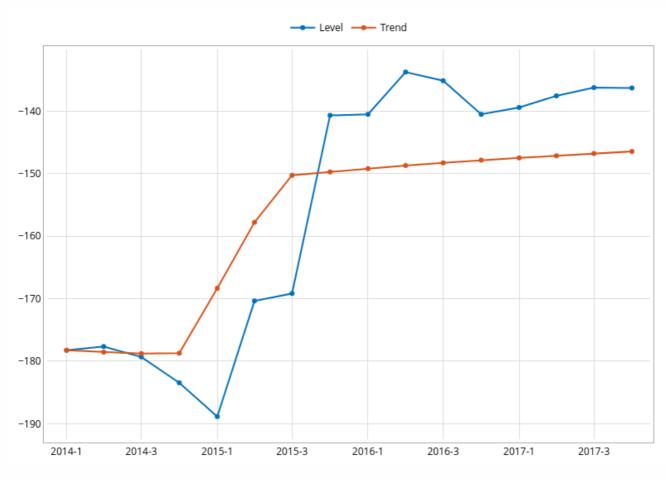
AMEM SPRING 2023 FINAL PROJECT COMMENTS:

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General comments:

- My overall impression is that texts were better than I expected, while the forecasts were a bit worse than I hoped. That's fine, this is basically a part of the learning experience and therefore my feedback focuses mostly on what you could do better. I think you showed a fairly good understanding of the macro developments, you managed to grasp the basic idea of shaping the forecast with shocks, and my main comments are concerned mainly with the fact that the shocks you used do not always align with the story we talked about and that you described in the text.
 - In your texts, you sometimes mixed what will happen (= description of the forecast) with what should happen (=policy recommendations, especially structural policies recommendations). Those are different things. Policy recommendations are addressed to policymakers, but in our case, the text is not intended for policymakers if it was, we should change many things, e.g. do a baseline forecast and then alternative which would show the expected impact of proposed reforms.
 - You also sometimes said things like "AZ needs to diversify its economy". That is a correct advice, but it takes many years to change economic structure significantly, and therefore that is not relevant for our horizon of 3 years.
 - Lastly, some texts had the problem that paragraphs started with one topic, but then continued with a different, often unrelated.
- Regarding the forecast, couple comments that I didn't really stress and that might not be obvious:
 - In general, gaps should be close at the end of the forecast, or at their way to equilibrium.
 - Each shock should represent something, do not add them just to match the data lines. The shocks represent a specific event that you expect will happen in reality.
 - Sometimes, your forecast (gaps, trends, shocks) told different story than the text, and usually the text was right. Reading the story from the forecast is not easy, but I tried to explain that each variable has some interpretation, it mirrors something in reality, and it is important when working with the model to keep that in mind.
- The biggest issue was the development of the RER trend, level and gap. I have here two examples:
 - This is a good example. What's nice is that the depreciation is attributed mostly to trend, ie. it is
 permanent, given by worsened country fundamentals (= lower oil price) and not something the
 central bank can change. Also, the trend goes first, which creates overvalued currency
 (negative gap), which then forces the CBA to allow for nominal FX rate depreciation. The only

problem is that the RER gap is 10% positive (=undervalued) for more than 2 years, which is not intuitive and will cause persistent inflationary pressures.

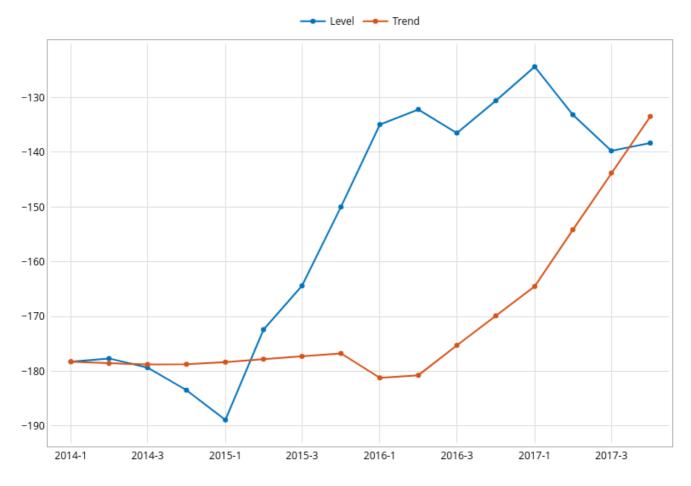


Real Effective Exchange Rate

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 This is not such a good example. Here the RER depreciates but the trend doesn't meaning that the depreciation was not forced by some fundamental changes (=oil price) but it was really just a huge undervaluation of the currency which should bring large inflationary pressures. Only in 2016-17, gradually, the trend weakens, but that is not consistent with our view that the shock in AZ economy was caused by a sudden, sharp, permanent drop in oil prices which took place in late 2014.

