MACROECONOMICS

TBC CAPITAL

# Unlocking the Value in the GEL REER

29.12.2020


**Otar Nadaraia**
Chief Economist, TBC Group

**Aleqsandre Bluashvili**
Head of Macro-Financial Analysis Division, TBC Bank

**Ana Mjavanadze**
Analyst

**Juli Avlokhashvili**
Intern

**Mary Chachanidze, CFA**
Managing Director, TBC Capital

**Tornike Kordzaia, CFA**
Head of Research, TBC Capital



Special thanks to Levan Tsutsunava, Paata Makharadze, Nino Gvalia and Mikheil Mgebrishvili for their valuable contributions

## Introduction

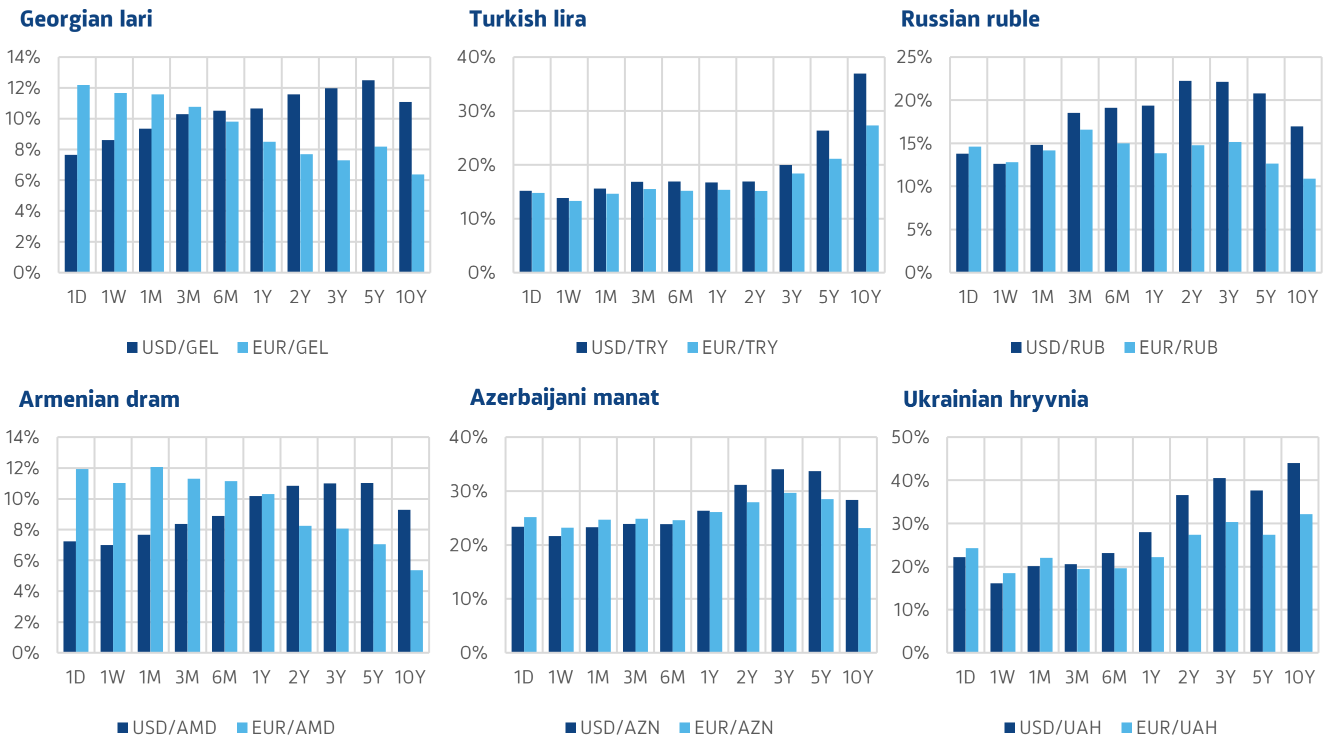
The aim of this note is to examine whether it is possible to borrow in a basket of currencies of Georgia's economic partners, which could to a large extent, or even fully, hedge the FX risk for a borrower with a GEL income stream. A similar basket of currencies could also work for a GEL investor with a functional currency in USD or EUR to mitigate the FX risk. In addition, the note considers whether it is possible to obtain a lower average weighted price on a portfolio, as compared to borrowing in GEL. This is significant from both FX risk management perspective, as well as potentially positively affecting the GEL price without depreciation pressures as if this instrument works, there will be a substantial supply of FX credit, being to large extent GEL equivalent in terms of FX risk. On the other hand, the demand for investments in GEL would be higher, as this instrument would enable the hedging of a GEL FX risk for investors with FX functional currency.

