
</tr>
</tbody>
</table>
## Consumption Expenditures 1997

<table>
<thead>
<tr>
<th></th>
<th>R billions</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Durables</td>
<td>32.3</td>
<td>8.8</td>
</tr>
<tr>
<td>Semi-durables</td>
<td>55.7</td>
<td>15.2</td>
</tr>
<tr>
<td>Nondurables</td>
<td>175.1</td>
<td>47.8</td>
</tr>
<tr>
<td>Services</td>
<td>103.6</td>
<td>28.3</td>
</tr>
<tr>
<td><strong>Total Consumption Expenditures</strong></td>
<td><strong>366.7</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
## Gross Domestic Investment 1997

<table>
<thead>
<tr>
<th></th>
<th>R billions</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Investment</td>
<td>103.3</td>
<td>104.4</td>
</tr>
<tr>
<td>Public Authorities</td>
<td>14.6</td>
<td>14.8</td>
</tr>
<tr>
<td>Public Corporations</td>
<td>13.4</td>
<td>13.6</td>
</tr>
<tr>
<td>Private Business</td>
<td>75.3</td>
<td>76.1</td>
</tr>
<tr>
<td>Change in Inventories</td>
<td>-4.4</td>
<td>-4.4</td>
</tr>
<tr>
<td>Total Investment</td>
<td>99.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>
## Exports - 1997

<table>
<thead>
<tr>
<th>Exports</th>
<th>R billions</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merchandise</td>
<td>114.1</td>
<td>66.6</td>
</tr>
<tr>
<td>Gold (net)</td>
<td>25.8</td>
<td>15.1</td>
</tr>
<tr>
<td>Non-Factor Services</td>
<td>25.2</td>
<td>14.7</td>
</tr>
<tr>
<td>Exports of Goods &amp; Non-Factor Services</td>
<td>165.2</td>
<td>96.4</td>
</tr>
<tr>
<td>Exports of Factor Services</td>
<td>6.2</td>
<td>3.6</td>
</tr>
<tr>
<td>Total Exports</td>
<td>171.4</td>
<td>100.0</td>
</tr>
</tbody>
</table>
## Imports - 1997

<table>
<thead>
<tr>
<th>Imports</th>
<th>R billions</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Merchandise</td>
<td>130.8</td>
<td>72.8</td>
</tr>
<tr>
<td>Non-Factor Services</td>
<td>27.5</td>
<td>15.3</td>
</tr>
<tr>
<td>Imports of Goods &amp; Non-Factor Services</td>
<td>158.4</td>
<td>88.1</td>
</tr>
<tr>
<td>Imports of Factor Services</td>
<td>21.4</td>
<td>11.9</td>
</tr>
<tr>
<td>Total Imports</td>
<td>179.7</td>
<td>100.0</td>
</tr>
</tbody>
</table>
## Net Exports and Current Account 1997

<table>
<thead>
<tr>
<th>Item</th>
<th>R billions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Exports of Goods &amp; Non-Factor Serv's</td>
<td>6.8</td>
</tr>
<tr>
<td>Net Exports of Factor Services (NFP)</td>
<td>-15.1</td>
</tr>
<tr>
<td>Net Transfers</td>
<td>-0.5</td>
</tr>
<tr>
<td>Current Account Balance (CA)</td>
<td>-8.8</td>
</tr>
</tbody>
</table>
II.B. Saving

- Private Saving = Income + Transfers - Taxes - Consumption
- Government Saving = Taxes - Transfers - Government Purchases
  - Surplus, if positive
  - Deficit, if negative
- National Saving = Private Saving + Government Saving
  - equals Income minus Consumption minus Government Purchases
Saving Identity

- National Saving  =  Income - Consumption - Government Purchases
- Income = Consumption + Investment + Government Purchases + Current Account
- National Saving  =  Investment + Current Account
# Government Saving in South Africa - 1997

