

13th



ETHIOPIA

1-2 October 2018

GDP REBASING AND RE-BENCHMARKING: The Nigerian Experience

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Background



Rebasing / re-benchmarking?

- Completed in 2014 with base year updated from 1990 to 2010
- Economic activities increased from 33 to 46
- Transition to SNA 2008

Rebasing

- replacing the present price structure with a new or more recent price structure of the base year. This involves:

- Changing price and quantity base for individual price and quantity relatives
- Updating weights

Re-benchmarking:

- involves incorporating those economic activities which were not in existence at the old base year, or were not being adequately captured within the GDP compilation framework



Why GDP rebasing / re-benchmarking?

- **Economies are dynamic:** growth, recession
- **Over time, prices change and the structure of an economy changes**
 - introduction of new products
 - alteration in the variety of products and services due to technological innovations and developments
- **Changes in consumption**
- **Price structure of the economy changes**
 - base year structure becomes less representative of the economy as time progresses
 - substitution effect: Consumers move away from relatively more expensive products to buy goods with relatively cheaper prices.



Key benefits

- Enables policy makers, analysts investors etc to obtain a more accurate picture and a better understanding of economic structure
- Inform policy decisions and program design

System of National Accounts (SNA2008) recommends rebasing every 5 years but...

- some countries keep the same base period for as many as 10 years or 5 years, and some changing the base period every year



Process



Country comparison of base year*

| Country | Old Base Year | New Base Year | Number of years between base years | % Difference in GDP after rebasing |
|--------------|---------------|---------------|------------------------------------|------------------------------------|
| Argentina | 1986 | 1993 | 7 | -8.2 |
| Botswana | 1993/1994 | 2006 | 13 | -10 |
| Chile | 1986 | 1996 | 10 | 9.9 |
| Guatemala | 1958 | 2001 | 43 | -10.7 |
| Honduras | 1978 | 2000 | 22 | 19.2 |
| Lesotho | 1995 | 2004 | 9 | -4.4 |
| Morocco | 1988 | 1998 | 10 | 11.7 |
| Nicaragua | 1980 | 1994 | 14 | 70.0 |
| Niger | 1987 | 2006 | 19 | 2.5 |
| Nigeria | 1990 | 2010 | 24 | ??? |
| Paraguay | 1982 | 1994 | 12 | -11.6 |
| Sierra Leone | 2001 | 2006 | 5 | 25.6 |
| Tanzania | 2001 | 2007 | 6 | 10 |
| Tunisia | 1990 | 1997 | 7 | 9.8 |
| Uganda | 1997/1998 | 2002 | 5 | 10.5 |
| Venezuela | 1984 | 1997 | 13 | *as at April 2014 |



Key activities undertaken

- Four major methodological pillars
 - The System of National Accounts (SNA 2008 version),
 - The International Standard Industrial Classification (ISIC Revision 4),
 - The Central Product Classification (CPC version 2)
 - The development of a Supply and Use Table/matrix (SUT)
- NBS conducted 14 sector surveys
- Additional data collected from various MDAs, and private businesses:
 - FIRS, MoF, SEC, CBN, Customs, MAN, REDAN, NEITI, MTN, Validation by International and Domestic experts
 - IMF, World Bank, ADB, 6 renowned economists



Sector surveys included:

1. Mining and Quarrying
2. Manufacturing
3. Construction
4. Wholesale & Retail Trade, Repair of motor vehicles & motor cycles
5. Transportation & Storage
6. Accommodation & Food service activities
7. Information & Communication
8. Real Estate activities
9. Professional ,Scientific & Technical activities
10. Administrative & Support Service activities
11. Education
12. Human Health and Social Work activities
13. Arts & Entertainment
14. Other Service activities



Additional administrative data collection

- Additional supplemental data gathering was conducted along with the FIRS and other MDAs
- They supplied data on:
 - Electricity
 - Gas, Steam & Air conditioning Supply
 - Water Supply, Sewage, Waste Management and remediation activities
 - Oil marketing activities

Updates to NBS survey frames

- The previous survey frame was merged with the list of establishments obtained from the Federal Inland Revenue Service (FIRS)
- In the end, a total of **851,628** establishments were in the frame compared to **83,733**
- The survey frame was then used for the sampling and selection of units

Updates to survey frames

| NBS Harmonized Frame | | | |
|----------------------|--|----------------|---------------|
| | Sectors | NBS FRAME | NBS Old Frame |
| 1 | AGRICULTURE, FORESTRY AND FISHING | 1,116 | 671 |
| 2 | MINING AND QUARRYING | 971 | 261 |
| 3 | MANUFACTURING | 76,656 | 16,248 |
| 4 | CONSTRUCTION | 53,507 | 551 |
| 5 | WHOLESALE AND RETAIL TRADE, REPAIR OF MOTOR VEHICLES AND MOTORCYCLES | 502,085 | 16,583 |
| 6 | TRANSPORTATION AND STORAGE | 5,902 | 1,418 |
| 7 | ACCOMMODATION AND FOOD SERVICE ACTIVITIES | 13,109 | 5,774 |
| 8 | INFORMATION AND COMMUNICATION | 1,719 | 2,183 |
| 9 | PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES | 125,482 | 4,593 |
| 10 | ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES | 2,048 | 1,096 |
| 11 | EDUCATION | 34,974 | 24,713 |
| 12 | HUMAN HEALTH AND SOCIAL WORK ACTIVITIES | 13,083 | 6,749 |
| 13 | ARTS, ENTERTAINMENT AND RECREATION | 805 | 281 |
| 14 | OTHER SERVICE ACTIVITIES | 8,450 | 2,002 |
| 15 | Real Estate | 11721 | 610 |
| | Total | 851,628 | 83,733 |

... and selection of sample

| S/No. | SECTOR | SAMPLE SIZE |
|-------|---|-------------|
| 1 | ACCOMMODATION AND FOOD SERVICE ACTIVITIES | 649 |
| 2 | ADMINISTRATIVE AND SUPPORT SERVICE ACTIVITIES | 226 |
| 3 | AGRICULTURE, FORESTRY AND FISH | 0 |
| 4 | ARTS, ENTERTAINMENT AND RECREATION | 147 |
| 5 | CONSTRUCTION | 207 |
| 6 | EDUCATION | 1,262 |
| 7 | ELECTRICITY, GAS, STEAM AND AIR CONDITIONING SUPPLY | 0 |
| 8 | HUMAN HEALTH AND SOCIAL WORK ACTIVITIES | 674 |
| 9 | INFORMATION AND COMMUNICATION | 336 |
| 10 | MANUFACTURING | 3219 |
| 11 | MINING AND QUARRYING (Excluding Crude Petroleum and Natural Gas) | 132 |
| 12 | OTHER SERVICES ACTIVITIES | 1,014 |
| 13 | PROFESSIONAL, SCIENTIFIC AND TECHNICAL ACTIVITIES | 945 |
| 14 | TRANSPORTATION AND STORAGE | 399 |
| 15 | WATER SUPPLY, SEWAGE, WASTE MANAGEMENT AND REMEDIATION ACTIVITIES | 0 |
| 16 | WHOLESALE AND RETAIL TRADE, REPAIR OF MOTOR VEHICLE AND MOTORCYCLES | 1448 |
| 17 | REAL ESTATE SERVICE ACTIVITIES | 7343 |
| | TOTAL | 18,001 |

Key results



Key results

| | Old Series (N, Million, Current Prices) | | | |
|--------------|---|----------------------|----------------------|----------------------|
| | 2010 | 2011 | 2012 | 2013F |
| Agriculture | 10,310,655.64 | 11,593,434.13 | 13,413,842.46 | 14,709,104.92 |
| Industry | 15,659,521.00 | 16,569,291.58 | 16,456,457.10 | 15,374,554.67 |
| Services | 8,014,577.50 | 9,247,134.90 | 10,673,800.38 | 12,313,106.11 |
| TOTAL | 33,984,754.13 | 37,409,860.61 | 40,544,099.94 | 42,396,765.71 |

