

TURKEY

A Brief Recap on the GDP Data

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Puzzles**Executive Summary**

The Turkish Statistics Institute (Turkstat) introduced very significant revisions to the National Income Accounts (NIA) data in early December, at the time of the release of the third quarter growth stats. We learnt, among other things, that we were quite a bit richer than we thought -- by about 20% in 2015 – and that, rather unusually in the light of international experience, we had also grown markedly faster, particularly since 2012. We've written our thoughts and puzzlements in bits and pieces earlier, but we thought a brief recap on the technical and analytical aspects of the new series would be useful.

At a technical level, the new series is a significant improvement over the old one because it adopts the latest NIA methodology (mainly ESA2010) and utilizes new databases that Turkstat has long been after, particularly the administrative tax records. There are some missing components, like a breakdown of investment between private and public sectors, but the exercise is continuing, as we understand it, and Turkstat plans to provide the data in due course.

In terms of analytical content, the revisions seem driven mainly by a massive upward adjustment to the construction sector, which is particularly evident from the expenditure side of GDP. Specifically, close to 80% of the revision in the nominal GDP level in 2015 stems from investment, and close to 80% of that, in turn, stems from construction sector investment.

These revisions solve a long-running (statistical) puzzle of the Turkish economy. Just as Robert Solow had quipped on the U.S. economy back in the late 1980s, that “you can see the computer age everywhere but in the productivity statistics”, in Turkey's case, one could see the construction boom everywhere, except in the GDP statistics. This sure is no longer the case after the revisions.

Then again, the new series pose a few puzzles of their own, like the incredibly high growth rates for 2013 and 2015, which are hard to square with disaggregated data or anecdotal evidence, as well as a fairly high and stable saving rate throughout the 2000s, which contradicts the analytical work done earlier.

In any event, it is worth reminding ourselves that these revisions change little regarding Turkey's broader macro narrative. In fact, if anything, having experienced a colossal construction boom accompanied by a huge debt build-up, Turkey's adjustment challenge as well as the growth outlook appear all the more troubling now.

Introduction

It has already been a while since the Turkish Statistics Institute (Turkstat) issued the revised National Income Accounts (NIA) data (December 12th), and there are already some fairly useful documents that explain the basics. For instance, after issuing a technical note on the day of the data release, Turkstat released another one recently in a Q&A format that addresses a number of technical and analytical issues (click [here](#) and [here](#), respectively; the latter in Turkish). There have also been some very insightful contributions from, among others, academics as well as local think-tanks (click [here](#) and [here](#), respectively; the latter in Turkish).

But we felt that it would still be worthwhile to assemble a few of our own thoughts and observations in one place. In what follows, we share a few highlights on the technical aspects of the revisions, discuss the key analytical drivers of the revisions, and revisit how the new data may -- or may not -- change our long-running narrative.

As we understand it, these revisions are part of an evolving exercise that Turkstat plans to follow up with further releases, including revisions of some monthly indices, like the industrial production index or the employment data -- a road map for which, is planned to be announced in the next few weeks.

Some Technical Highlights

What are some salient technical features of the new series? What has been gained (and lost) with the new series, technically speaking?

The latest revisions were made in accordance with the European System of Accounts (ESA 2010) developed by Eurostat and the System of National Accounts (SNA- 2008) developed by the United Nations. Turkstat appears to have followed the former more closely, which is a more demanding exercise, as it applies to advanced countries only, compared with the more flexible SNA methodology.