## Borrowing in the multicurrency basket

The USD/GEL heavily depends on the exchange rates of Georgia's economic partner currencies against the USD, consequently the GEL REER is much more stable than the USD/GEL or EUR/GEL, and it is intuitive to think of the portfolio with the weights of the GEL effective exchange rate. However, this may be operationally difficult and more importantly, equally expensive as the GEL. Thus, the value lies with the currency with low interest rates and, equally, with a relatively stable exchange rate against Georgia's trading partners' currencies. Given that Georgia, as well as its economic partners, have close economic links with the EU, and crucially for many commodity prices in EUR are more stable – therefore, the EUR makes a good candidate for such a currency. As shown on the charts below, the GEL exchange rate, as well as other major currencies in the region, against the EUR appears to be more stable than exchange rates against the USD, especially when considering, relatively longer periods.[1]

[1] See the TBC Economic Review insight #3 for more details on the EUR as a preferred currency for borrowers with a GEL income stream.

**Chart 1. Volatility* of Georgia's key trading partner currencies against the EUR and the USD**




Source: NBG, TBC Capital estimates

*Annualized standard deviations over different time horizons.

In addition to the EUR, other major regional currencies, such as the Turkish lira and the Russian ruble, should be considered in the loan basket, as the dynamics of these currencies also have sizeable effects on the GEL and on other relatively small trading partner currencies. To derive a theoretical loan portfolio, we have tested the three aforementioned currencies, as those satisfy our criteria of:

*(1) having close correlation with the GEL as well as with the currencies of Georgia's trading partners; and*

*(2) being relatively accessible on international financial markets at a reasonable price.*

As the primary goal for such a portfolio should be to minimize the FX risk for the borrower, we have analyzed the historical dynamics of the three currencies against the GEL to obtain the portfolio with the minimum variance. The full sample for the analysis spanned monthly data from Jan-2002 until Nov-2020. Although the different sample periods may offer different results, the weights for the variance-minimizing portfolio do not differ widely, being around 70% for the EUR and 15-15% for the RUB and the TRY. Aside from the variance, the average return of the portfolio can also be considered in structuring the currency basket. In that respect, there is a trade-off between the higher share of the EUR, up to a point, associated with a lower variance, and higher share of RUB and TRY with higher returns on average (i.e. the GEL appreciates against these currencies) but also with greater volatility. In addition, it is important to distinguish between episodes of elevated volatility, when the GEL was appreciating against the EUR and the USD (mainly before 2008), and episodes when the GEL was weaker against the EUR and the USD.

The actual choice of an optimal portfolio is dependent on the number of assumptions and a borrower/investor profile. As the primary goal of this note is demonstrate the effectiveness of the instrument, we provide quantitative results only for the selected portfolio, which consists of EUR (70% share), RUB (15% share), and TRY (15%).

In the following section we provide empirical results for 1- and 5-year periods, with and without an interest rate differential and taking into account nominal and real depreciation.

### The empirical results

Charts 2-3 illustrate the annualized performance of the 70% EUR, 15% RUB, and 15% TRY portfolio, as expressed in GEL. The FX gain/loss relates to depreciation/appreciation of the portfolio against the GEL. Charts 2-3 do not take into account the interest rate differential between the GEL and the weighted average of the aforementioned basket, which are given in the subsequent section.