Nominal GDP
(2013) est.:
N80.1trillion

| | New Series (N, Million, Current Prices) | | | |
|--------------|---|----------------------|----------------------|----------------------|
| | 2010 | 2011 | 2012 | 2013 |
| Agriculture | 13,048,892.80 | 14,037,825.84 | 15,815,997.51 | 16,816,553.01 |
| Industry | 13,826,433.90 | 17,853,113.99 | 19,587,721.32 | 20,853,845.33 |
| Services | 27,736,937.48 | 31,089,457.4 | 36,310,216.23 | 42,422,165.04 |
| TOTAL | 54,612,264.18 | 62,980,397.22 | 71,713,935.06 | 80,092,563.38 |

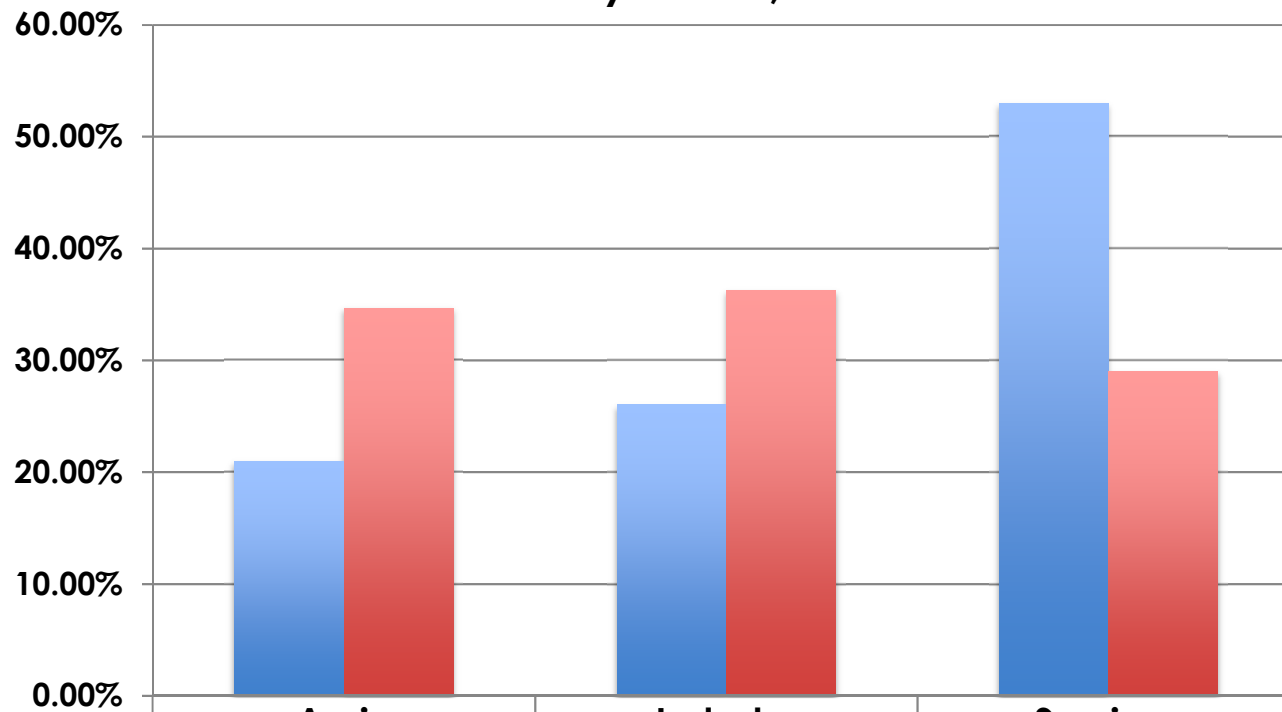
... ~ US\$509
billion

| | Percentage change between Old and New Estimates (%) | | | |
|--------------|---|------------|------------|------------|
| | 2010 | 2011 | 2012 | 2013 |
| Agriculture | 27% | 21% | 18% | 14% |
| Industry | -12% | 8% | 19% | 36% |
| Services | 246% | 236% | 240% | 245% |
| TOTAL | 61% | 68% | 77% | 89% |

Largest
economy in
Africa;
26th largest in
the world by
nominal GDP

Key results

Nominal GDP by Sector, 2013



A **decline** in the share of **Agriculture...**

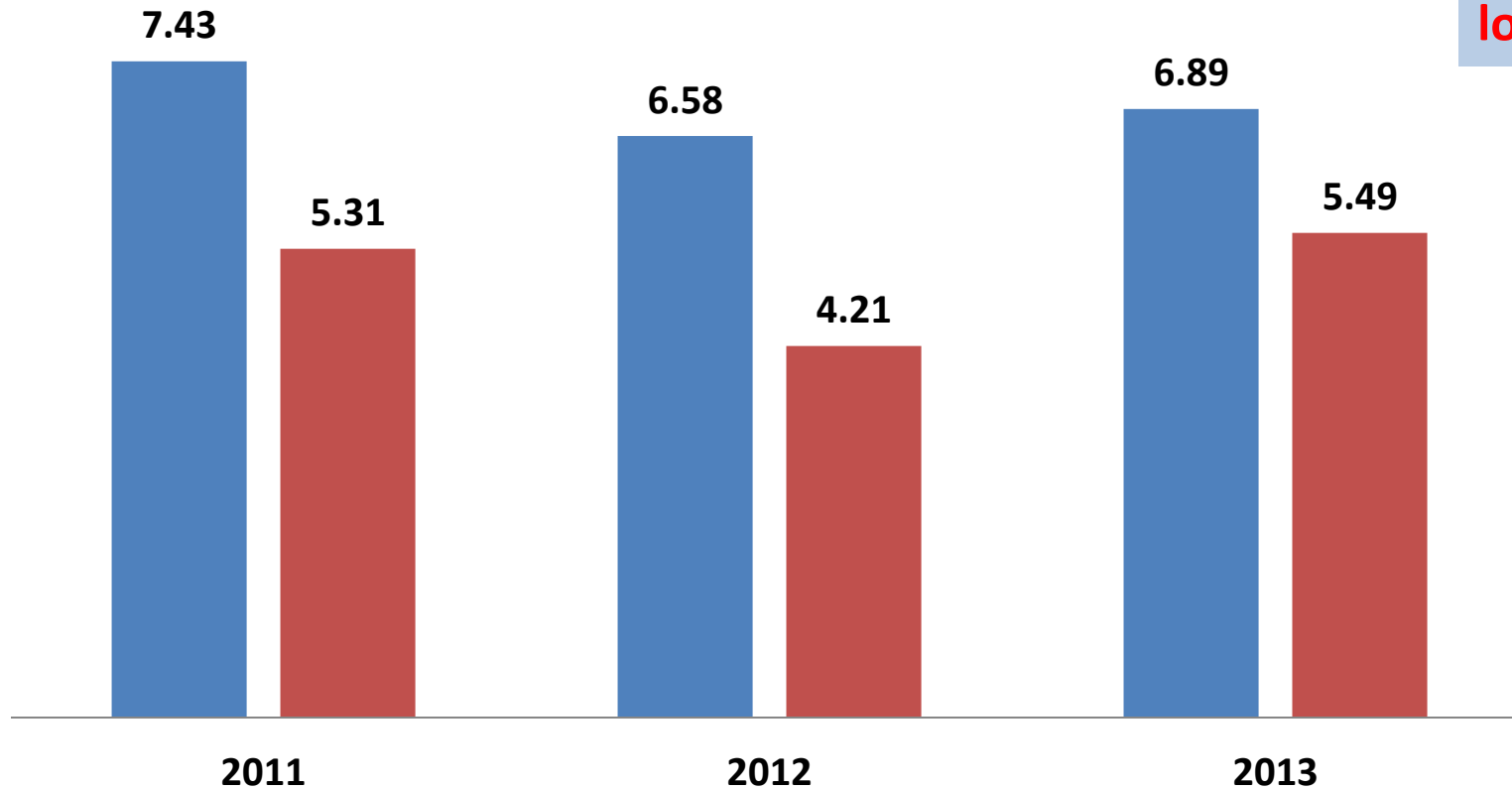
...**decline** in the share of **Industry ...**