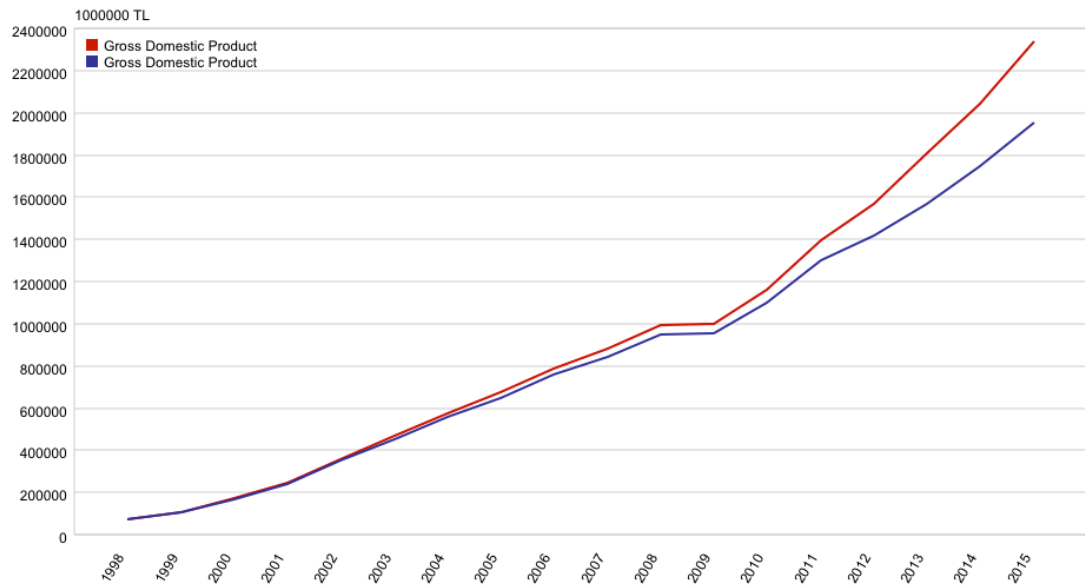
Some of the key methodological changes and statistical improvements include the classification of R&D and military spending as investment expenditures, the inclusion of unregistered economic activities and integration of new data sources to the accounts, most important of which are data from the Revenue Administration, as well as from Social Security institution and the BRSA. Thanks to the Revenue Administration data in particular, some three million company balance sheets are now taken into account, expanding on the previous coverage that was limited to some 70% of the companies. (For a full list of methodological changes, see p.3 of the above-mentioned technical Turkstat document).

Aside from these methodological revisions, Turkstat: a) published annual NIA data -- calculated independently from the quarterly data -- which allows cross-checking and use of healthier data sources; b) revised the Input-Output tables to a more recent year (to 2012 from 2002 previously); c) dropped the time-age practice of relying on a fixed base year (1998 in the old series) by switching to the more up-to-date chain-indexing methodology (and hence, better accounting for the changing structure of the economy); d) began to publish GDP series by income components (which was not available in the previous series); and e) began to publish comprehensive annual macro sectoral (households, firms, etc.) accounts. These are, no doubt, important technical improvements.

But the new series also has a few technical drawbacks. For instance, revisions apply primarily to the post-2008 period, even though back-data is provided till 1998. This is clear in both level and growth data, which starts to differ after 2009 (Graphs 1-2). One implication of this is that the pre- and post-2008 data may not quite be comparable. Second, some important details we had in the old data, like the breakdown of investment between the public and private sectors, are now missing, which Turkstat says it will provide in due course. Finally, because of a well-known shortcoming of the chain-indexing methodology, contributions of some analytical aggregates, like “domestic” and “foreign” demand, can no longer be calculated.

GRAPH 1

Gross Domestic Product: Old vs. New (Current Prices)



GRAPH 2

GDP Growth: Old vs. New (yoy, %)



