

Recent Developments in Turkey and the Impact on Georgia's Economy

August 2018

Prepared by TBC Bank Economic Team

Executive Summary

Recent developments in Turkey, an important economic partner of Georgia, raise number of questions about the potential spillovers. Georgia's total exposure to Turkey via currency inflows is 4-5% of GDP – these account for approximately 8% of all currency inflows into Georgia. The share of total imports from Turkey is around 9% of GDP – accounting 17% of total imports of goods. The impact on Georgia's economic growth is assessed as being around 0.5% of GDP. As things stand on August 15, with USD/TRY at 6.2 USD/GEL exchange rate below¹ but close to 2.6 should be sufficient to offset the wider negative impact of the recent TRY depreciation. These estimates are supported by the following arguments:

- The increasing importance of global value chains have resulted in a lower exchange rate elasticity of trade flows, including, the case of Turkey.
- The existing structure of exports of goods suggests that the impact on exports should be limited.
- The purchasing power of visitors from Turkey is expected to decrease, however, the overall growth in the number of visitors remains strong and is expected to be relatively unaffected.
- Remittances should decline, however given the small size of it, the impact on overall growth is expected to be limited.
- No material negative impact in terms of FDI is expected;
- While the level of imports from Turkey to Georgia is substantial, the overall weaker TRY is expected to lead to a substitution of imports from other countries, rather than putting competitive pressure on domestic producers. Furthermore, due to the large share of capital and intermediate goods in total imports from Turkey, the TRY depreciation could also be viewed as a positive supply side shock.
- The GEL/TRY exchange rate appreciated substantially, even in real terms, though the GEL REER at the USD/GEL exchange rate below but close to 2.6 is assessed as being fairly valued.
- As inflation is close to its target, any possible overreaction of the market that would translate into increasing inflation pressures is expected to be met with the policy response from the NBG.

The report includes the recent depreciation of the RUB, taking into account only its direct effect on the GEL REER. The broader impact on the economy is not discussed in detail, but it is important to mention that, as of today, developments related to the Russian currency are not that challenging. Also, while the contribution of Russia in total external inflows was significant in 2017, in the first half of 2018 that contribution decreased significantly; however, total inflows increased by a remarkable 25.2%² YoY in USD terms, thanks to Georgia's well diversified sources of external inflows and the increasing share taken by new markets.

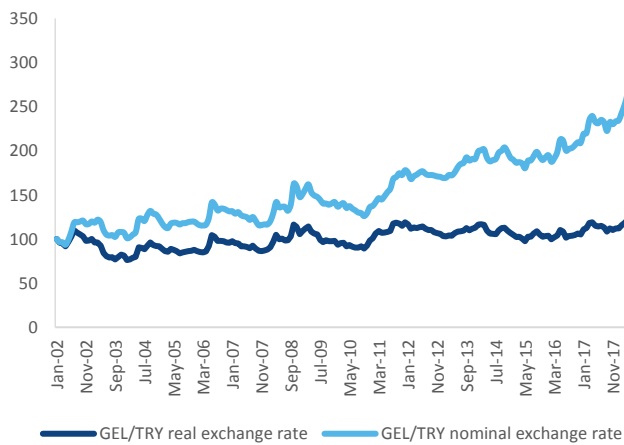
¹ Stronger GEL.

² Excluding FDIs as H1 FDI figures were not available as of the publication date of this report.

1. The Nominal and Real Exchange Rates with the lira

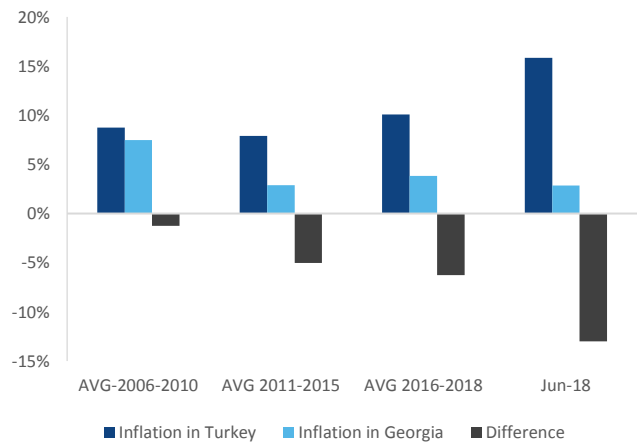
The Turkish lira has depreciated significantly. While part of this depreciation is compensated by higher inflation in Turkey, real depreciation against the GEL has still been substantial. Only part of the GEL's appreciation against the TRY can be explained by GEL's long-term trend of appreciation resulted from higher GDP per capita and productivity growth³. Although at some point the lira is likely to appreciate via the nominal exchange rate and/or prices, it is still important to analyze both the short and medium-term implications of the current lira depreciation for the Georgian economy.

GEL/TRY nominal and real exchange rates
(Jan-2002=100, as of June 2018)



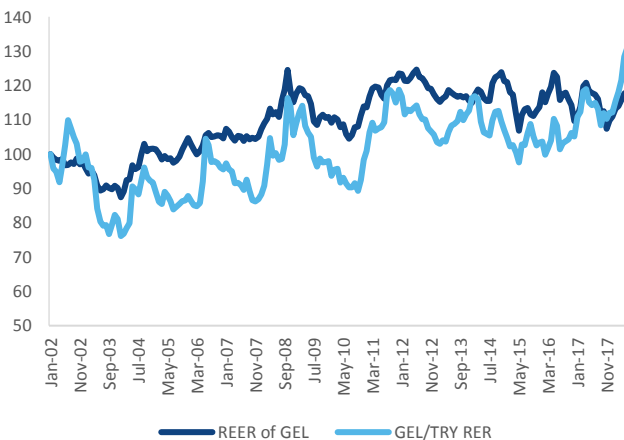
Source: NBG

Inflation differential between Georgia and Turkey
(Jan-2002=100)



