Impact Report 2020

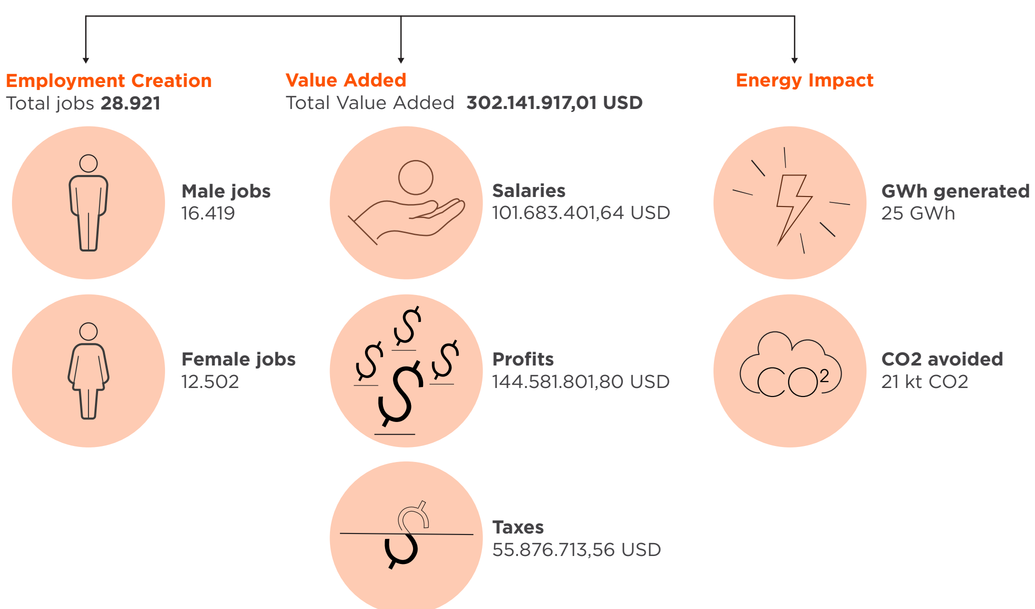
TCX Impact 2020: At a Glance

TCX de-risked **USD 984.692.202** of external lending in emerging and frontier countries. The **'Difficulty of Hedge'** score of the 2020 Primary Production Portfolio is **7.07 out of 10.**

The USD 984.7 million hedged last year enabled TCX's counterparties to provide local currency financing to a variety of impactful projects in sectors such as Microfinance, Infrastructure and Renewable Energy.

Applying the JIM model allows to estimate the impact achieved by these underlying projects:

JIM results for TCX Primary Portfolio
2020 figures



TCX contributed to Market Creation by selling **USD 469.764.565** of frontier currency risk to international investors.

The average **'Difficulty of Hedge'** score of the 2020 Market Creation Portfolio is **7.71 out of 10.**

In 2020, **TCX developed the TCX FI.**

The TCX FI was launched in 2021 and is an informative index tracking the performance of frontier currency linked Eurobonds. The internally developed index is a great example of TCX's innovative capacity and the Fund's role as a thought leader in the field of local currency finance.

Measurement and Reporting Framework

TCX has been set up to maximize development impact by protecting the most vulnerable from financial volatility emanating from currency risk. The fund is expected to realize this whilst being itself financially sustainable. Identifying, measuring and reporting its impact on a regular basis is therefore an essential responsibility of the Fund Manager.

TCX's mission is to increase financial resilience by promoting and facilitating lending denominated in local currencies through the offering of currency risk hedging products when- and wherever there is no commercial market for such instruments. By carrying the currency risk from the borrowers in emerging and frontier markets, and by shifting it to private risk markets, TCX enhances the sustainability, transparency, and efficiency of development finance.

It is important to note that TCX fundamentally differs to most other DFIs in the sense that it does not provide funding for projects which aim to achieve certain development objectives such as the Sustainable Development Goals (SDGs). Rather, TCX improves the financial stability of these projects.