Some Analytical Highlights

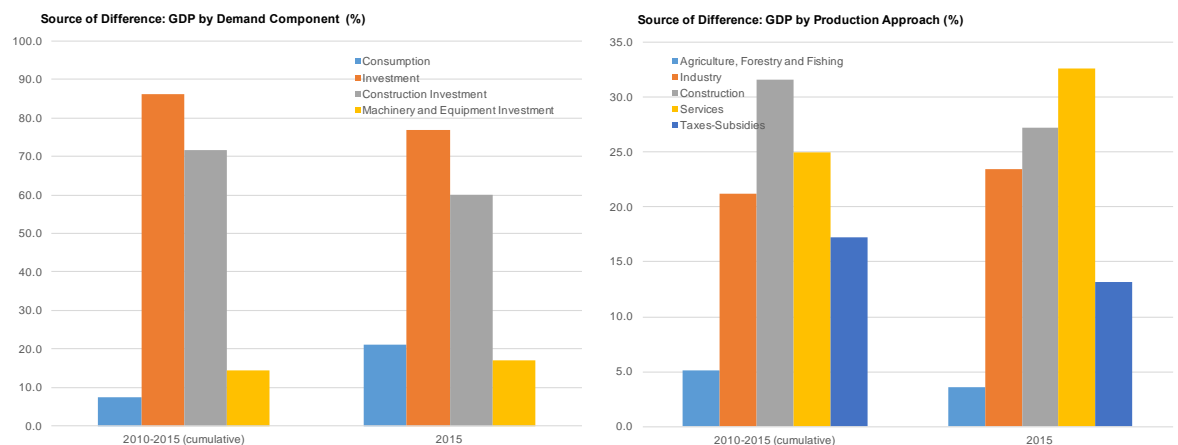
So why are the levels as well as the growth rates higher in the new series? In the above-mentioned notes, Turkstat provides a technical answer in the form of a table that shows – for 2012 – what drives the (circ. 10%) upward revision in the new series for that year. There are many factors that add and subtract from the new series, including the methodological switch to ESA2010 and SNA2008, but the key driver is a category called “measurement errors”, which is mostly about, at least as we understand it, improvement in the data sources. This explains over 8 percentage points (pp) of the revision, while the methodology switch as such only accounts for a mere 0.8 pp.

But what can be said about the “economics” of these revisions -- from expenditure as well as the production sides? A quick answer is that the revision is mainly about the construction sector – this is overwhelmingly the case on the expenditure side, and somewhat less but still significantly so, on the production side.

We have produced some charts below to show this, which primarily focus on the period after 2009, simply because, as noted above, that’s when the divergence starts to grow. (Parenthetically, the difference between new and old series rises over time, particularly in the past few years, to 20% in 2015, from a relatively insignificant 4%-5% or so around 2009-10.) So let us quickly share a few observations.

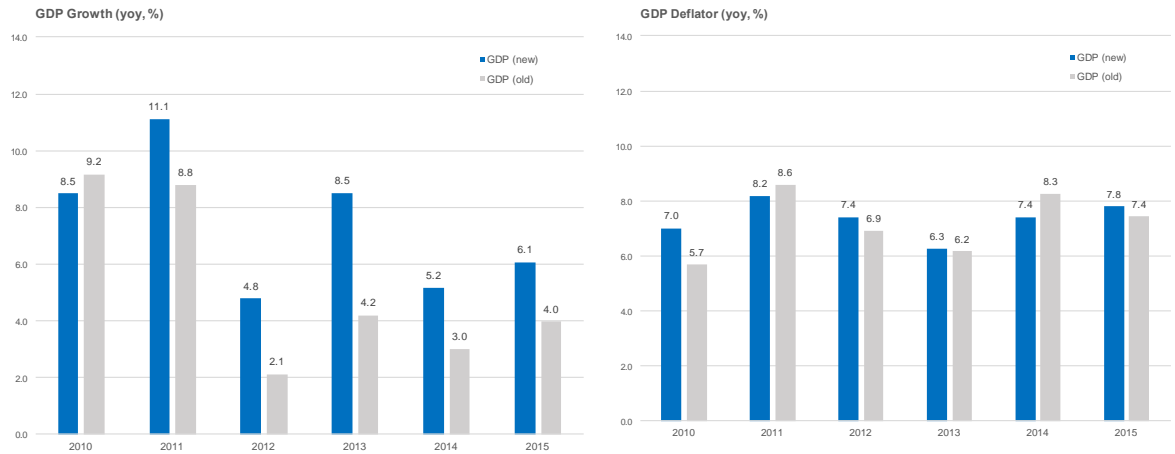
As shown in Graph 3 below, in terms of the *levels* of the two series, some 77% of the difference in 2015 -- and some 86% of the cumulative difference during 2010-15 -- stem from “investment”, and more than three-fourths of that in turn, is attributable to “construction investment”. From the production side, construction sector is still the dominant driver of the revisions, but contributions of other sectors – industry as well as services – are also sizeable. This is not all that surprising, however: investment spending on construction lifts the value-added in almost all sectors -- not just construction -- through the familiar channels: cement and steel production rise; new homes are furnished with white goods and electronics; activity in various service sectors like real estate, finance and transportation quicken and so on.