...but a **rise** in the share of **Services...**

Key results

Real GDP Growth

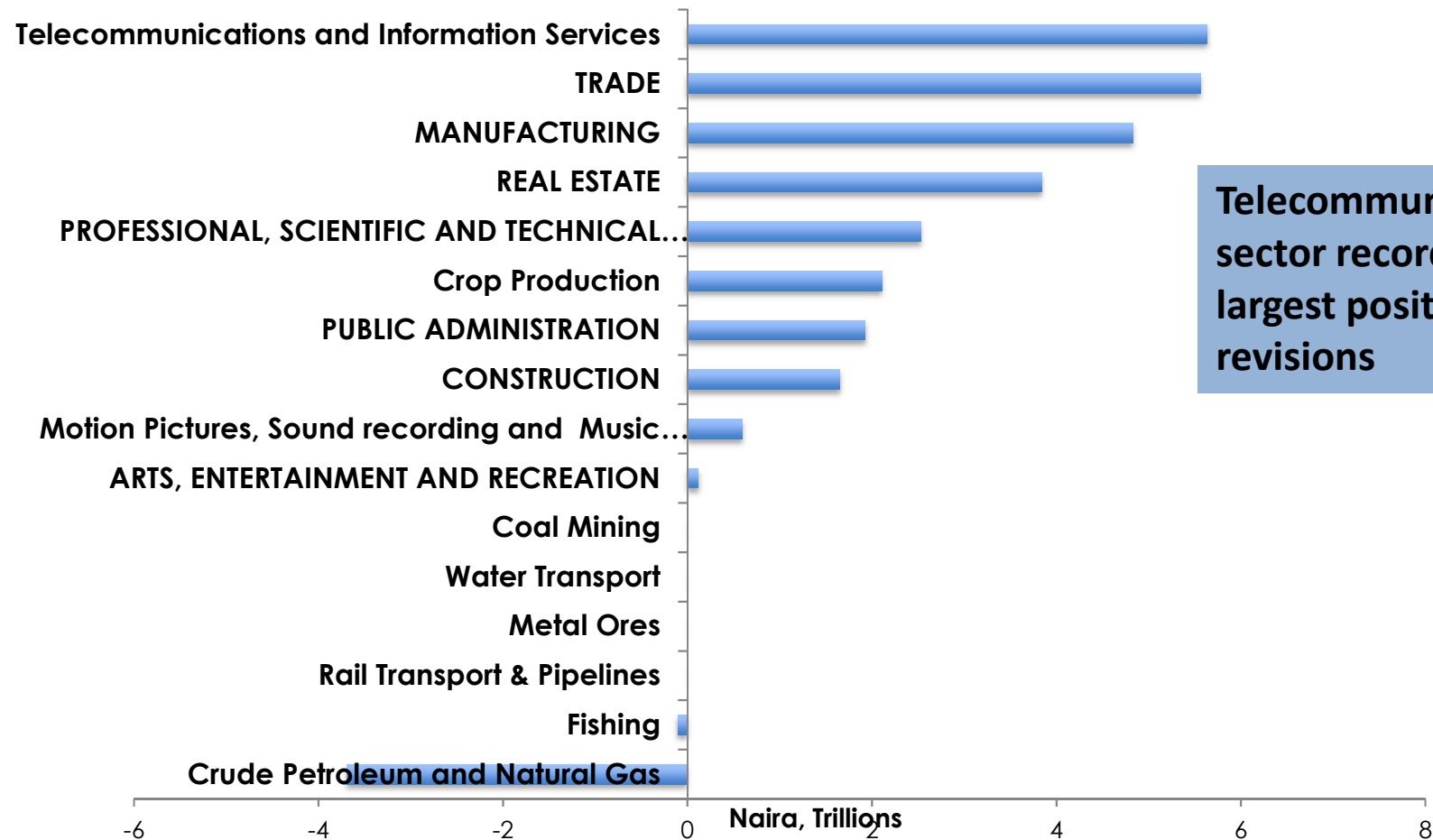
■ Old Series (%) ■ New Series (%)



Annual real
GDP growth
**estimate was
lower**



Change in nominal GDP 2010 Current Prices (N' trillion)

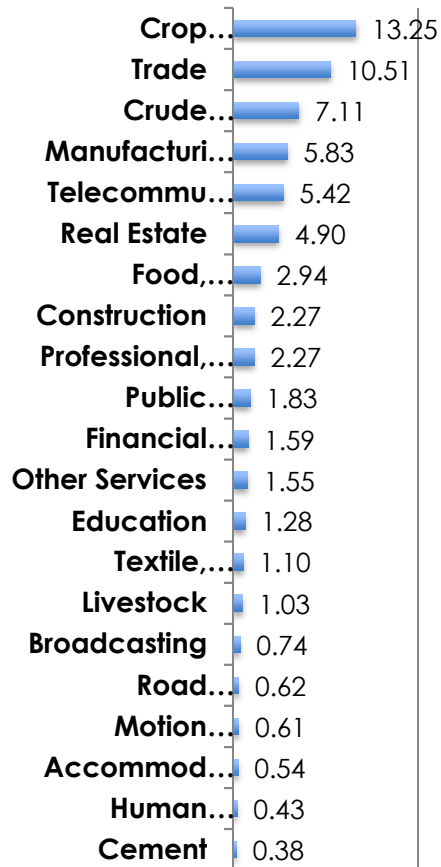


Telecommunications sector recorded the largest positive revisions

Two activities recorded downward revisions



**New real GDP: 2013
Rebased Series, (N,
Trillion)**



**Contribution to real
GDP, 2013 (%)**



% GDP 2013F, at 1990 prices



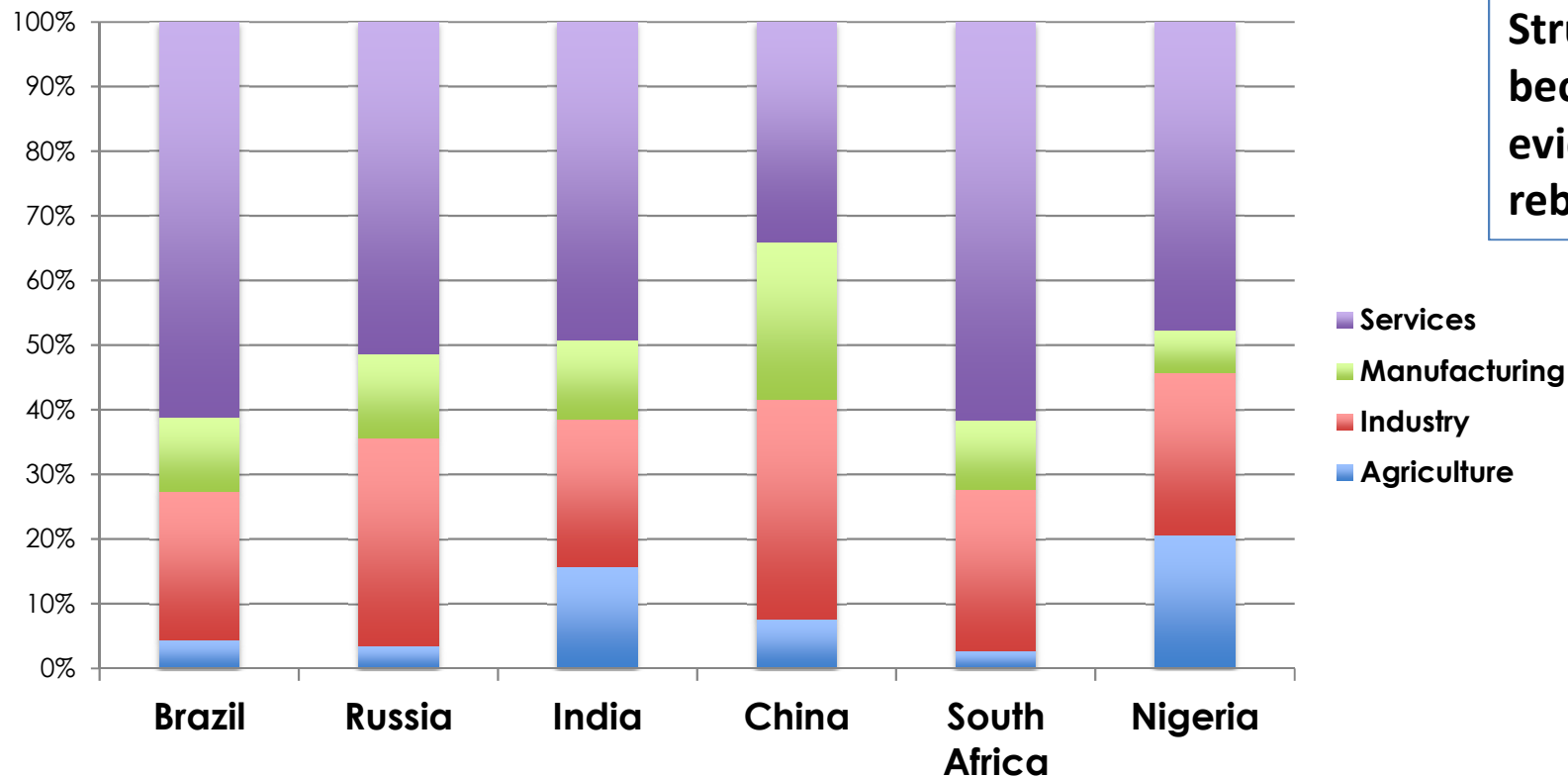
...compared to
only 3 activities
in the old series