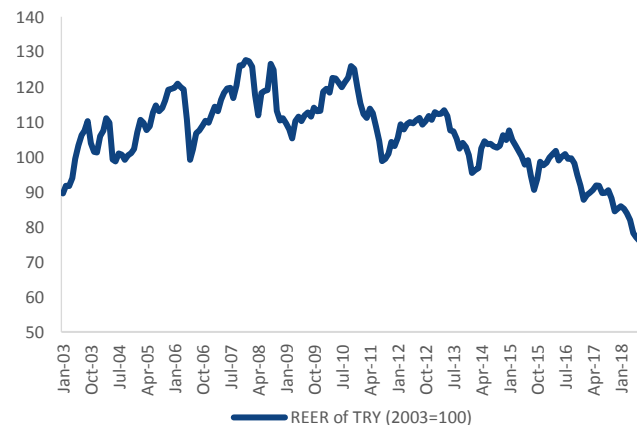
Source: NBG, Central Bank of Turkey

REER of GEL and GEL/TRY real exchange rate
(Jan-2002=100, as of June 2018)



Source: NBG

REER of Turkish lira
(Jan-2002=100, as of June 2018)



Source: Central Bank of Turkey

³ Based on TBC Bank Economic Team Estimates, long term GEL/TRY RER appreciates by around 1% annually.

As of 15 August, USD/TRY nominal exchange rate depreciated by 65% YTD and stood at around 6.2. Over the same period, the GEL/TRY nominal exchange rate appreciated by 72%. The GEL/TRY real exchange rate is estimated to have appreciated by around 46% YTD as of August 2018. However, the GEL REER appears to be around its trend (see section 5).

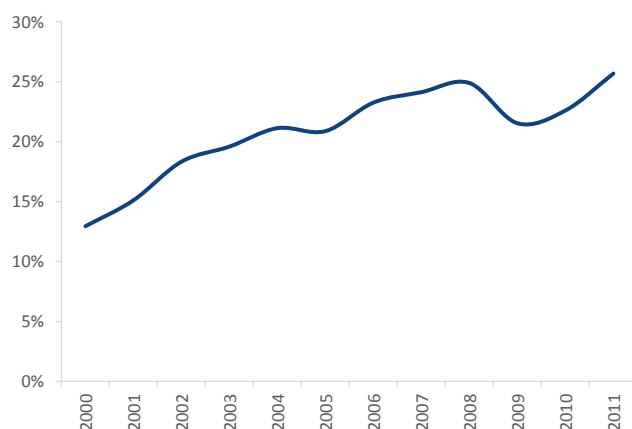
Before we discuss the potential impact on the exchange rate of GEL, it is important to analyze Georgia’s exposure to Turkey and possible spillovers on the economy as well as the impact of global value chains on exchange rate elasticities of trade.

2. Exchange rate elasticity of trade – the impact of global value chains

Along with the increasing participation of firms in global value chains and the rising share of imported intermediate inputs to final products, the importance of exchange rate movements for trade flows have been questioned in a number of academic papers. While conventional logic regarding trade elasticities towards the exchange rate still dominates, empirical evidence has started to appear suggesting that the elasticity of trade flows towards real exchange rate movements is weakening due to the increasing share of foreign value added in the gross exports of countries.⁴

The weakening of the relationship between exchange rates and trade flows is evidenced in a number of research papers focusing on Turkey.

Backward participation index for Turkey
(Share of foreign value added contents of gross exports in gross exports)



Source: OECD

The backward participation index⁵ for Turkey doubled over the period 2000-2011 (latest available data) rising from c. 13% to 26%. This shows that, as of 2011, around a fourth of the value of Turkish exports was created outside Turkey. This index is likely to be even higher nowadays. This tendency should result in a weakening of the impact of the exchange rate on the export competitiveness of Turkey.

Due to the surge in import dependence in overall exports, export coefficients have altered⁶. While the income elasticity coefficient increased, real exchange rate elasticity declined.

According to the findings of the Central Bank of Turkey⁷, Turkish exports are more sensitive towards the income growth in trading partner countries, while the exchange rate elasticity is quite limited.

⁴ “Exchange Rates and Trade Flows: Disconnected?” IMF, October 2015.

⁵ Share of foreign value added contents of gross exports in gross exports.

⁶ “Structural changes in exports of an emerging economy: Case of Turkey”, H. Saygili, M. Saygili, December, 2011.

⁷ “Estimating Income and Price Elasticity of Turkish Exports with Heterogenous Panel Time Series”, TCMB, October, 2015.

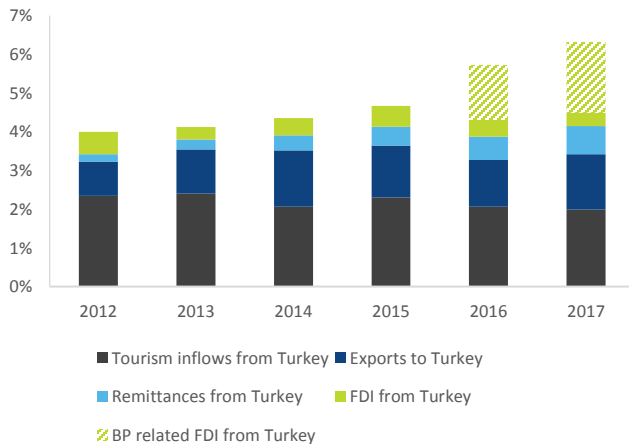
Based on this finding, the Central Bank assesses that Real Effective Exchange Rate devaluation policies to be less effective in promoting the competitiveness of Turkish exports.