GRAPH 3



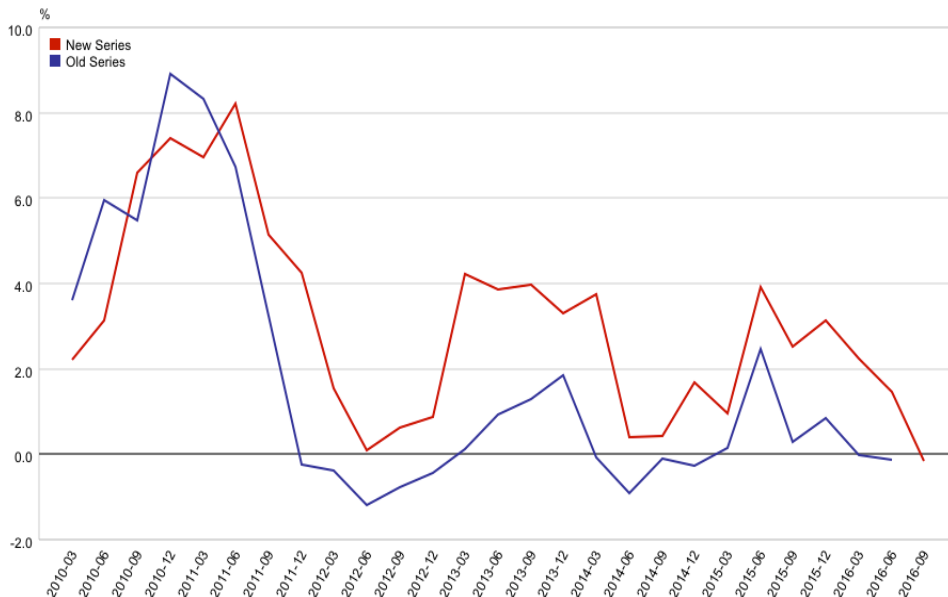
As for the *growth rates*, the first question to ask is how much of the revisions stems from the GDP deflator and how much of it from a revision of the real growth rates. As shown in Graph 4 below, the difference owes primarily to the latter. That, in turn, unsurprisingly, is driven by investment. Notice how in Graph 5 below, investment makes sizeable contributions to growth in the new series, compared with a pretty much flat showing in the old series. Needless to say, this is, as per above discussion, primarily driven by construction investment. Put differently, as displayed below (in terms of nominal GDP shares), investment recovery since the global crisis is mainly driven by construction investment, as opposed to investment in machinery and equipment (Graph 6).

GRAPH 4



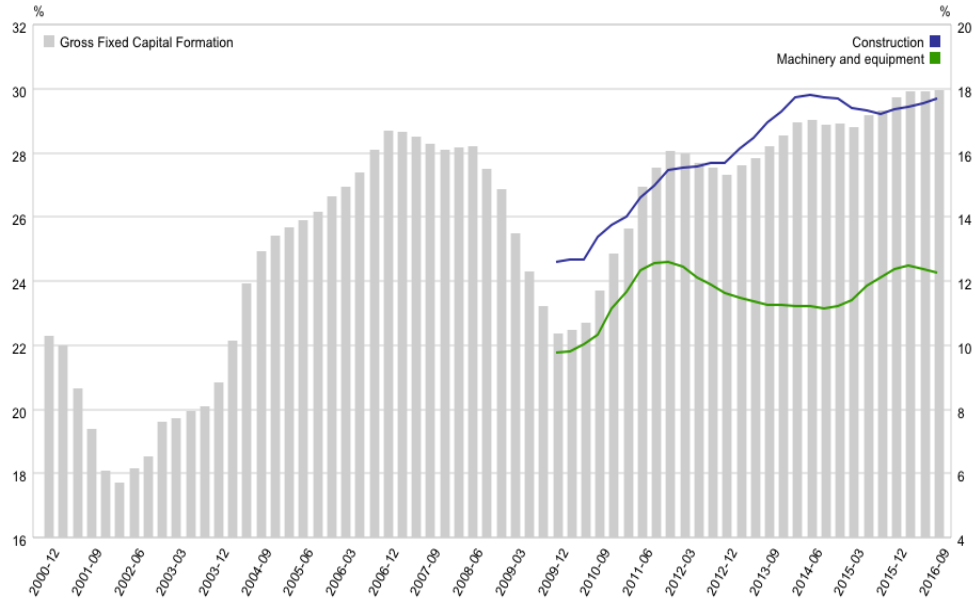
GRAPH 5

Contribution of Gross Fixed Capital Formation to Growth (ratio to preceding period's GDP, %)