**6 activities constituted 70% of
real GDP is now 6...**



Key results

GDP by Sector: BRICS Comparison (2012)



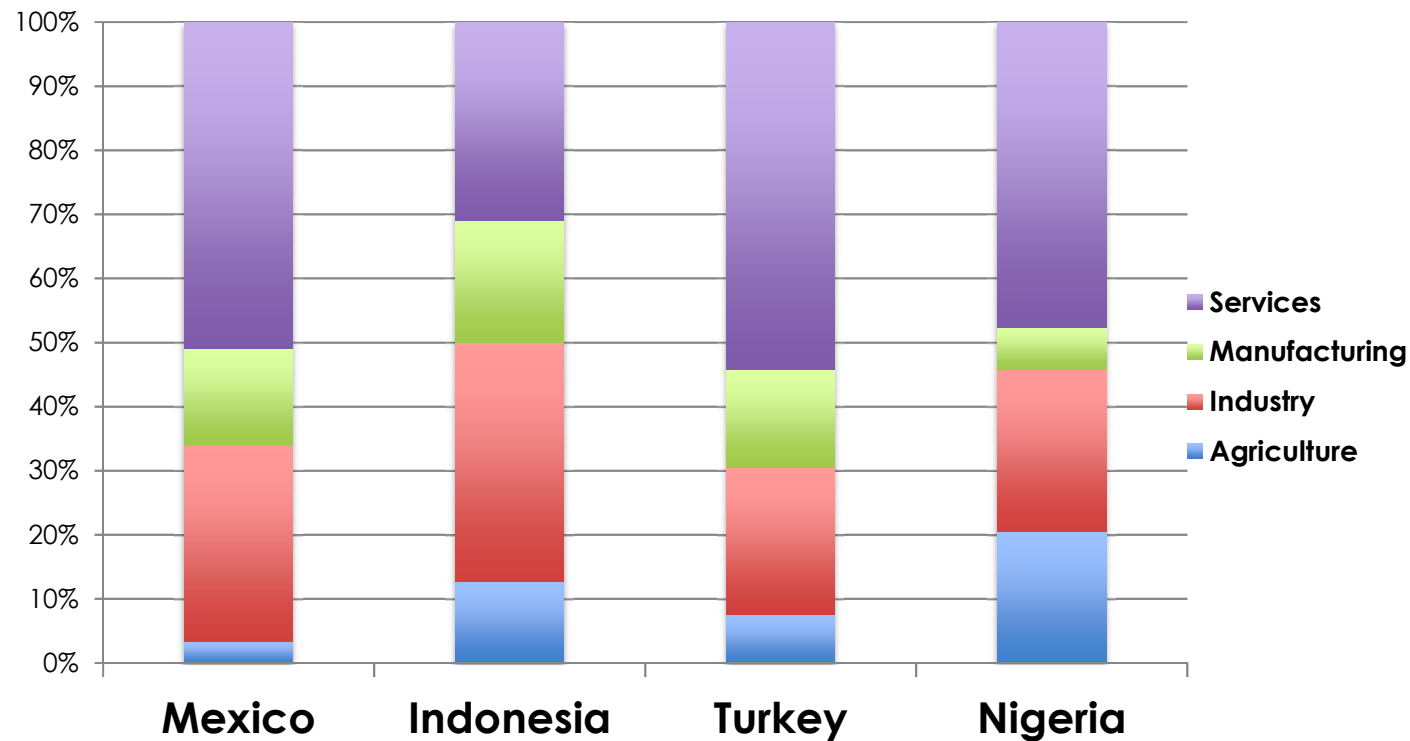
Nigeria's **service sector** (purple section) compared well to that of **BRICS countries**, although **agriculture** (blue section) remained larger than all

Source
WDI



Key results

GDP by Sector: **MINT** Comparison (2012)



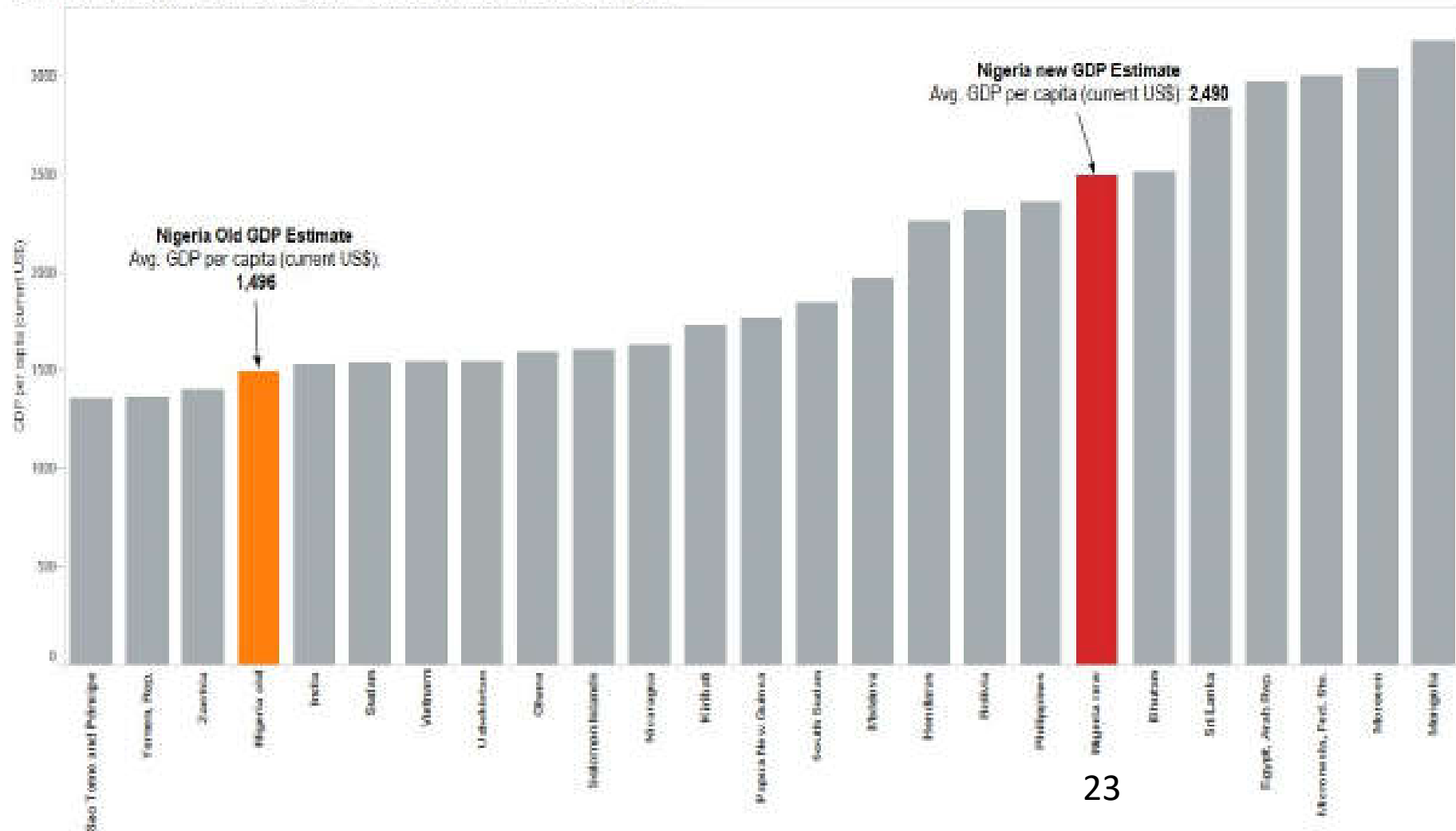
Structural issues became more evident after rebasing