**Chart 2. FX gain/loss for a 1-year horizon for a borrower in the three-currency basket**

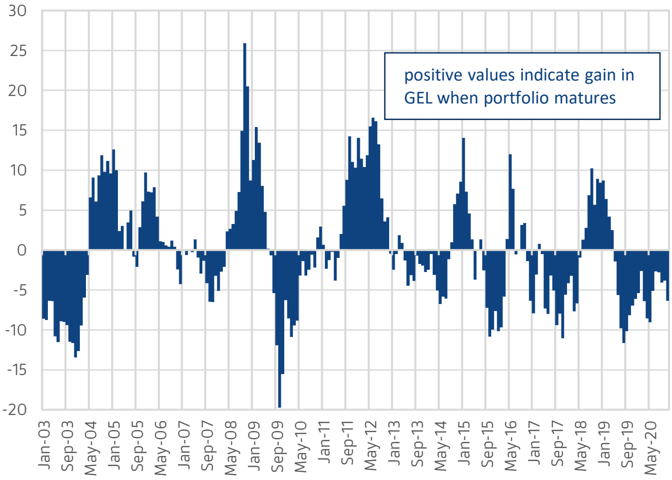
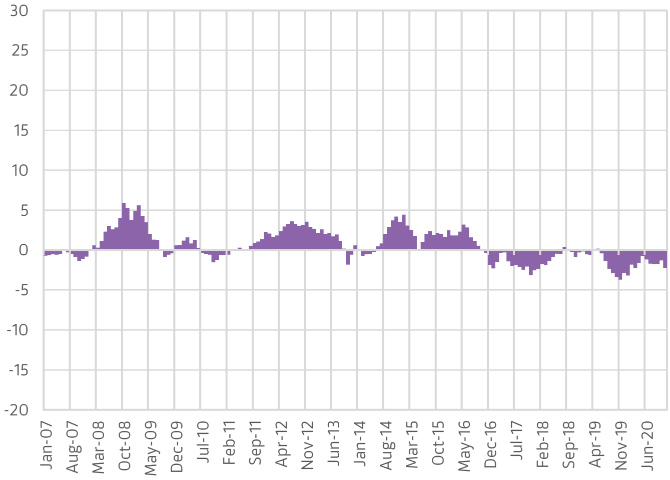



**Chart 3. Annualized FX gain/loss for a 5-year horizon for a borrower in the three-currency basket**




Source: NBG, TBC Capital estimates

In the three-currency portfolio, for 1-year borrowing over the given time horizon, the FX returns for a borrower with a GEL income stream fall in the range of [-12%; 15%] in 95% of observations. The same range would be [-22%; 17%] for USD and [-17%; 15%] for EUR. While in the 5-year borrowing, the annualized FX gains/losses become much lower, suggesting a lower FX risk of the portfolio. In 95% of the observations, the 5-year portfolio performance falls into the range of [-3%; 5%], with significantly lower volatility. Moreover, charts 4 and 5 show the average gain/loss in GEL over different periods, in comparison to more traditional borrowing currencies, such as the EUR and USD. As the charts reveal, the three-currency portfolio would perform better for the borrower with the GEL income stream.

**Chart 4. FX gain/loss for a 1-year horizon in GEL**

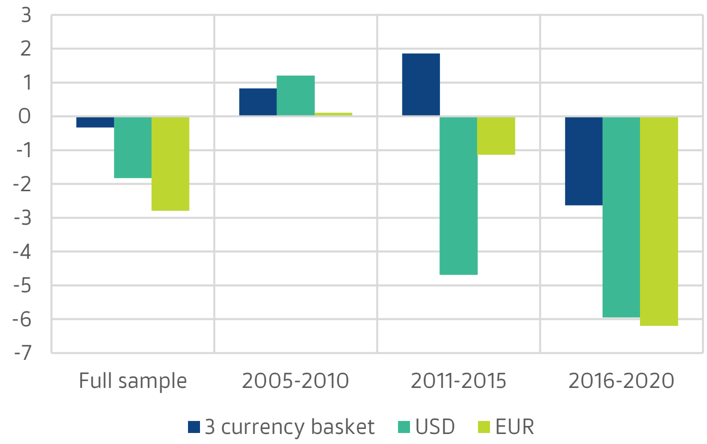
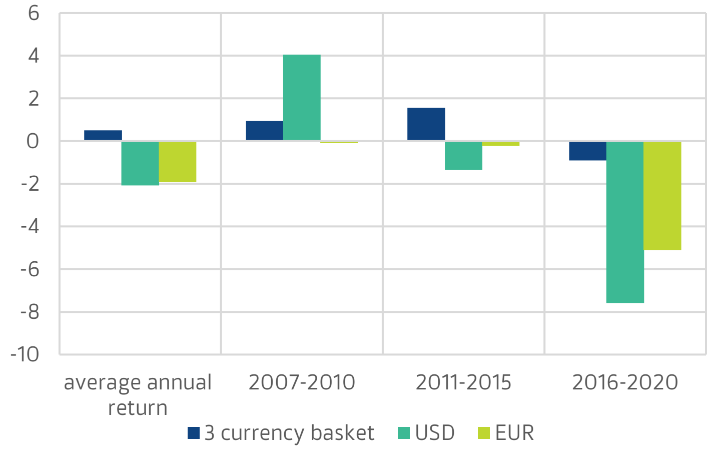