GRAPH 6

Gross Fixed Capital Formation (% of GDP, 4-quarter rolling)
(*other investment equally distributed under construction and machinery investments)



Some Implications and (Continuing) Puzzles

So what should we make out of these new GDP figures, in terms of our broader macro narrative? Should we acknowledge, for instance, as it seems to be suggested [here](#), that “Erdoganomics” was a lot more successful than we’ve credited it for? Or should we take the other extreme and approach these numbers with a lot of skepticism, as it is done [here](#)? We think neither is necessary, since our central argument – that growth has been low quality particularly in recent years and hence, is unsustainable -- still survives these revisions.

True, headline growth as such has been a lot higher than we thought -- around 6% during 2012-15 vs. 3% previously – but, as discussed, a good chunk of this is attributable to an (unsustainable) construction boom. Atop this, we still find growth rates in particular years – like in 2013 and 2015 -- are hard to square with the extreme volatility of those years, as well as evidence in the disaggregated data, like industrial production (Graph 7).

But the more important point is that even if we were to take these growth rates at face value, the “quality” issues are hardly gone away. Aside from growth being construction-driven, we are still talking a debt-fuelled growth “model”, with twin-vulnerabilities – of above-target inflation and a high external financing requirement. As importantly perhaps, despite the Asian Tiger-esque growth rates, the country is showing little sign of breaking through the “Middle Income Trap” or rebalancing its economy toward exports. If anything, it is still getting poorer in market exchange rates despite all the growth (Graph 8), i.e. there is no sign of a “Balassa-Samuelson” dynamic at play, and exports, as a percent of GDP, are now lower (Graph 9).

All this being said, these numbers are likely to continue to baffle us and keep us busy. One area of (continued) puzzlement is savings, which is not only markedly higher now, but behaves differently (Graph 10). The former is mechanical: since the current account does not change much after the revisions (because they need to be broadly consistent with the BOP data), and savings equal investment less the current account balance, savings rise as investments rise.

But the latter – the relatively stable behavior of the saving rate over time -- is not easy to square with the experience of the past several years, i.e. a broad-based credit boom and relatively tight corporate profitability of firms, and outright contradicts the findings of some earlier academic studies on the topic. ☹

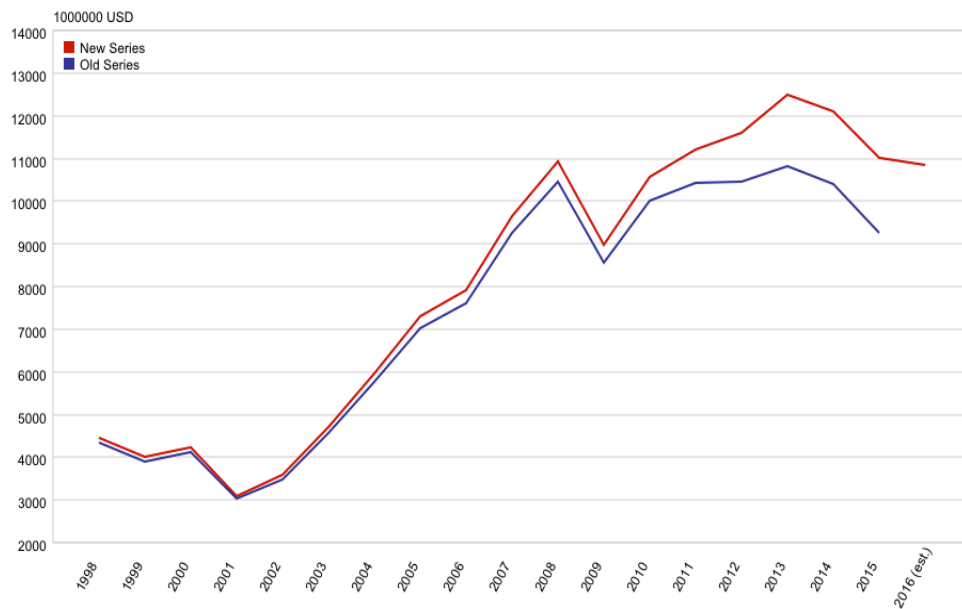
GRAPH 7

GDP vs. IP Growth (yoy, %)