Nigeria had the **largest agriculture** sector (blue section) of the **MINT** but the **smallest manufacturing** sector (green section), although the new and larger services sector (in purple) was comparable

Source:
WDI

Key results

2011 GDP per capita (current US\$) - Countries around value of Nigeria



Changes in key policy indices



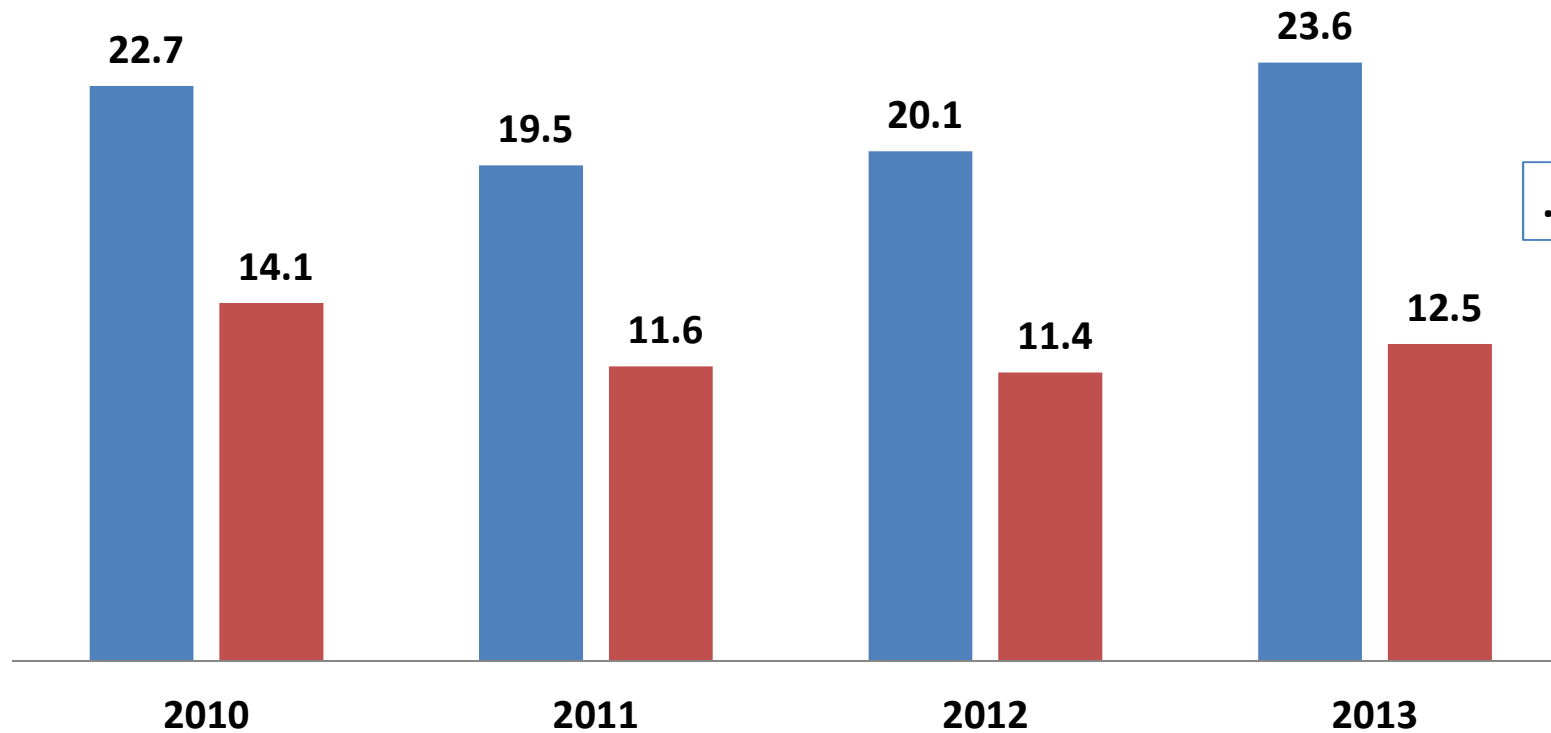
Financial and monetary ratios

Commercial Banks' Total Loans and Advances (%GDP)

■ Old Series ■ New Series

Believed rising...

...but stable

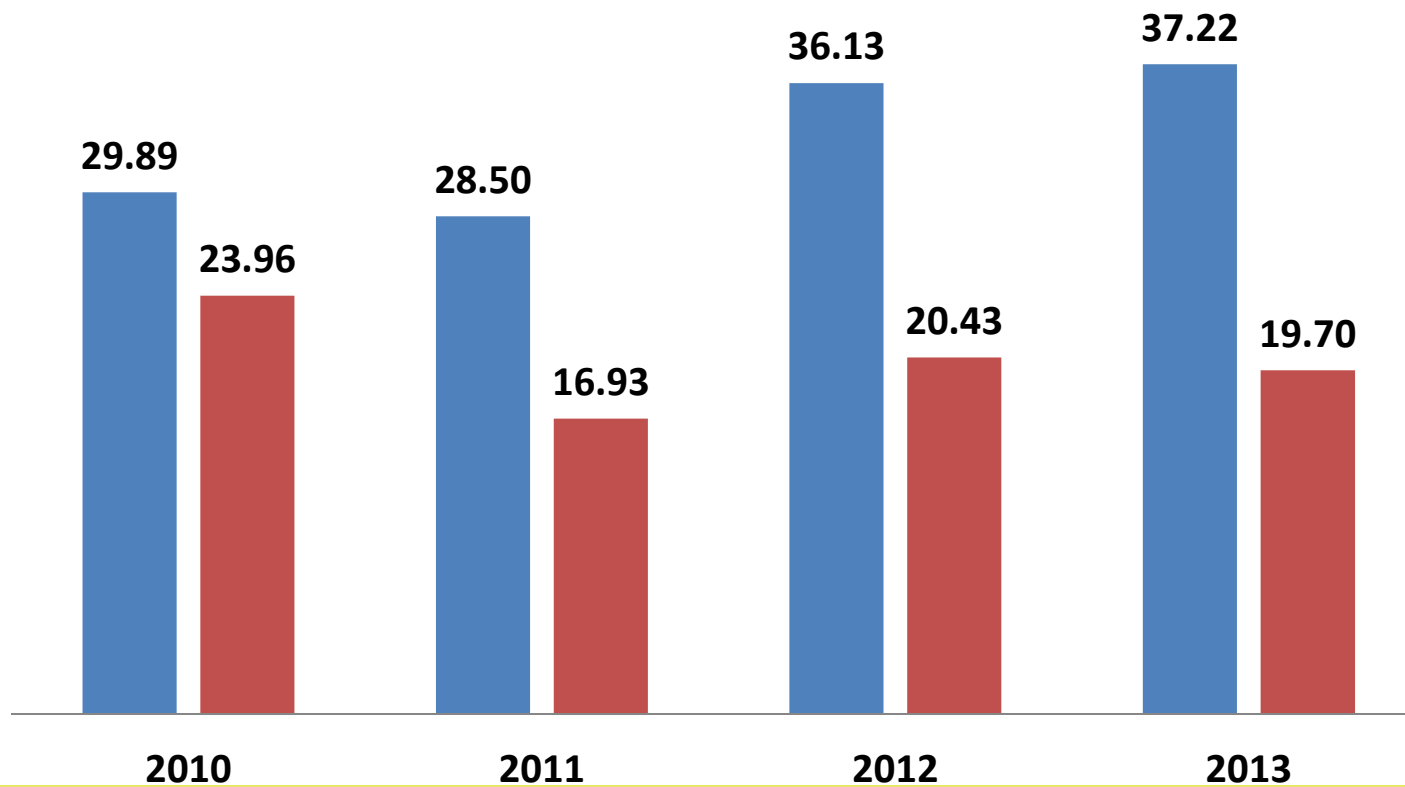


Financial and monetary ratios

Believed rising...