TCX's development impact is therefore measured by the efficient allocation of currency risk in development finance that ultimately enables our partners to achieve certain SDGs. The efficient risk allocation that TCX provides encompasses three different pillars: Firstly, the de-risking of development finance by onboarding currency risk on TCX's own balance sheet. Secondly, the efficient distribution of that currency risk, achieved by selling parts of the risk from its balance sheets to investors in international markets. Thirdly, TCX plays a crucial role in advocating for local currency finance. This includes all of the Fund's activities that contribute to the widening of the local currency ecosystem, such as active participation in the policy dialogue around local currency financing, staff involvement in conferences and public speaking events, the Fund's support of independent research on currency risk, and its continuous development of innovative local currency products.

Framework

The Fund's development impact can be divided into three interlinked pillars:

Pillar 1

TCX's core function of **de-risking development finance** with the Fund's unique risk bearing capacity and ability to manage frontier currency risk.

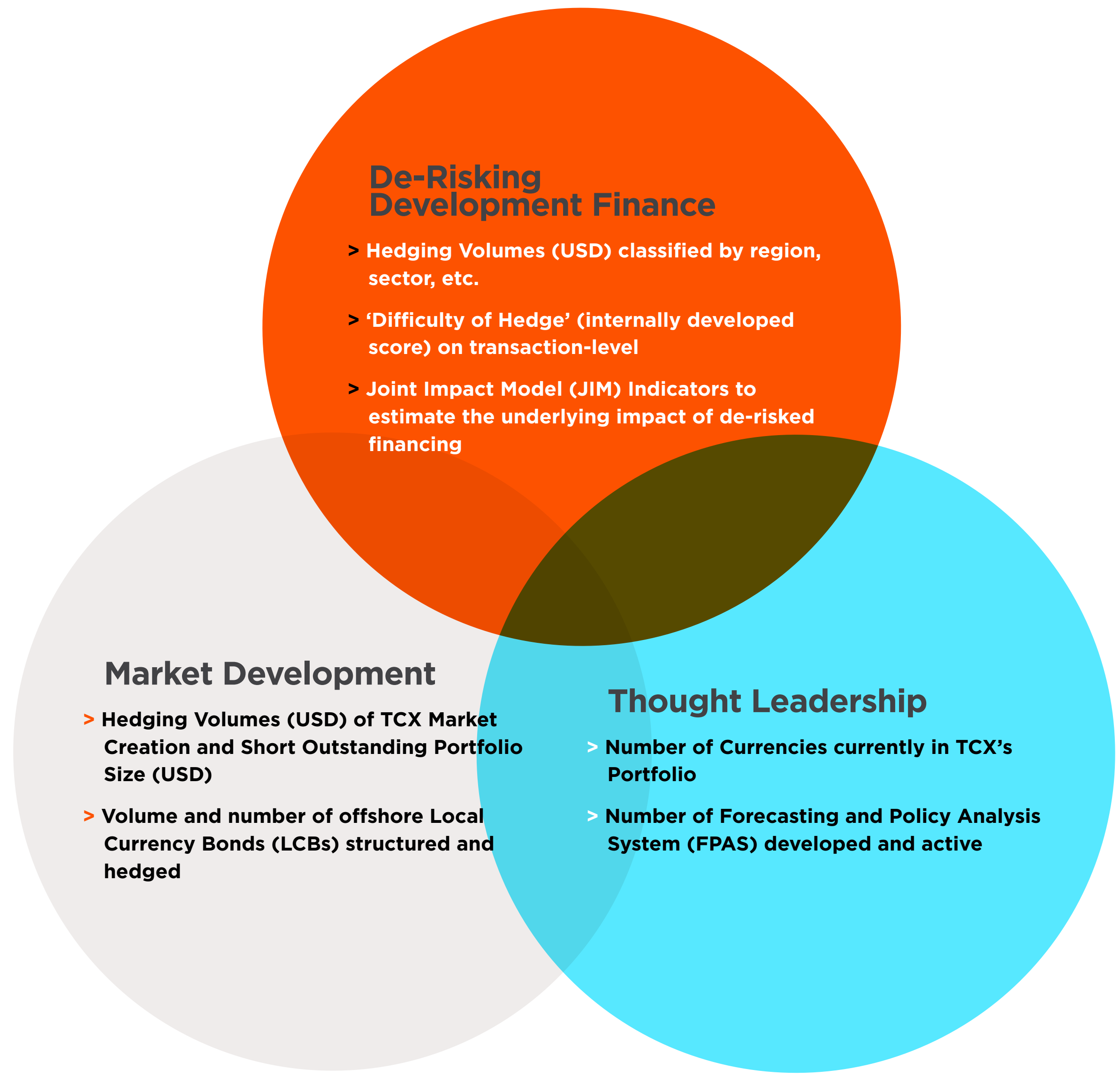
Pillar 2

TCX's contribution to **market development.** Since 2013, TCX has evolved from a long-only fund to actively selling part of its accumulated risk to international investors, thus contributing to offshore market development and allowing for efficient risk allocation.

Pillar 3

TCX's **thought leadership** in local currency finance. This includes advocating for sustainable finance and cooperating with various stakeholders to increase awareness and understanding of currency risk in development finance.