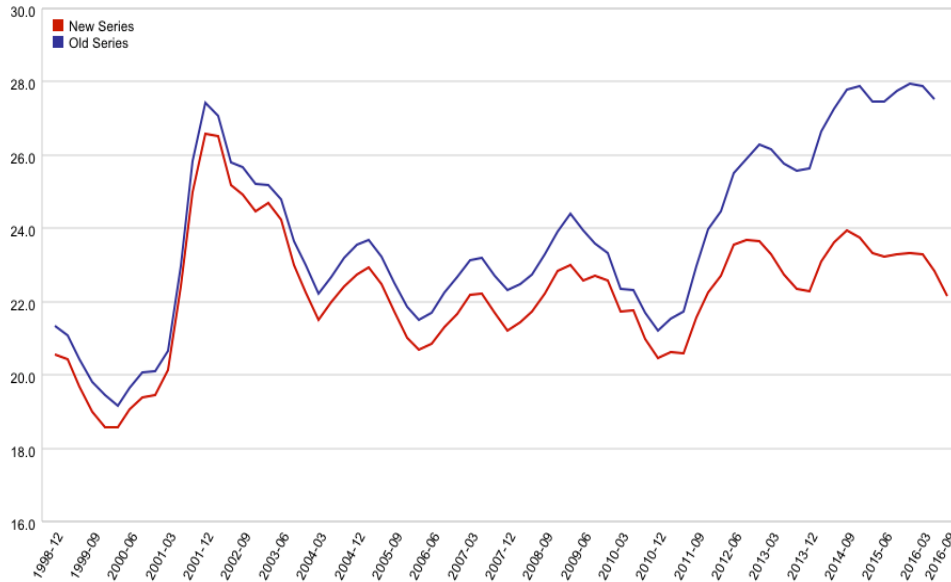
GRAPH 8

Gross Domestic Product Per Capita (market exchange rates)



GRAPH 9

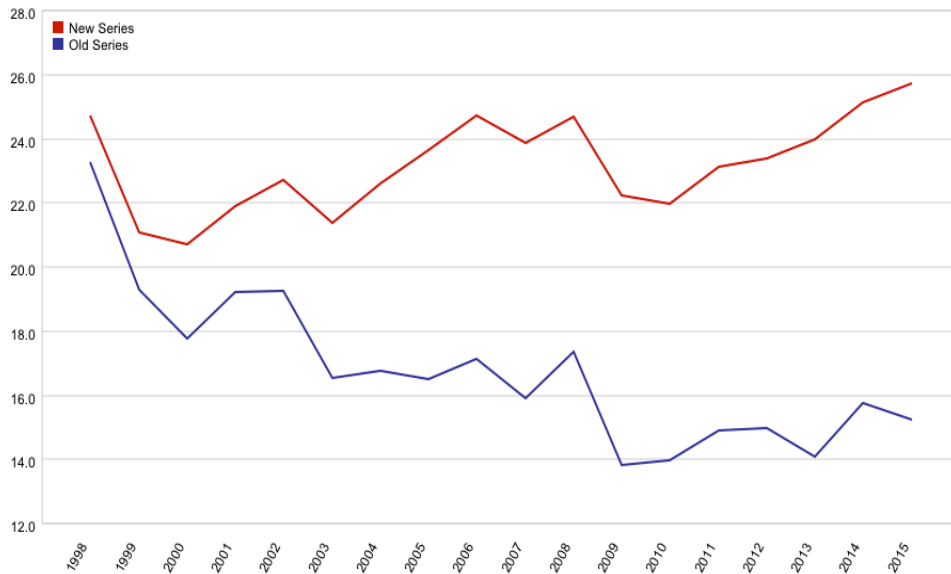
Exports of Goods and Services (% of GDP)



GRAPH 10

Saving Rate (Total Saving/GDP)

(*Total Saving = Investment (Inc. stocks) + Exports of Goods and Services - Imports of Goods and Services)



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