**Chart 5. Annualized FX gain/loss for a 5-year horizon in GEL**




Source: NBG, TBC Capital estimates

In the next step, we incorporated the interest rate differential into our calculations. The borrowing rates in GEL are typically higher than the borrowing cost in the basket of currencies described. For the GEL rates, we used the interest rates on government securities with 1-year and 5-year maturities. To obtain the weighted interest rate for the three-currency portfolio, US treasury rates were used, adjusted for Georgia's country risk premium (using Georgia's Eurobond spread). Thereafter, the cost of EUR/TRY/RUB was derived from the cross-currency swaps against the USD for these currencies.

The charts below demonstrate interest rates on GEL and on the constructed portfolio, based on the aforementioned approach, which is subsequently used in the following estimates.

**Chart 6. Interest rates on the GEL and the weighted interest rate on the three-currency basket for 1-year maturity**

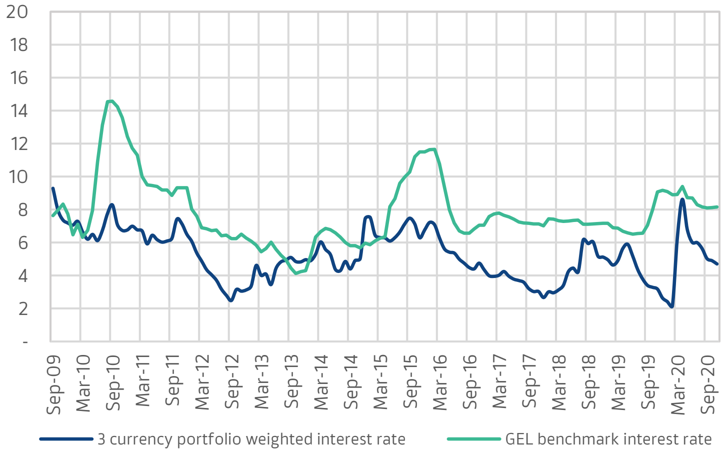
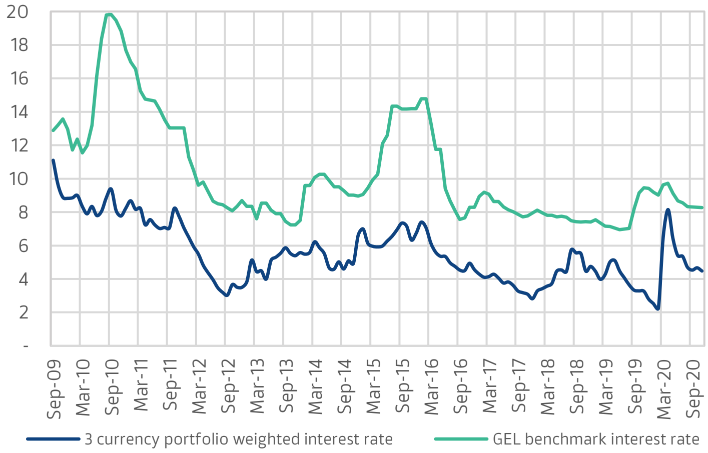