<table>
<thead>
<tr>
<th></th>
<th>R billions</th>
<th>% of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Income</strong></td>
<td>173.0</td>
<td>29.1</td>
</tr>
<tr>
<td><strong>Current Expenditure</strong></td>
<td>195.1</td>
<td>32.8</td>
</tr>
<tr>
<td><strong>Consumption</strong></td>
<td>127.0</td>
<td>21.3</td>
</tr>
<tr>
<td><strong>Interest on Public Debt</strong></td>
<td>37.8</td>
<td>6.3</td>
</tr>
<tr>
<td><strong>Subsidies</strong></td>
<td>6.7</td>
<td>1.1</td>
</tr>
<tr>
<td><strong>Transfers</strong></td>
<td>23.6</td>
<td>4.0</td>
</tr>
<tr>
<td><strong>Government Saving</strong></td>
<td>-22.1</td>
<td>-3.7</td>
</tr>
</tbody>
</table>
## Saving in South Africa - 1997

<table>
<thead>
<tr>
<th></th>
<th>R billions</th>
<th>% of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Private Saving</td>
<td>112.2</td>
<td>18.9</td>
</tr>
<tr>
<td>Gross Government Saving</td>
<td>-22.1</td>
<td>-3.7</td>
</tr>
<tr>
<td>Gross Domestic Saving</td>
<td>90.1</td>
<td>15.2</td>
</tr>
<tr>
<td>Investment</td>
<td>99.0</td>
<td>16.6</td>
</tr>
<tr>
<td>Current Account Balance (CA)</td>
<td>-8.8</td>
<td>-1.5</td>
</tr>
<tr>
<td>Investment + CA</td>
<td>90.1</td>
<td>15.2</td>
</tr>
</tbody>
</table>
II.C. International Transactions

• Basic Principles
  • Credit items: generate flow of funds into the country
  • Debit items: generate flow of funds out of the country
Current Account

- Trade Balance = Exports minus Imports
- Current Account Surplus
  - Trade balance \textit{plus}
    - Net factor income from abroad
    - Remittances and unilateral transfers
Capital Account

- Capital Inflow
  - Sale of domestic securities to foreigners
- Capital Outflow
  - Purchase of foreign securities by domestic residents
- Capital Account Surplus
  - Capital inflow minus capital outflow
  - Exports of securities minus imports of securities
Balance of Payments

• Current Account + Capital Account = 0

• Balance of Payments
  • Current account surplus plus private capital account surplus

• Floating Exchange Rates
  • "Clean" vs. "dirty" floating

• Clean floating $\Rightarrow$ balance of payments = 0
II.D. Saving Identity from Balance Sheets

• Components of Private Saving
  • Increase in holding of capital
    • investment
  • Increase in holding of government securities
    • government deficit
  • Increase in net holding of foreign assets
    • capital account deficit
    • *equivalently*, current account surplus
III. Determinants of Aggregate Demand

A. Consumption
B. Investment
C. Government Purchases
D. Net Exports
III.A. Consumption

• Nondurables and Services
  • Life cycle model
    • Allocate lifetime income to consumption over lifetime
      – consumption smoothing
    • Save for bequests and/or retirement
      – role of pensions and annuities
Factors that Affect Consumption of Nondurables

- After-Tax Income
  - Permanent vs. temporary change
- Drop in Stock Market
- Interest Rates
- Inflation
  - Real vs. nominal interest rates
- Liquidity Constraints
Expenditure on Consumer Durables

• Durables Expenditure vs. Consumption of Services from Durables
• Very Volatile over Business Cycle
  • Timing is often discretionary
• Susceptible to Credit Crunch
III.B. Investment

• Business Fixed Investment
  • Accelerator effect
  • Cost of capital
    • real interest rate
    • depreciation
  • tax considerations
    – investment tax credit
    – depreciation deductions
    – inflation and historical cost depreciation
Inventory Investment

- Planned vs. Actual Inventory Investment
- Overhang of Inventories at End of Recession
- Holding Cost of Inventories
III.C. Government Purchases

• National Defense
• Social Programs
• Infrastructure
• Stabilization Policies
III.D. Net Exports

• Exports
  • Effect of exchange rate
  • Effect of foreign income

• Imports
  • Effect of exchange rate
  • Effect of domestic income
  • Tariffs
The J curve

\[ \text{Net Exports} = \text{Exports} - \frac{\text{Imports}}{\text{Exchange rate}} \]

- Exchange rate falls
  - Exports increase
  - Imports/exchange rate increases initially
    - Real value of imports increases initially
  - Net exports fall initially
Net exports, $NX$