Real Effective Exchange Rate



Group 1:

Forecast:

- Look at the RER gap: the story told by this gap in your forecast is that the currency was heavily undervalued (!) most of the time, as if the central bank intentionally generated very weak currency. However, the real story was that the depreciation was forced and actually we have seen that foreign reserves were dropping heavily in 2015-16 period, which is consistent with overvalued currency, ie. negative RER gap. This is also the reason that your forecast overshoots inflation compared to actual data.
- Looking at the RER trend, we see that it depreciates steadily from 2015Q1 to 2017Q4. This is saying that (based on your forecast) the AZ country fundamentals were gradually worsening in this period. However, we discussed that the problem was a large shift in oil markets, which occurred quite suddenly. So it would be better to frontload RER trend depreciation to occur maybe in 1 year. The you would get overvalued currency (= negative RER gap) and much more sensible forecast.
- The shocks to output gap, inflation, and interest rates indicate that you really tried to "fine-tune" the forecast. I understand that, but doing the RER trend right would help you XXX

Text:

 The text is not very clear on description of why the macro variables on forecast move the way they do The first paragraph is a nice introduction. The second para starts nicely and I really hoped you would explain how the lower exports and lower FX inflows necessitated FX depreciation, but the second half of the para moved away from the topic. The third para starts well, but again the second half doesn't really follow up on the first part. The fourth para starts by discussing recommendation what the country should do, but that's very different from describing what will actually happen. You were not asked to write policy recommendations :) The last para is a nice summary, but please note that saying "higher nominal exchange rates ... can contribute to mitigating inflationary pressures" would not pass Libor's 100% test part :)

Group 2:

Forecast:

- Look at the RER gap: the story told by this gap in your forecast is that the currency was heavily
 undervalued (!) most of the time, as if the central bank intentionally generated very weak currency.
 However, the real story was that the depreciation was forced and actually we have seen that foreign
 reserves were dropping heavily in 2015-16 period, which is consistent with overvalued currency, ie.
 negative RER gap. The main problem is that you did not implement any shocks to RER trend at all,
 basically ignoring the impact of the oil price drop (even though you did describe this in the text, in
 the third para!).
- You then had to impose other tunes for the forecast to make any sense, especially many negative output gap shocks. Generally, that's not what you want to do tune almost every variable (output gap, inflation, interest rates, exchange rate).
- The tunes have basically not connection to the story you describe in the text, which should give you a pause and make you reconsider. It is a shame, because the text is quite nicely written and suggests that you actually understood the story of the country, but then you kinda ignored it in the forecast itself.
- The headline variables look quite good, but closer look shows that the forecast is not constructed well and you had to "finetune" a lot of shocks to bring the forecast close to actual data.

Text:

- I like the text. It is not very long or very detailed, but it reads well and does explain the key developments in Azerbaijan, mentions the most important points, and also mentions the the key transmission mechanisms.
- The intro paragraph is nice provides overall picture, sums up the main points. That's nice.
- I would like for you to be a more elaborate and specific in describing the transmission mechanism why things will evolve the way you say they will. Being more explicit about the precise reasons for variables going up or down would make your text even better.

Group 3:

Forecast:

• Overall I like it, i mostly makes sense. Where it can be improved:

- The RER gap is 10% positive (=undervalued) for more than 2 years, which is not intuitive. You could better align the RER trend and FX rate shocks.
- Inflation target remains at 13% it's fine to bump it up temporarily, but it is not clear why long run inflation should be over 10%. Especially since the CBA has continued with fixed FX rate after 2017, which means that long run inflation is not under their control. We talked about the fact that our model is not really fixed FX rate model and therefore we have to be a bit creative, esp. we need to set the inflation target based on the understanding that AZ inflation will be determined by foreign inflation and RER trend developments. Indeed, if you look at inflation past 2017, it was barely above zero.
- I don't think you needed to add those supply shocks, but they don't hurt. The same probably with the demand shocks.

Text:

- Nice text, good explanations of the key transmission mechanisms.
- I would perhaps put the FX rate paragraph higher, it is a key development that will affect everything else.
- "the country had been managing a stable inflation around 3 percent through the regulated prices of oil" This is the only statement that I strongly disagree with. Please note that oil price is only a small part of CPI, and that the CBA had fixed FX rate, which means they really did not control inflation(!).

Group 4:

Forecast:

- The depreciation of RER trend happens gradually. That is not very consistent with the idea that it was triggered by a sudden shift in the oil market.
 - It would have been better to use the RER trend level shock (shock_l_z_tnd) rather than RER trend growth shock (shock_dl_z_tnd). When you use the latter, it affects also long-term expectations and pushes up natural rate of interest, that's why you had to put those negative policy shocks.
- The RER gap is 10% negative(=overvalued) for more than 2 years and it doesn't close, which is not intuitive. Effectively, you are saying that the CBA did not allow the FX rate to adjust enough.
 - That is also why you had to put positive supply and demand shocks, because the overvalued currency depresses the economy.

Text:

- I like the text a lot and I don't have many comments. Structure is logical, each paragraph has a clear message, arguments are logical and clearly formulated.
- The only comment I have is that forecast is generally concerned with future, and we therefore write it in future tense, not in the past tense :)

Group 5:

Forecast:

- The story that I see, when looking at the RER gap, trend and level, is that the FX rate intially
 weakened which was not in line with country fundamentals (= trend) and left the currency heavily
 undervalued. That was the reason why you had to add those negative shocks to output gap and
 inflation, because the undervalued currency pushed them both up. Then, the country fundamentals
 worsened (= the trend weakened) and at the end of the forecast the weaker FX rate is actually
 correct, gap is closed. That is not however in line with the idea that the whole episode was driven
 by sudden shift in oil prices.
- I don't have much comments otherwise, you were quite good in using tunes to fit the actual data. However, if you were actually forecasting without knowing the data, you would see that your approach is giving you weird results.

Text:

• The text is quite nice, even though the second and third paragraph are basically the same (did you have two drafts, and included both by mistake?). The writing is good, arguments are logical, etc. It would benefit from being a bit more descriptive on other variables than FX rate and GDP though.