**Chart 7. Interest rates on the GEL and the weighted interest rate on the three-currency basket for 5-year maturity**




Source: NBG, Refinitiv, TBC Capital estimates

**Chart 8. US treasury rates and Georgia's Eurobond spread**

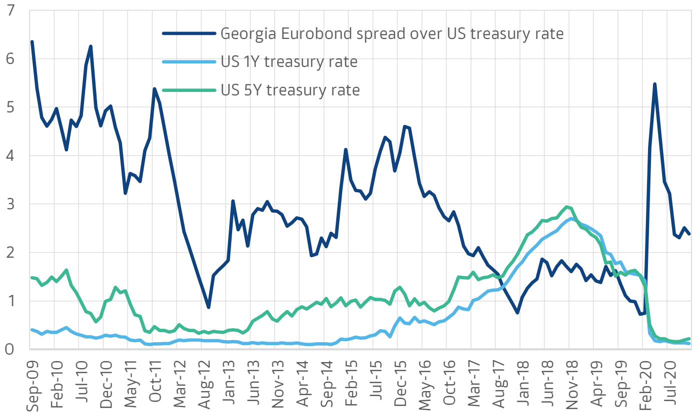



**Chart 9. Cross-currency swap rates for EUR, TRY, and RUB**

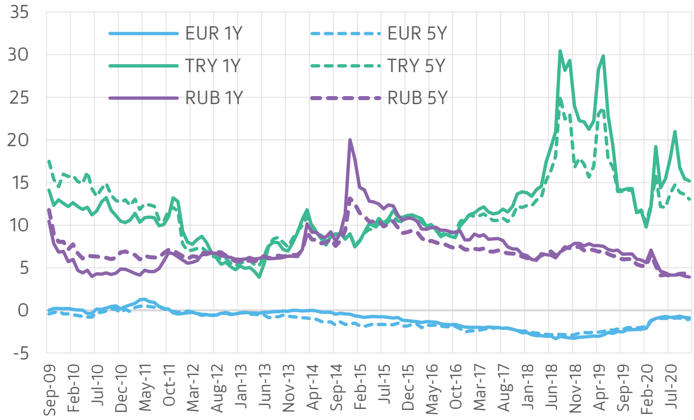



**Chart 10. Interest rates on the flow of deposits in GEL and FX in Georgia**

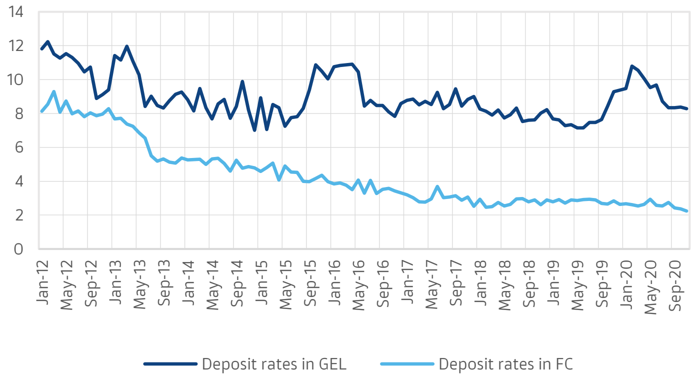
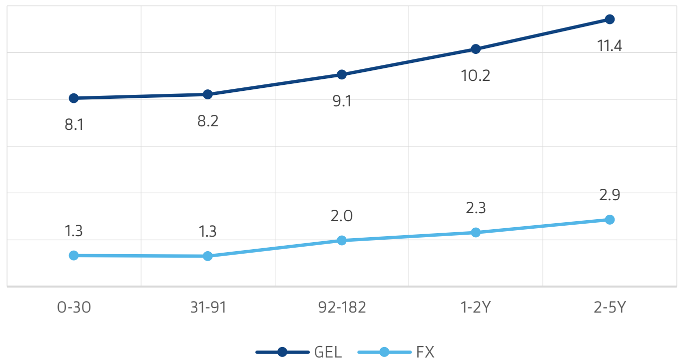



**Chart 11. The Georgian banking sector deposit yield curve (Nov-2020)**




Source: NBG, Refinitiv, TBC Capital estimates

There are several caveats in the estimates of interest rates. Firstly, as Georgia has only one active Eurobond, maturing in April 2021, and the term premiums between 1 and 5-year with rates in USD were not included, which causes some underestimation of the borrowing cost for the three-currency portfolio. On the other hand, the 5-year yield on government treasuries likely underestimates the interest rate for the 5-year GEL cost of fund as evidenced by the current 5-year GEL deposit cost of around 11.4% (versus the 8.3% yield on a 5-year treasury note). On the whole, considering such shortcomings, the interest rates used to calculate the spread between the cost of the GEL fund vs. the three-currency portfolio are reasonable and should not affect the final conclusions of this analysis.