3. Georgia’s exposure to Turkey via exports, tourism, remittances and FDI

Georgia’s exports to Turkey amounted to around 217 million USD in 2017, 7.9% of total exports. Over the same period tourism inflows from Turkey stood at around 300 million USD (around 2.0% of GDP) and FDI inflows stood at 1.8% of GDP of which, investments related to the BP South Caucasus Pipeline Expansion Project accounts for an estimated 1.5% of GDP⁸.

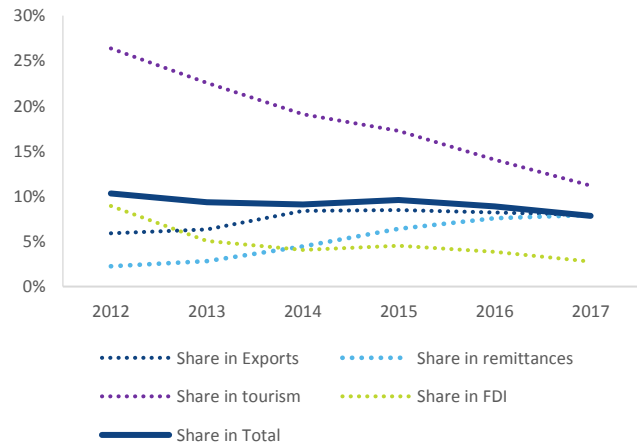
Combined inflows of exports, tourism, remittances and FDI from Turkey have been fluctuating in the range of 4-5% of GDP over the last couple of years and have kept a largely stable trend. Meanwhile, the share of Turkey in total inflows from these same sources has been declining over the same period.

Export, tourism, remittance and FDI inflows from Turkey (% of GDP)



Source: Geostat, TBC Bank Economic Team estimates

Export, tourism, remittance and FDI* inflows from Turkey (Share in total)



Source: Geostat, TBC Bank Economic Team estimates
*Excluding BP related investments

⁸ Turkish company “ENKA” is implementing pipeline related projects, which is financed mostly by BP

Strong growth of external inflows in 2017 was well diversified. Total inflows, including exports, tourism, remittances and FDI went up by 25.5% YoY in 2017. The contribution of Turkey (excl. BP related FDI) was quite low and almost the same as the contribution of China, while major drivers were EU, Middle East and Israel as well as Russia and other CIS countries.

In recent years Georgia has achieved higher diversification of external inflows thanks to the increasing share taken by new markets.

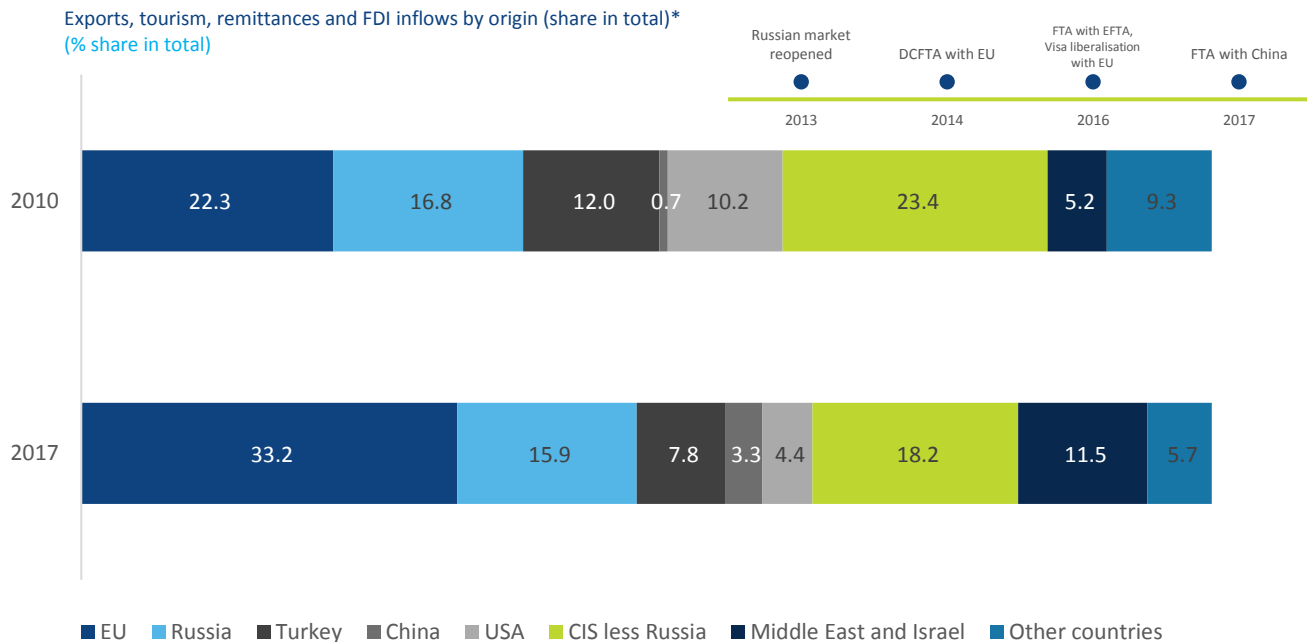
Export, tourism, remittance and FDI inflows growth and contribution in growth of different countries/regions in 2017* (YoY, USD)

Country/region	YoY growth in 2017	Contribution to growth in 2017
EU	25.0%	32.0%
Russia	36.6%	20.7%
Turkey	8.3%	3.2%
China	23.3%	2.9%
USA	33.2%	5.4%
CIS less Russia	26.6%	18.3%
Middle East and Israel	63.3%	22.2%
Other countries	-13.1%	-4.8%
Total	25.5%	100.0%