To measure these pillars, TCX identified various impact indicators corresponding to each of the three categories. These encompass traditional indicators such as TCX's trading volumes, grouped by sector and region, as well as newly developed indicators such as the 'Difficulty of Hedge', assigning each hedging transaction a relative score of 0 - 10 depending on the underlying currency and tenor. In addition, TCX implemented the 'Joint Impact Model' (JIM), to estimate the impact of the underlying projects from TCX's Primary Production portfolio. The JIM was jointly developed by Steward Redqueen and several DFIs, many of which are TCX shareholders, including the AfDB, BIO, CDC Group, FMO, and Proparco.



TCX's Impact Results 2020

Pillar 1 | De-Risking Development Finance

How much did TCX de-risk?

In 2020, TCX de-risked **USD 984.692.202** of external lending in emerging and frontier countries.

This corresponds to about **65,6%** of the targeted annual production of USD 1.5 billion. The outbreak of the Covid pandemic in 2020 has led to a lower than expected production.

The average **'Difficulty of Hedge'** score of the 2020 Primary Production is **7.07 out of 10**.

The score averages by region are as follows:

Primary Production Portfolio	Difficulty of Hedge 2020	Difficulty of Hedge 2019	% change
All Regions Average	7,07	7,52	-6,3%
Asia	8,51	7,10	16,5%
Europe / Central Asia	7,81	8,61	-10,2%
Latin America	5,23	6,38	-22,0%
Middle East North Africa	9,13	8,44	7,5%
Sub-Saharan Africa	6,33	6,97	-10,1%

Since inception, the Fund has de-risked a total of **USD 8.426.047.156**.

What is TCX's risk bearing capacity?

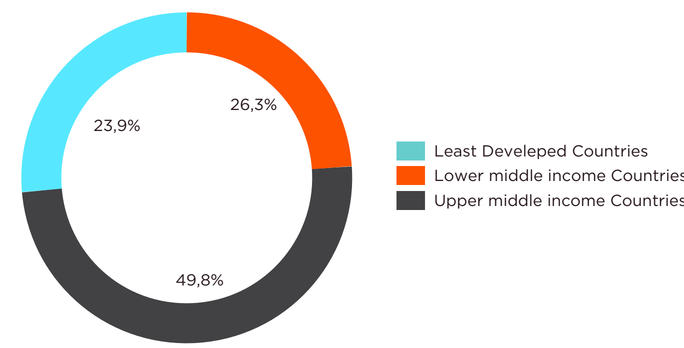
On the 31st December 2020, TCX was carrying the currency risk of the LCY equivalent of USD 3.155.798.596 in Primary Production.

In terms of capacity, the available capital of USD 1.101.493.618 was still significantly above the Required Capital of USD 662.477.272, which already includes operational and risk management buffers of 18% RWAs. This allows for ample growth in terms of risk bearing capacity.

Where does TCX de-risk?