For the next step, the interest rate differential between the GEL and the three-currency portfolios are added to show the total gain/loss for a borrower with a GEL income stream. The total gain/loss takes into account FX gain/loss, as well as the interest rate differential, which, if positive, indicates that the interest rate on the three-currency portfolio is lower and vice versa.

**Chart 12. FX and interest rate gain/loss relative to a GEL loan for the 1-year horizon of the three-currency portfolio at maturity (%)**

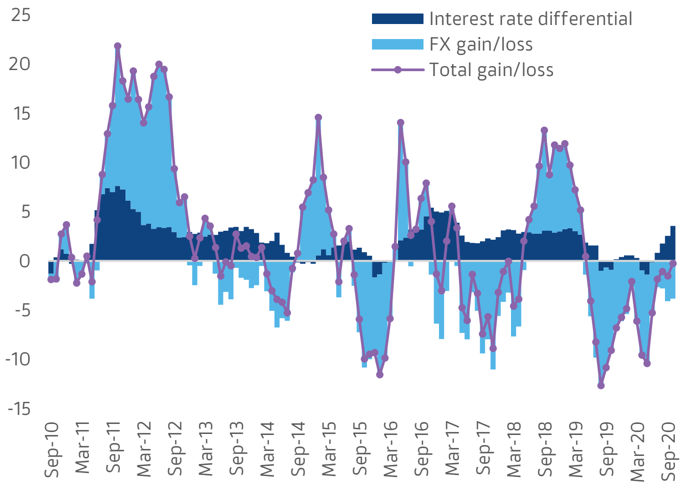
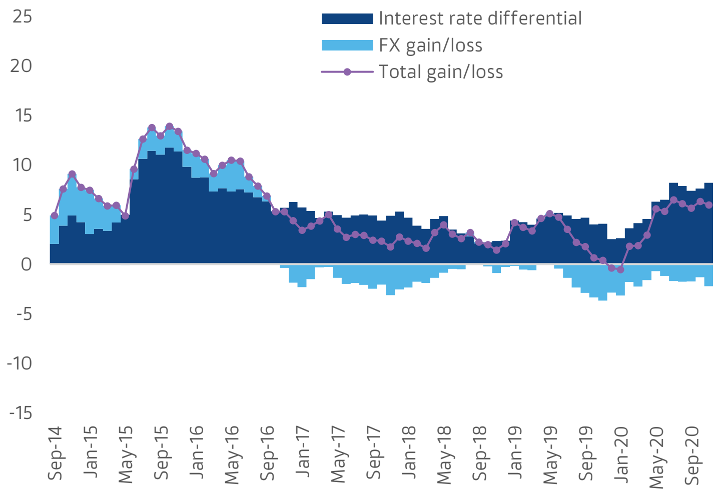



**Chart 13. Annualized FX and interest rate gain/loss relative to a GEL loan for the 5-year horizon of the three-currency portfolio at maturity (%)**




Source: NBG, Refinitiv, TBC Capital estimates

As shown in the charts above, borrowing in the three-currency portfolio would, most of the time, be cheaper than borrowing in GEL, both for the 1-year and 5-year horizons. Given that interest rates are available from Sept-2009, the 1-year portfolio performance with interest rates is shown from Sept-2010, whereas the 5-year portfolio is from Sep-2014.

**Chart 14. Performance of the 1-year three-currency portfolio relative to GEL, the period average***

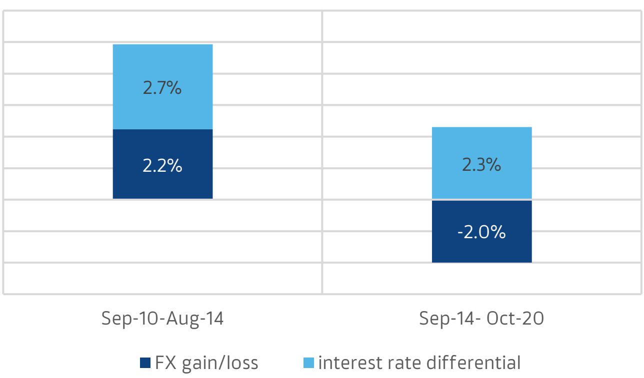
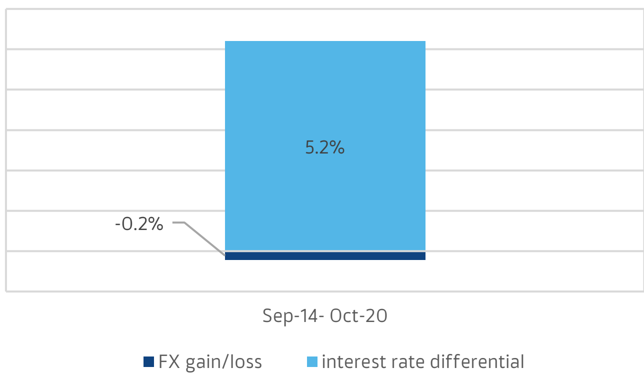