Source: Geostat, NBG, GNTA, TBC Bank Economic Team estimates

*BP related FDI is included in EU. Excluding BP effect EU contribution to growth of inflows stood at 35%, instead of 32%

Exports, tourism, remittances and FDI inflows by origin (share in total)* (% share in total)



Source: Geostat, NBG, GNTA, TBC Bank Economic Team estimates

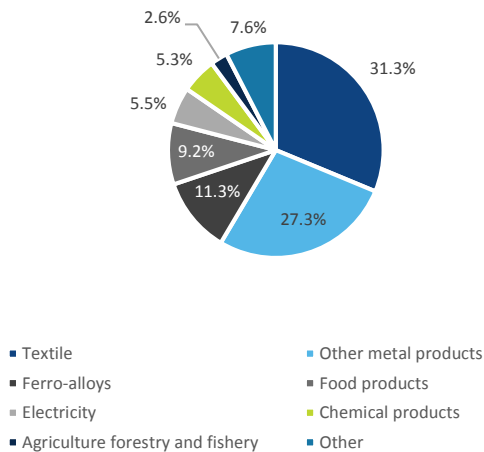
*BP related FDI is included in EU. Excluding BP effect EU share stood at 29% instead of 33.2%

3.1 Exports of goods

Textile products account for around one third of total Georgian exports⁹ to Turkey. Exports of these products are not heavily exposed to exchange rate fluctuations for two main reasons: (i) imported inputs from Turkey make up significant share of the final value of textile exports; and (ii) textile factories in Georgia are mostly operated by Turkish investors, who moved their production to Georgia due to the availability of cheaper labor, electricity, lower regulatory and tax burden. In an extreme scenario, the depreciation of Turkish lira could lead to an increase in the cost of foreign labor for Turkish investors. As a result, they would have an incentive to concentrate on domestic labor. However this scenario is less likely to transpire because of the large fixed costs associated with moving production.

Metal products and Ferro-alloys also make up an important part of exports accounting for around 39% of total Georgian exports to Turkey. Prices for this category of products are mostly determined in USD on global commodity markets. Although there could be some negative impact on particular categories of metal products, depending on the importance of the value chains, no negative impact is expected for products like Ferro-alloys and gold.

Breakdown of exports to Turkey
(% share in total)



Source: Geostat

Growth of exports
(YoY, USD)



Source: Geostat

3.2 Tourism, remittances and FDI inflows

Despite the weakening of lira, the number of visitors from Turkey continues to grow at a solid rate. Moreover, given that a number of tourist from Turkey come to Georgia for gambling purposes, is less likely that tourism inflows will face a significant hit. However, some decrease in the purchasing power of Turkish visitors should still be expected.

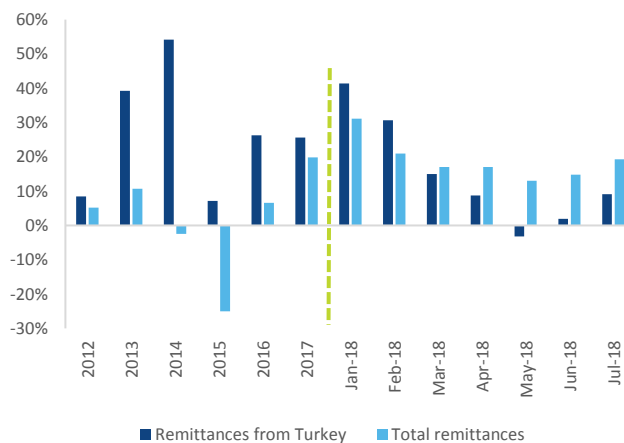
⁹ Textile exports from Georgia to turkey is almost fully re-exported to EU, so the final demand for Georgian exports comes from the EU countries (edited as of September 9th 2018)

In terms of remittances from Turkey negative impact has already become more visible. Alongside the depreciation of the lira, the growth rate of remittances slowed in Q2 2018.

Growth of visitors*
(YoY, persons)



Growth of remittances
(YoY, USD)



Source: NBG

Source: GNTA

*visitors include tourists as well as transit visitors

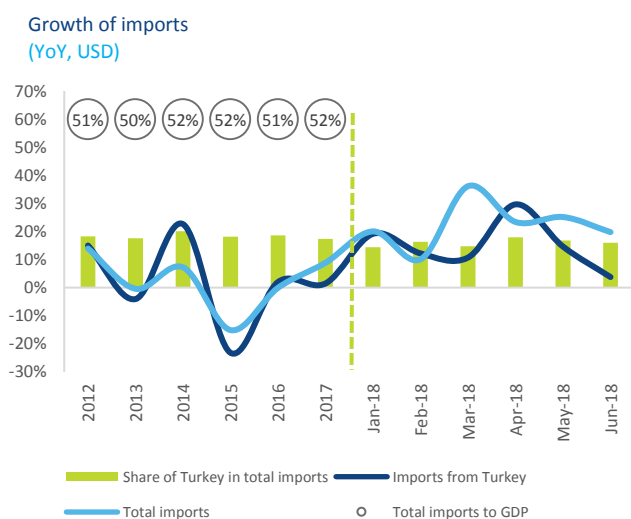
Given the limited size of FDI inflows, no substantial negative impact from this source is expected. Furthermore, taking into account the deteriorated political and economic situation in Turkey, Georgia's attractive business environment, and free trade agreements can perhaps be seen as an upside for attracting more FDI from Turkey.