Credit to Private Sector as % GDP

■ Old Series ■ New Series



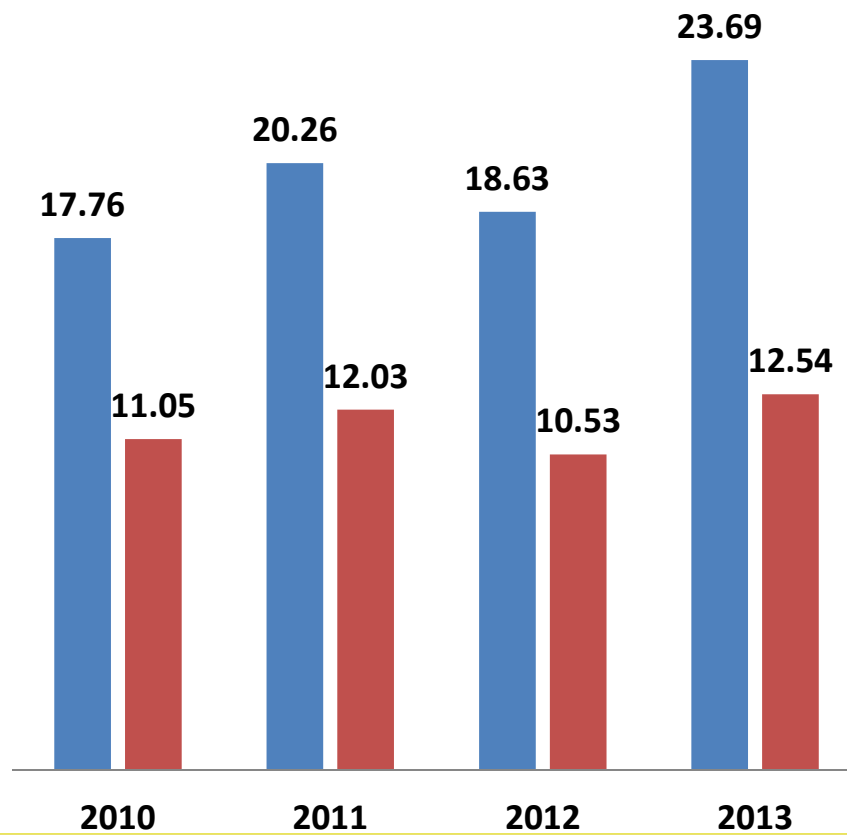
...but stable

Fiscal ratios

Maintained trend

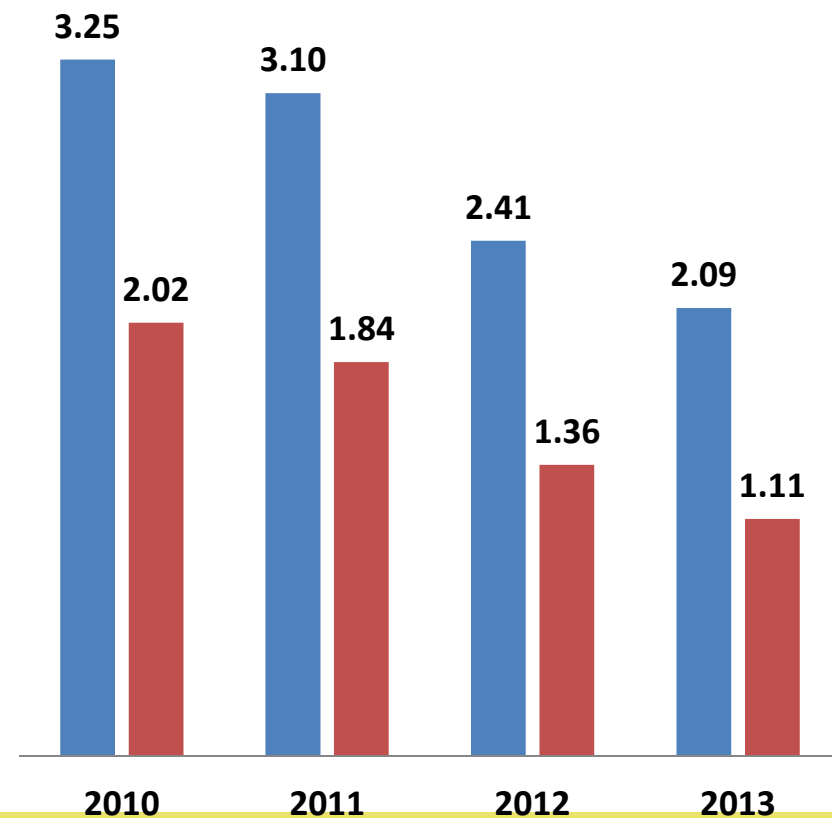
Debt to GDP (%)

■ Old Series ■ New Series



Fiscal Deficit to GDP (%GDP)