**Chart 15. Performance of the 5-year three-currency portfolio relative to GEL, the period average***




*periods given on the charts indicate the maturity date of the theoretical loan portfolio

Source: NBG, Refinitiv, TBC Capital estimates

Additionally, Georgia's CPI inflation has been added to our estimates the idea being that during episodes of strong depreciation, also for the constructed portfolio, inflation is higher, resulting in greater nominal incomes in the GEL, and therefore higher debt service capacity. CPI inflation is presented in the following charts, including import prices, while the chart 18 demonstrates that there is a strong correlation between CPI inflation and the GDP deflator, and to a large extent wages. The GDP deflator clearly indicates a higher nominal value added, expressed in larger nominal margins and/or wages. Equally, it is important to highlight that the higher debt service capacity also holds for GEL loans. However, as protection against episodes of strong depreciation, higher nominal income still can be seen as an argument in favor of the multi-currency portfolio.

**Chart 16. FX and interest rate gain/loss relative to a GEL loan for the 1-year horizon of the three-currency portfolio and annual inflation (%)**

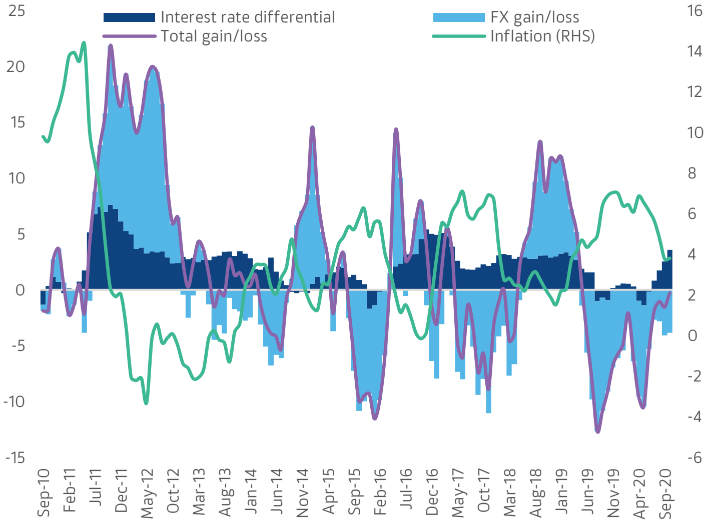



**Chart 17. Annualized FX and interest rate gain/loss relative to a GEL loan for the 5-year horizon of the three-currency portfolio (%)**