3.3 Impact on growth

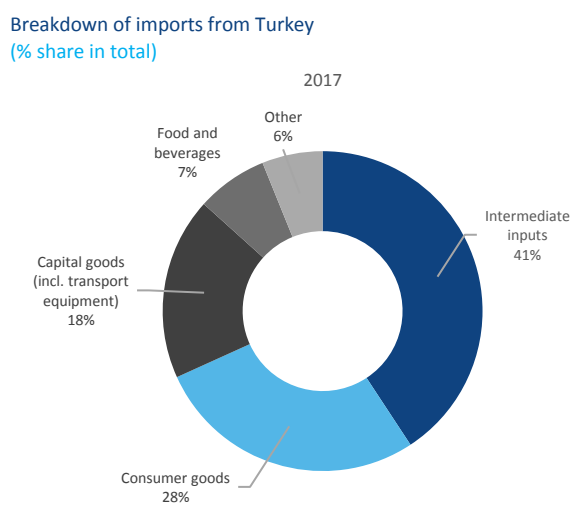
As things stand today, over a one-year period, we expect Turkish developments to trim up to 0.5 pp from Georgia's GDP growth. This estimation is based on an assumed 20% decline in remittances inflows and a 10% fall in exports and tourism inflows from Turkey in USD terms. We do not expect any negative impact on growth coming from Turkish imports for the reasons discussed in the following chapter. The potential impact on the exchange rate is discussed in section 5.

4. Georgia's exposure to Turkey via imports

Significant impact of the lira's depreciation on Georgia could come from the side of imports. Turkey is one of the largest import partner for Georgia, accounting for 17.3% of total imports in 2017, with that share declining to 16% in the first half of 2018.



Source: Geostat



Source: WITS, Worldbank

As shown in the chart above, imports from Turkey didn't show any signs of the noticeable increase over the last two years, during the past depreciation of the lira. Imports from Turkey are dominated by intermediate inputs, which account for approximately 41% of total imports; consumer goods are in next place with 28% of total imports, capital goods, including transportation, make up around 18% of total imports from Turkey. Given the structure of imports, the depreciation of the Turkish lira against the GEL might have a two-sided impact. On the one hand there is a risk that cheaper, predominantly consumer goods and food and beverages, might substitute domestic production; on the other hand cheaper capital and intermediate inputs can be seen mostly as a positive supply side shock for the economy.

4.2 Estimating import demand elasticities

The estimated import demand function for Georgia-which includes real imports¹⁰, the real effective exchange rate, domestic GDP growth and the USD/GEL to capture balance sheet effects, suggest that change in the volume of imports mostly reacts to the domestic demand, while its reaction towards the

¹⁰ Total imports of Georgia have been adjusted for petroleum imports and re-exports, nominal imports have been adjusted by CPI inflation due to the unavailability of the accurate import price data.

real exchange rate movements is relatively weak (see Appendix 1.).¹¹ Given estimates indicate that the GEL real effective exchange rate has expected positive sign (imports increase as the REER appreciates) and it is statistically significant. However, the magnitude of the estimated coefficient is less than unity, suggesting that total imports are inelastic towards exchange rate changes. On the other hand, the income elasticity of imports is more than one and is statistically significant.

To assess the impact of GEL/TRY exchange rate movements for imports, we have decomposed the real exchange rate into two parts: the GEL/TRY real exchange rate and the real exchange rate of GEL against other trading partner currencies and re-estimated the above-mentioned import demand equation. The GEL/TRY RER has negative sign, however, the coefficient is not statistically significant. The elasticity of imports towards the real effective exchange rate, excluding the lira, is higher as compared to the overall REER, also with positive sign and is statistically significant.

On the other hand, the GEL/TRY real exchange rate seems to be an important factor in explaining Turkish imports to Georgia (see Table 3.1 in Appendix 1). Elasticity of imports from Turkey towards the GEL/TRY exchange rate is close to one and is statistically significant.

The import demand function with the above-mentioned specification has also been estimated using a VAR model to capture the dynamic effects of real exchange rate changes on the volume of imports. Impulse-response functions indicate that the GEL/TRY exchange rate is not a material determinant of total imports, even over a relatively long period of time. Although these findings are in-line with the estimates described above, the obtained results were not statistically significant. Further research is needed to reach clearer conclusions regarding the exchange rate elasticity of imports when using this particular technique.

One possible explanation for the above-mentioned findings is that the increased competitiveness of Turkish imports mostly substitutes similar imports from other countries, while the level of total imports is relatively unaffected. Similar results are obtained if we look at GEL/TRY real appreciation in excess of the REER of GEL appreciation versus the share of Turkish imports in total imports and the imports to GDP ratio. The graphs in Appendix 2 and 3 indicate that the share of Turkish imports in total imports increases as the GEL/TRY appreciates more than the GEL REER. At the same time, imports from Turkey as a share of GDP also increase, but the total imports to GDP ratio does not increase. Furthermore, according to the given estimates, the total imports to GDP ratio declines. This can be explained by episodes when GEL REER depreciates but GEL/TRY RER strengthens. Excluding those few episodes, total imports to GDP ratio remains flat.

The findings are similar across capital and intermediate as well as consumer goods imports; however, the share of Turkey in the corresponding categories of total imports is relatively less sensitive in the case of capital and intermediate goods imports than in the case of consumer goods imports.