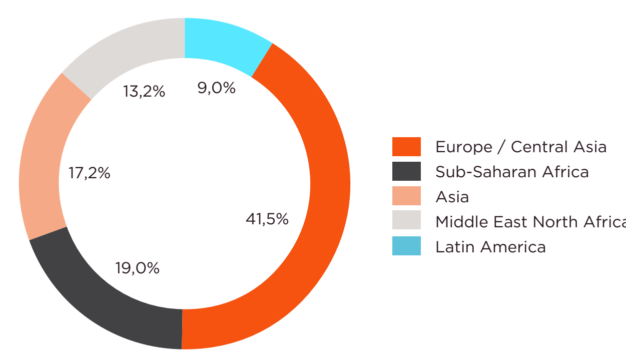
About half of all primary hedging transactions took place in currencies from 'Lower Middle Income Countries'. The other half was roughly divided between 'Least Developed Countries' and 'Upper Middle Income Countries'.

Country income levels
USD 984.7 million



In terms of regions, the majority of transactions take place in currencies from Eastern Europe and Central Asia. The second most active region in 2020 was Sub Saharan Africa with almost a fifth of all primary production volumes, followed by Asia and Middle East/ North Africa. The USD 90 million in Latin America account for about 9% of the 2020 primary production.

Regional Share
USD 984.7 million

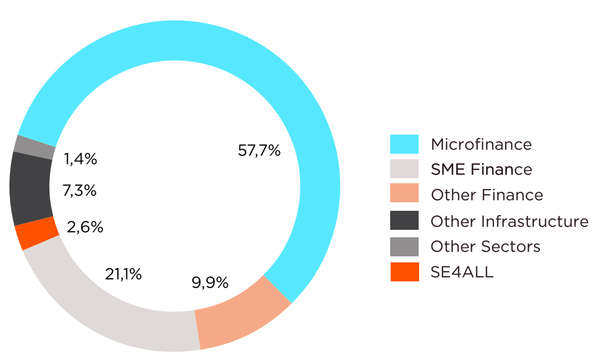


TCX 2020 Primary Production in Africa

In terms of sectors, the majority of transactions still support Micro- and SME finance, representing more than 70% of 2020 primary production. The USD 24 million in renewable energy and USD 33 million in infrastructure represent about 6% of the 2020 primary production.

In 2020, TCX hedged a total of 22 SE4ALL and infrastructure transactions, reaching its target of more than 20 annual transactions in the sectors of renewable energy and infrastructure.