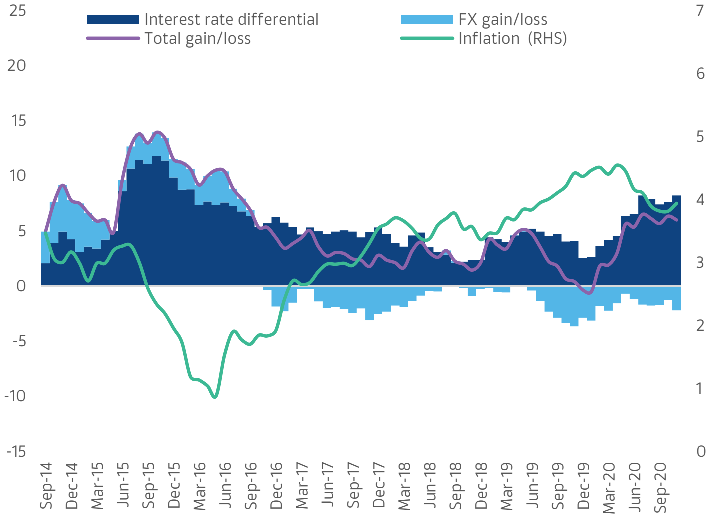
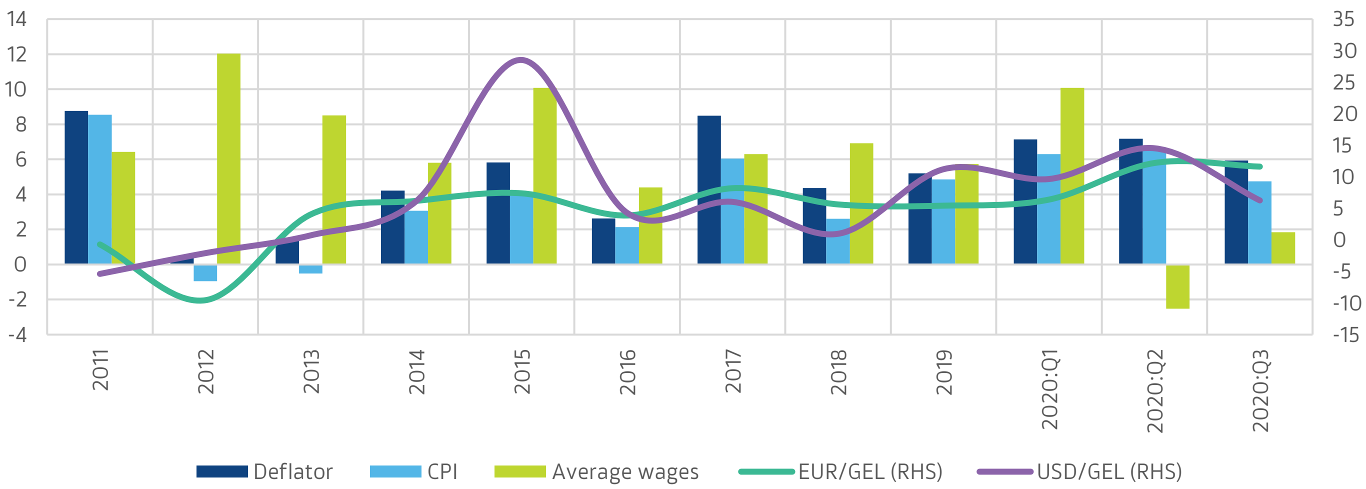



**Chart 18. YoY change in GDP deflator, CPI, nominal wages, the EUR/GEL, and the USD/GEL**




Source: NBG, Geostat, Refinitiv, TBC Capital estimates

## Conclusion

The empirical evidence and the economic reasoning presented in this note demonstrate that, when the income stream of a borrower is in GEL, there is unlocked value in multicurrency borrowing in the currencies of Georgia's economic partners. This value arises from the correlation of exchange rates, as well as the interest rate differential. The untapped benefits of the product described may stem from the relatively shallow Georgian financial market and the high-risk premium required to invest in GEL. In addition, higher inflation during episodes of strong depreciation should be seen as additional protection for the multicurrency portfolio debt service.

While the portfolio presented in this note is 70% EUR, 15% RUB, and 15% TRY, the actual selection may depend on the sector in which the borrower operates, the risk appetite, maturity, the existing market environment, the ability to increase prices during periods of high depreciation, etc. Moreover, as the EUR/USD is still likely undervalued, there is an argument for adding USD into the portfolio, while there is also rationale for adding CNY into the basket. At the same time, the idea could also work from an investment perspective for those with a functional currency in USD or EUR; in this regard, inflation protected GEL instruments should be more attractive compared to nominal ones[2].

In case of scaling the product up, both from the borrowing and investment side, a material impact on the lowering of GEL rates and, at the same time, GEL appreciation is expected. Furthermore, the same notion could also function in other small, open economies with relatively underdeveloped financial markets and high-risk premiums compared to their economic partners.

In any case, the decision to borrow or invest in a multicurrency basket involves number of risks, requires up-to-date macro and borrower/investor specific analysis and therefore it is advisable for any interested party to consult before making a decision.

[2] See more details in Pricing GEL Inflation-Linked Bonds Using USD Benchmark

# LEGAL NOTICE



TBC CAPITAL

Email: macro@tbcbank.com.ge
Web-page: www.tbccapital.ge