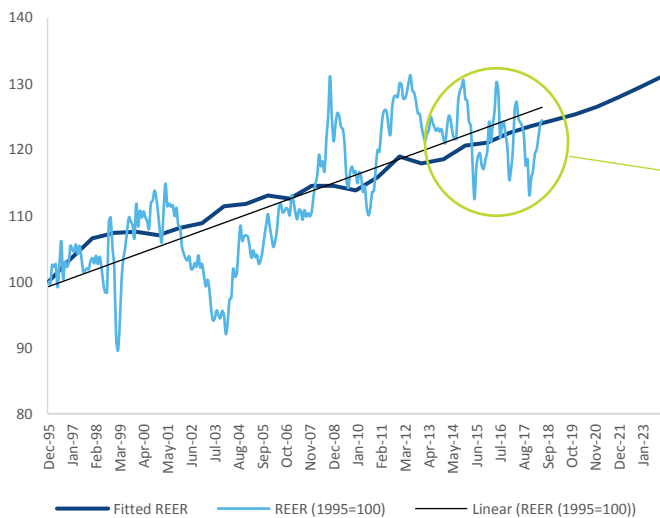
¹¹ As exports of goods are relatively concentrated and data on real exports is not readily available, exports elasticity is not estimated using econometric analysis

5. Potential impact on exchange rate

As the findings given above suggest, in terms of the impact on the trade balance and the Georgian economy as a whole, the REER is more important than the GEL/TRY real exchange rate. The graphs below reflect how recent developments of the TRY and the currencies of Georgia's other trading partners have impacted the GEL REER.¹²

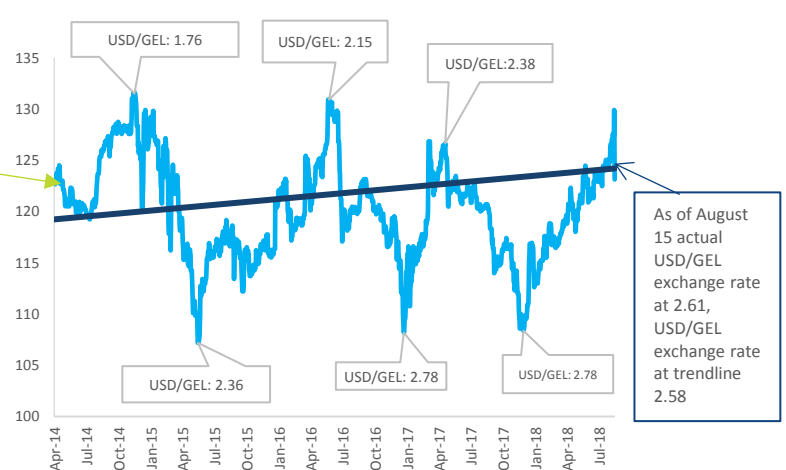
As shown on the chart reflecting the dynamics of the GEL REER between January 2014 and August 2018, as of 15 August, the GEL REER¹³ was slightly weaker compared to its long-term trend, which also appears to be tracking the dynamics of the REER over the last couple of years. On the same day the USD/TRY rate stood at 6.2, the USD/GEL rate was 2.63 and the trend value for USD/GEL is 2.58.¹⁴

Real effective exchange rate of GEL and its long term trend (Dec-1995=100)



Source: NBG, Geostat, IMF, TBC Bank Economic Team Estimates

Real effective exchange rate of GEL (Jan. 2014-Aug.2018) (Dec-1995=100)



Source: NBG, Geostat, IMF, TBC Bank Economic Team Estimates

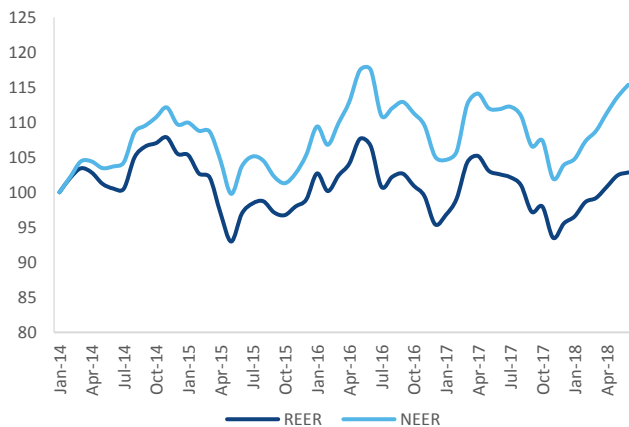
¹² The trend is estimated using the GDP per capita growth differential between Georgia and its trading partners, weighted by share of non-tradeable sectors in GDP. For more details, see the Georgian Economy and Financial Sector Presentation (pp. 21-22) at this [link](#).

¹³ For REER calculations at the current USD/TRY exchange rate, inflation is assumed to increase in Turkey to 24% in the coming months.

¹⁴ It is also important to mention that as the GEL REER is calculated using the weights of only major trading partners (81% of total), the true weight for Turkey is lower (15%, instead of 19%). Therefore, if lower weights are used the TRY appreciation would have somewhat less of an impact on the overall GEL REER.

While adopting such an approach is certainly debatable in many aspects¹⁵, it should still be regarded as being useful.

Real effective exchange rate of GEL and its long term trend (Jan-2014=100)



Source: NBG, Geostat, IMF, TBC Bank Economic Team Estimates

- First of all, it is obvious that given the environment of higher inflation rates in Georgia’s trading partners, NEER (nominal effective exchange rate) dynamics do not adequately reflect GEL dynamics compared with trading partner currencies. As a result, looking only at the NEER leads to a GEL that has greater appreciation than is the case in reality.
 - Second, as discussed above, no significant deterioration of the trade balance is expected due to the TRY depreciation. Therefore, it is difficult to argue that the GEL REER should depreciate.