■ Old Series ■ New Series

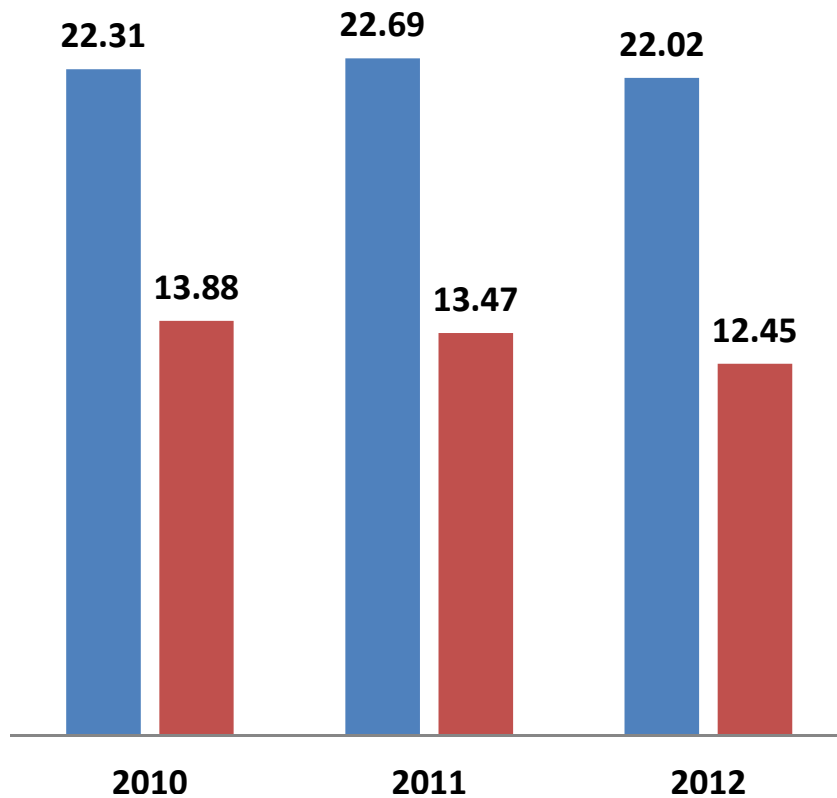


Fiscal ratios

Maintained trend

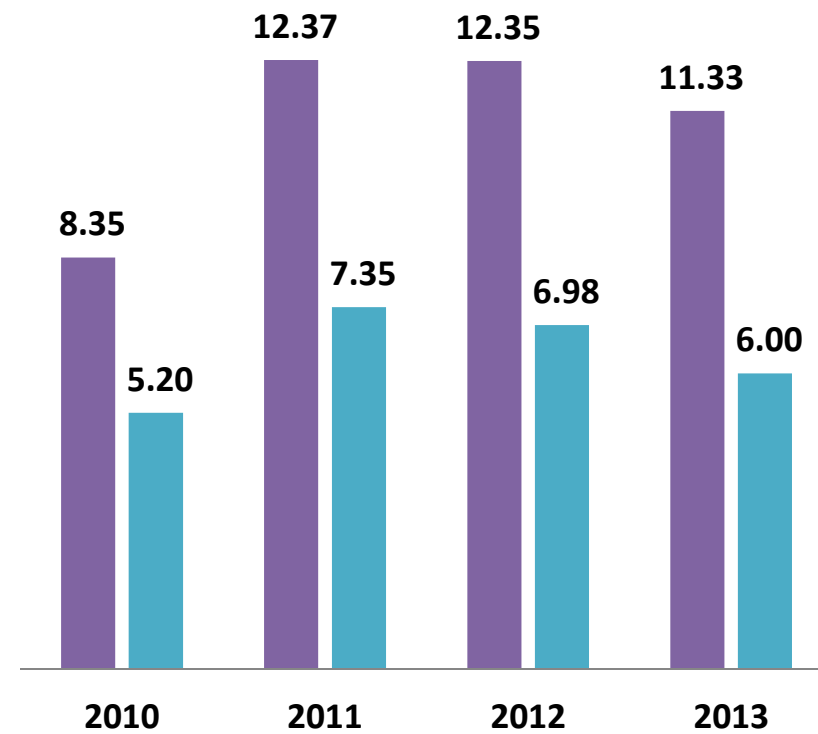
Government Revenue to GDP (%)

■ Old Series ■ New Series



Federal Tax Revenue to GDP

■ Old Series ■ New Series

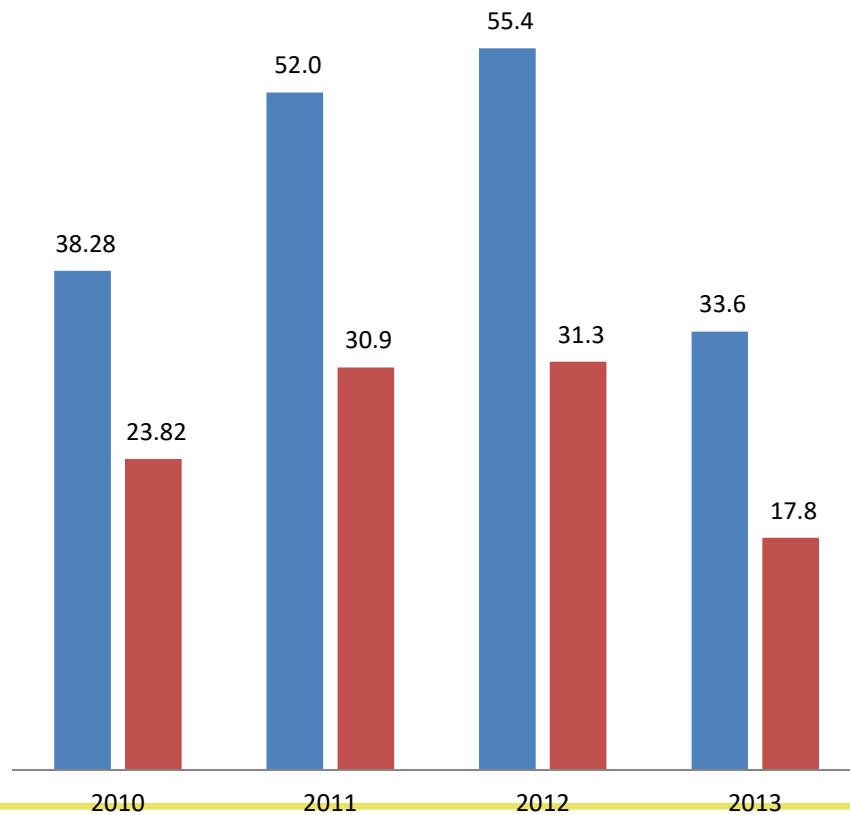


External sector ratios

Maintained trend

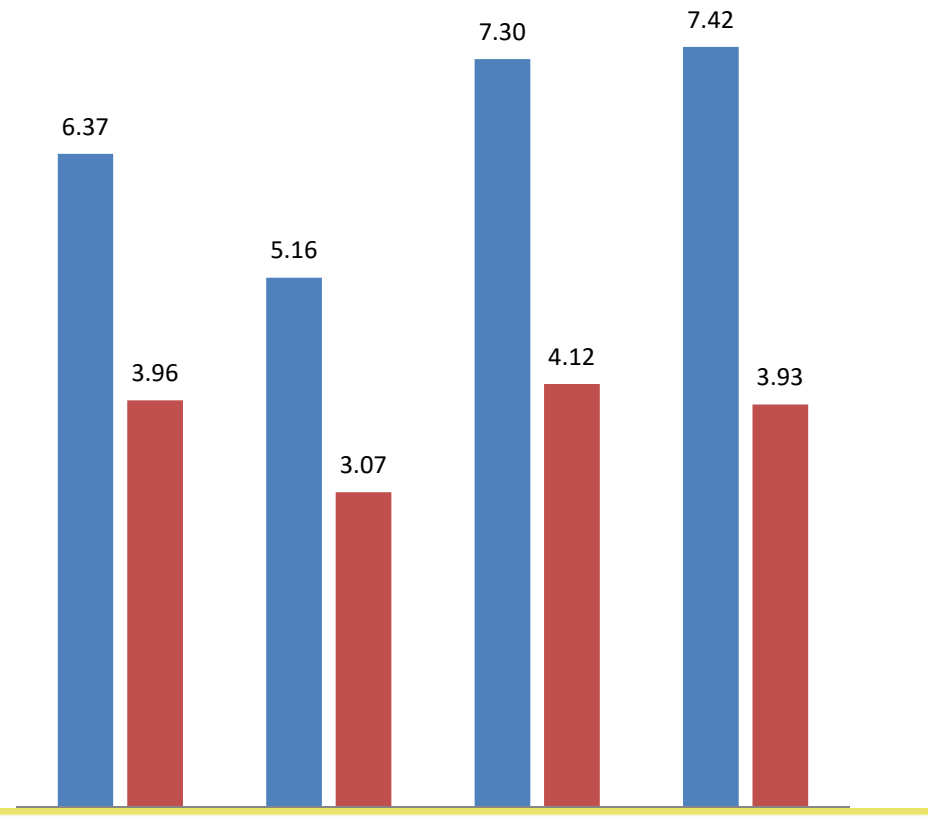
Total Exports to GDP

■ Old Series ■ New Series



Current Account Surplus (% GDP)