- Thirdly, the NBG has a reputation of being a prudent and professional central bank that is committed to fulfilling its inflation target of 3% (with inflation standing at 2.8% in July 2018). It is expected that the NBG will react if there is a significant overshooting of the exchange rate that could lead to higher inflation and inflation expectations.¹⁶ This view is further strengthened by the evidence described above that the TRY depreciation is not associated with a worsening of the total trade balance. In particular, in the absence of strong pressures on the exchange rate from trade flows, there are no arguments in favor of the REER depreciation and inflation overshooting.

Taking into account the aforementioned facts, as of 15 August, a USD/GEL exchange rate of below¹⁷ but close to 2.6 can be assessed as being fairly valued.

¹⁵ For example, even if there are strong arguments in favor of the established long-term trend, short-term volatility in the exchange rate is common and therefore the deviation is often substantial.

¹⁶ For example, see the December 2017 Monetary Policy Committee press release at this [link](#).

¹⁷ A stronger GEL.

Appendix 1: OLS estimation results

Table 1.1 OLS estimation output for imports demand equation

Dependent Variable: IMPORTS_YOY				
Method: Least Squares				
Date: 08/07/18 Time: 18:15				
Sample (adjusted): 2007Q4 2018Q1				
Included observations: 42 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP_REAL_YOY	2.860996	0.205121	13.94787	0.0000
REER_YOY	0.304879	0.176530	1.727070	0.0923
USD_GEL	0.079529	0.025104	3.167948	0.0030
C	-0.210104	0.049371	-4.255620	0.0001
R-squared	0.840938	Mean dependent var		0.063167
Adjusted R-squared	0.828381	S.D. dependent var		0.118519
S.E. of regression	0.049099	Akaike info criterion		-3.099565
Sum squared resid	0.091607	Schwarz criterion		-2.934072
Log likelihood	69.09086	Hannan-Quinn criter.		-3.038905
F-statistic	66.96689	Durbin-Watson stat		0.646577
Prob(F-statistic)	0.000000			

Table 1.2 OLS estimation output for imports demand equation with real exchange rate with Turkey

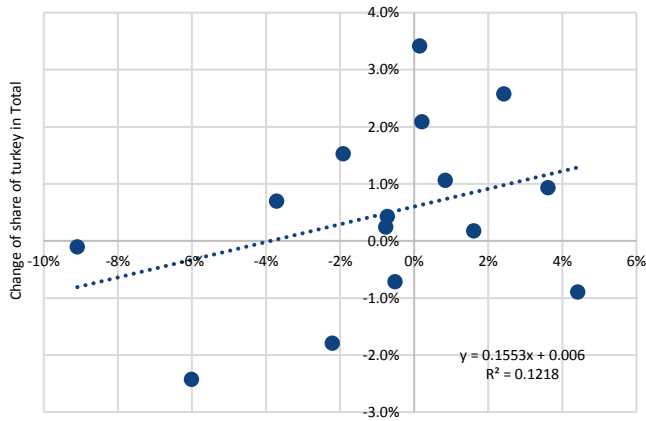
Dependent Variable: IMPORTS_YOY				
Method: Least Squares				
Date: 08/10/18 Time: 10:58				
Sample (adjusted): 2007Q4 2018Q1				
Included observations: 42 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP_REAL_YOY	2.788203	0.205205	13.58744	0.0000
REER_EXCL_TRY	0.679738	0.267093	2.544952	0.0152
USD_GEL	0.091085	0.025209	3.613166	0.0009
C	-0.228930	0.049209	-4.652222	0.0000
GEL_TRY_RER	-0.259199	0.310259	-0.835429	0.4088
R-squared	0.854203	Mean dependent var		0.063167
Adjusted R-squared	0.838441	S.D. dependent var		0.118519
S.E. of regression	0.047638	Akaike info criterion		-3.139023
Sum squared resid	0.083967	Schwarz criterion		-2.932157
Log likelihood	70.91948	Hannan-Quinn criter.		-3.063199
F-statistic	54.19430	Durbin-Watson stat		0.673202
Prob(F-statistic)	0.000000			

Table 1.3 OLS estimation output for Turkish imports demand equation

Dependent Variable: IMPORTS_REAL_YOY				
Method: Least Squares				
Date: 08/08/18 Time: 15:34				
Sample: 2011Q1 2018Q1				
Included observations: 29				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
GEL_TRY_RER_YOY	1.020203	0.388487	2.626092	0.0145
GDP_GEO_REAL_YOY	4.409156	1.489162	2.960830	0.0066
C	-0.023855	0.096707	-0.246667	0.8072
GDP_TURK_REAL_YOY	-1.234440	1.007464	-1.225294	0.2319
R-squared	0.666571	Mean dependent var		0.133500
Adjusted R-squared	0.626560	S.D. dependent var		0.205803
S.E. of regression	0.125766	Akaike info criterion		-1.181347
Sum squared resid	0.395426	Schwarz criterion		-0.992755
Log likelihood	21.12954	Hannan-Quinn criter.		-1.122283
F-statistic	16.65952	Durbin-Watson stat		1.243595
Prob(F-statistic)	0.000004			

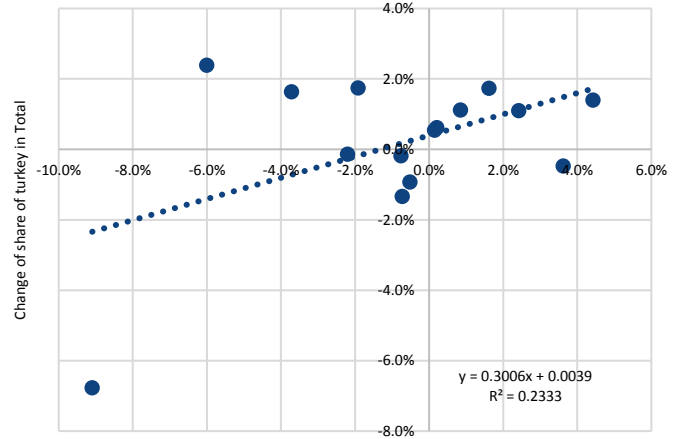
Appendix 2: Share of Turkey in imports by categories vs GEL/TRY RER appreciation in excess of GEL REER appreciation

Graph 2.1: Imports of capital and intermediate goods



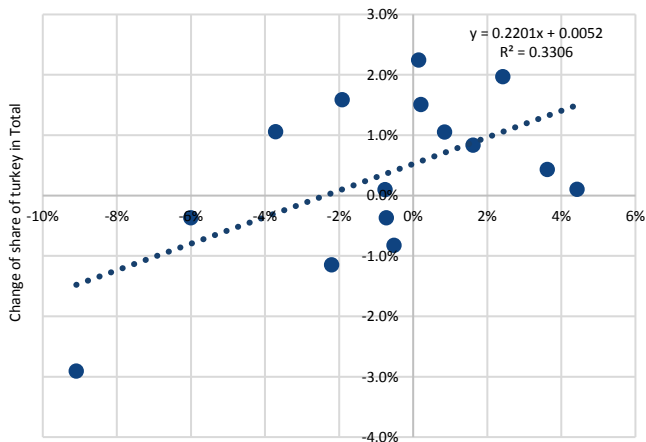
Real appreciation of GEL against TRY in excess of REER appreciation

Graph 2.2: Imports of consumer goods



Real appreciation of GEL against TRY in excess of REER appreciation

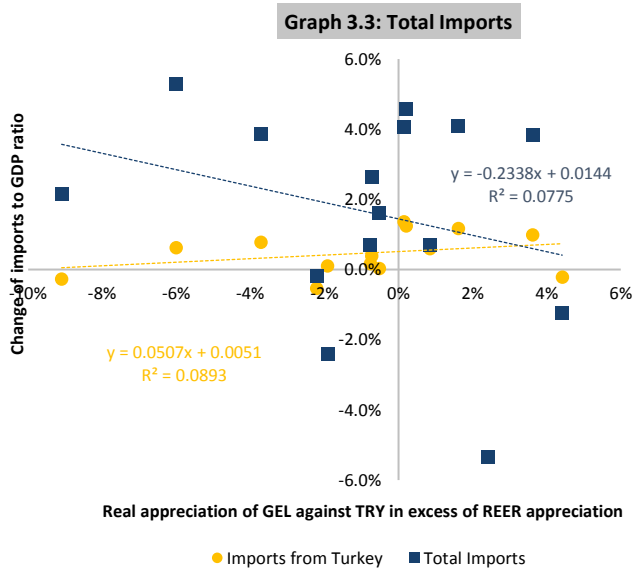
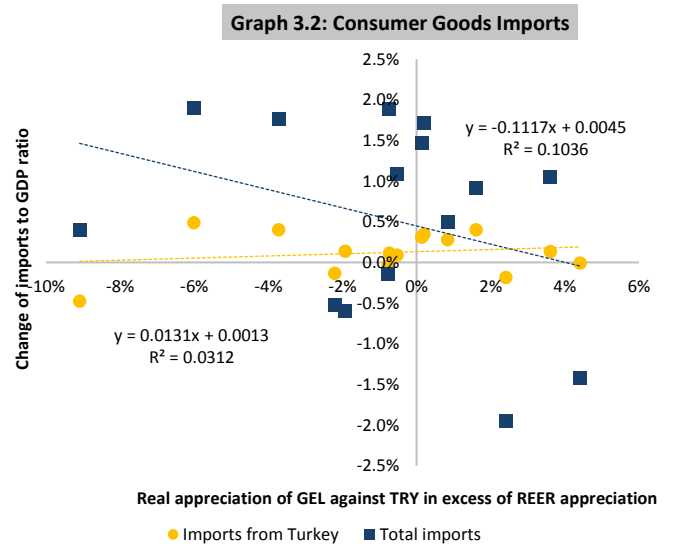
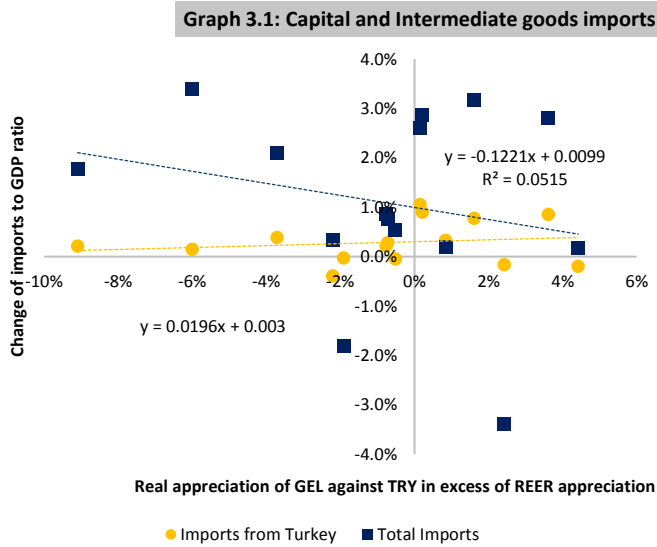
Graph 2.3: Total imports



Real appreciation of GEL against TRY in excess of REER appreciation

Source: NBG, WITS World Bank, TBC Bank Economic Team Estimates

Appendix 3: Imports to GDP ratio by across different categories of imports vs GEL/TRY RER appreciation in excess of GEL REER appreciation



Source: NBG, WITS World Bank, TBC Bank Economic Team Estimates

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