■ Old Series ■ New Series

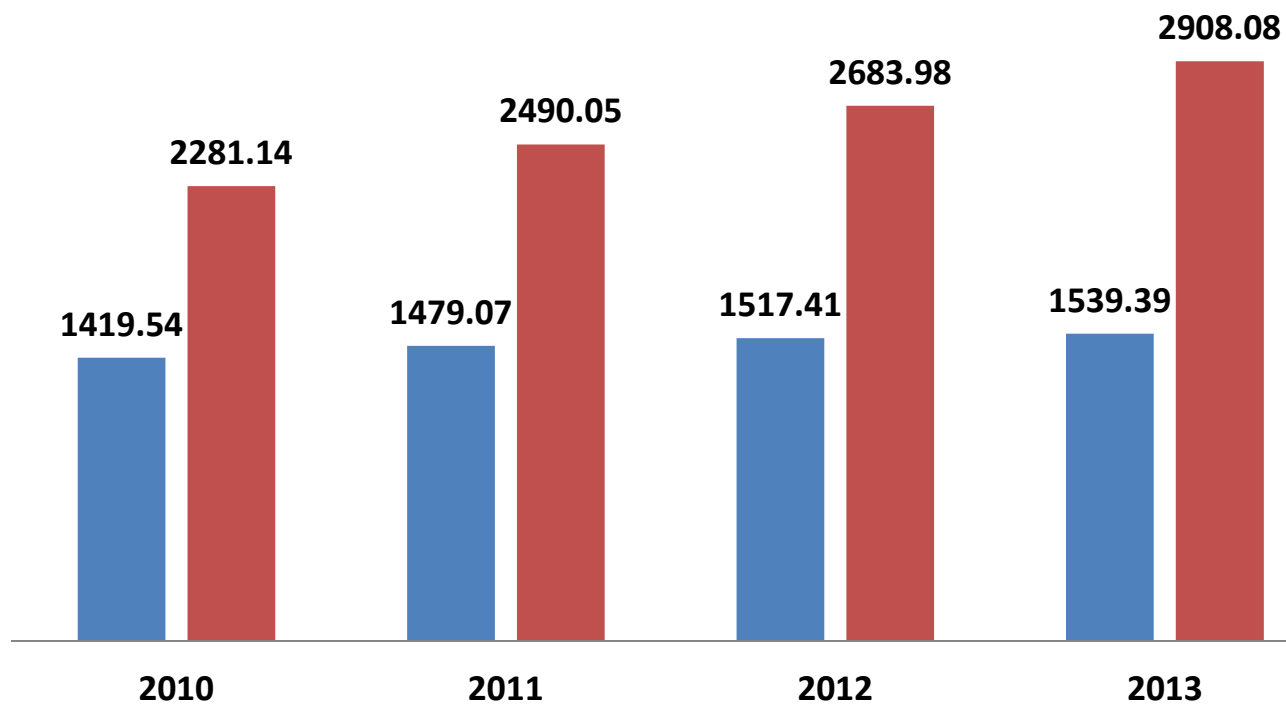


Income/welfare ratios

Believed flat...

Per-Capita GDP

■ Old Series ■ New Series



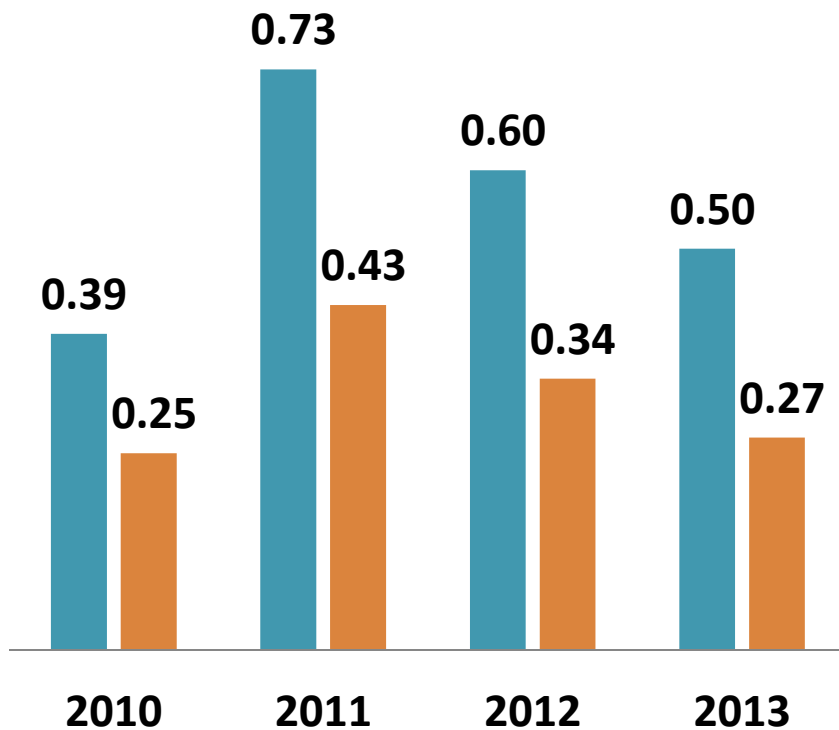
...but higher and rising slowly

Social infrastructure spending

Lower but maintained trend

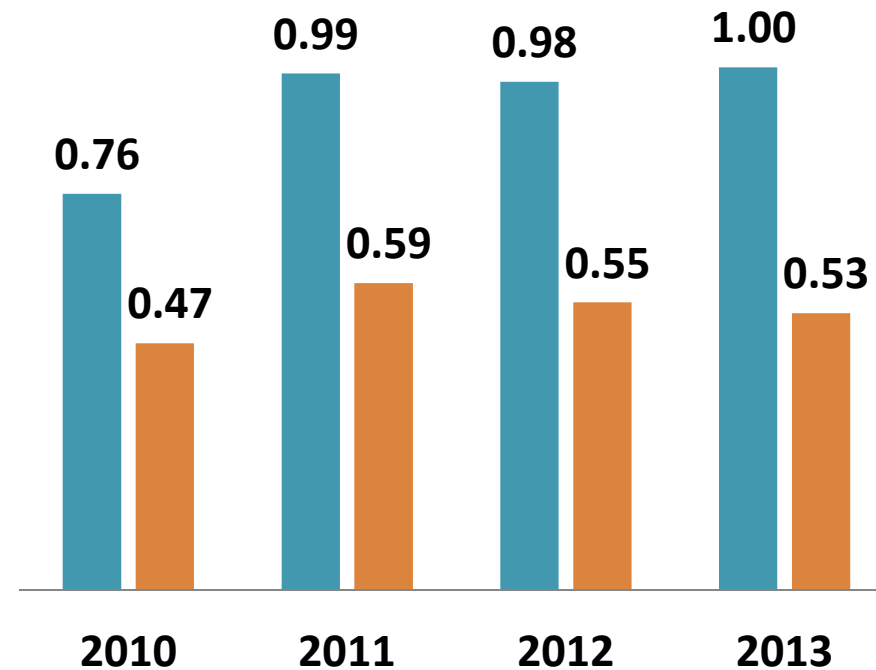
FGN Spending on Health

■ Old Series ■ New Series



FGN Spending on Education

■ Old Series ■ New Series



Lessons learned



Growth IS NOT development

Nominal GDP and per capita GDP of top 10 economies, 2013 (IMF)

| <u>Rank</u> | <u>Country</u> | <u>GDP USD trn\$</u> | <u>Rank</u> | <u>Country</u> | <u>GDP US\$</u> |
|-------------|----------------------|----------------------|-------------|----------------------|-----------------|
| 1 | United States | 16.79 | 1 | Qatar | 98,814 |
| 2 | China | 9.18 | 2 | Luxembourg | 78,670 |
| 3 | Japan | 4.9 | 3 | Singapore | 64,584 |
| 4 | Germany | 3.63 | 4 | Norway | 54,947 |
| 5 | France | 2.73 | 5 | Brunei | 53,431 |
| 6 | United Kingdom | 2.53 | 6 | United States | 53,101 |
| 7 | Brazil | 2.24 | 7 | Switzerland | 46,430 |
| 8 | Russia | 2.11 | 8 | Canada | 43,472 |
| 9 | Italy | 2.07 | 9 | Australia | 43,073 |
| 10 | India | 1.87 | 10 | Austria | 42,597 |
| 26 | Nigeria | 0.5 | 121 | Nigeria | 2,689 |

Nominal GDP ranking improved but low per capita GDP remains a development challenge

Lessons for statistical system

- **Inclusiveness & collaboration:**
 - Relevant MDAs need to know that their input is key in data production to support policymaking;
- **Consultation:**
 - 4 international National Accounts consultants (including AfDB/IMF/WB) & 6 academics
- **Transparency:**
 - Documentation of work, sources and methods
- **Communication:**
 - Create public awareness and manage expectations



Conclusion



Conclusion

- Nigeria is already up to date in terms of:
 - Conforming with SNA 2008
 - Using the latest guidelines (ISIC Rev 4.0 and CPC v.2)
- Additional data collection required to aid the rebasing of GDP from 2010 to 2017
 - National Living Standard Survey (NLSS) available in 2019
 - Sector surveys

There were challenges in the exercise:

- Significant changes led to need to explain why the constant GDP growth rates have been “revised” compared with those previously published
 - ***Rather than***: “a routine statistical exercise”
- Previously “favourable” ratios became “less favourable”
- Low statistical literacy among the general public resulting in some speculation about motives
- Special financing was required.

But the three most lasting impacts on the NSS:

- an excellent learning opportunity
- strengthened statistical capacity & coordination
- improved sector policy intervention and targeting






THANK YOU

Contact Us

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