Sectoral Share
USD 984.7 million

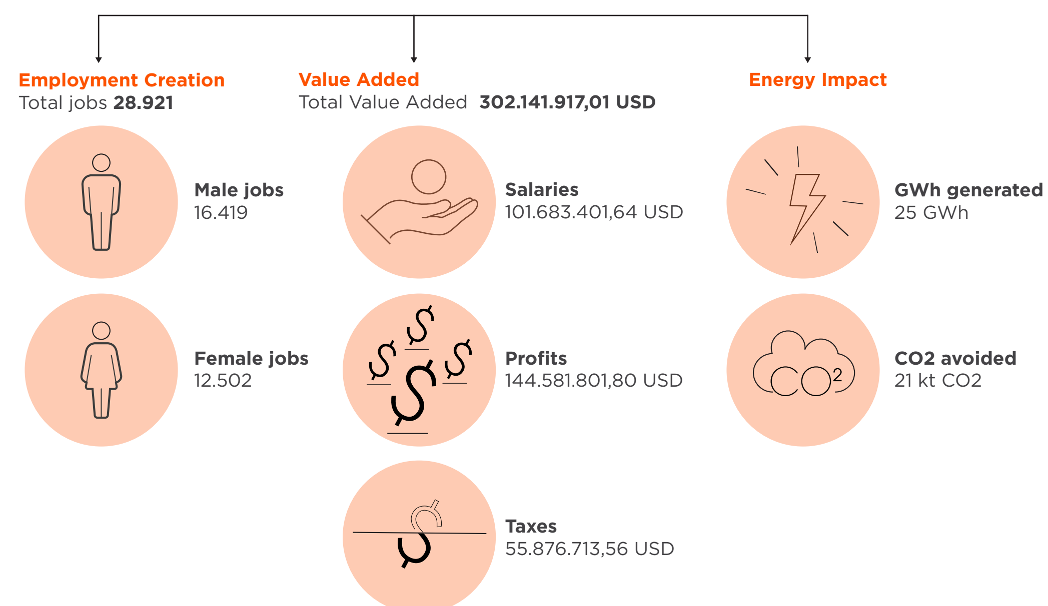


JIM results

All the results reported so far provide information on the de-risking aspect of TCX. They give insight into how much currency risk was taken from the borrower and shifted to TCX, and in which regions and countries this took place. They do not, however, make a statement about the impact of the underlying project that is being financed. Since the access to the data required to assess this impact, lies with the institution that provides the funding, the impact reporting on this aspect is primarily the responsibility of the funding institution. However, TCX uses an external input-output model to estimate certain impact figures of the underlying transactions that the Fund hedges. The Joint Impact Model (JIM) is a jointly developed model by various TCX shareholders, with the purpose to enable users to estimate the gross direct and indirect economic and environmental impacts of a portfolio of investments in developing markets in a single year, and to track changes in these impacts over time.

Applying the JIM to TCX's 2020 primary production portfolio (USD 984.7 million hedging volume) generates the following results:

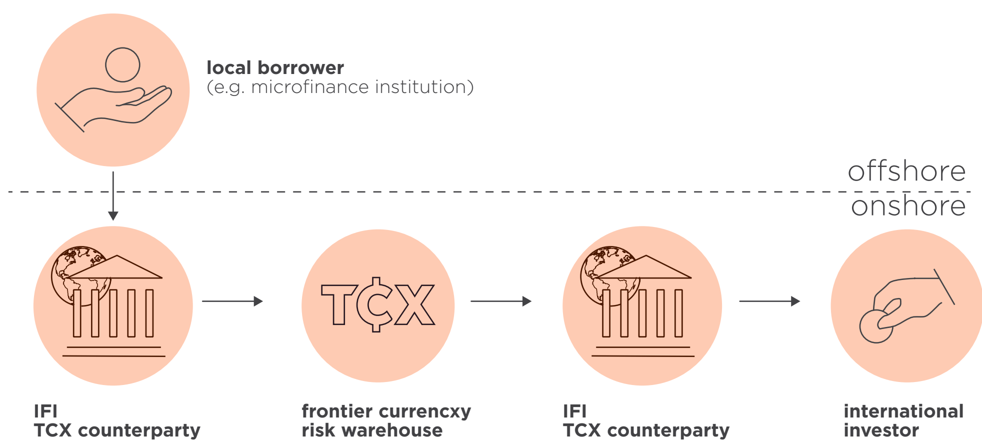
JIM results for TCX Primary Portfolio
2020 figures



These figures estimate what TCX shareholders achieved in 2020, and can be interpreted in the way that TCX increased the financial resilience of the projects that generated this impact.

Pillar 2 | Market Development

Since 2013, TCX has evolved from a long-only fund to actively offset part of its accumulated risk to international investors. This allows to shift the currency risk from the local borrower, to TCX and ultimately to private or institutional investors who have a much higher risk appetite. This improved risk allocation achieves a strong efficiency gain in development finance. At the same time, TCX contributes to market development, since the Fund acts as an intermediary that can repackage the currency risk in terms of size and tenor to make it an attractive asset for the investor.



The currency risk is either directly sold from TCX to the investor via a cross currency swap, or on the back of an offshore local currency bond (LCB). The synthetic LCB is issued by a TCX counterparty with a double- or triple-A credit rating, giving the investor only exposure to the frontier market risk from the currency, with no material credit risk, which is usually attached when investing in frontier assets.

To measure the level of market development, a similar logic as in the first category of 'de-risking' is applied. It is however focused on the opposite direction of risk flows. The main impact indicator is the volume of currency exposure sold, labelled as the TCX 'Market Creation' portfolio. In addition, the volume and number of offshore LCBs will also be reported. It is important to note, that while the LCBs are reported separately, they are already part of the 'Market Creation' numbers and should not be counted twice.

How much did TCX sell?

In 2020, TCX contributed to Market Creation by selling **USD 469.764.565** of frontier currency risk to international investors. This corresponds to **47.7%** of its primary production of USD 984.692.202.

The average **'Difficulty of Hedge'** score of the 2020 Market Creation transactions is **7.71 out of 10**.

Since inception, the Fund has sold **USD 1.458.561.825** of frontier currency risk which contributed to Market Creation.

Hedging LCY Portfolio	Difficulty of Hedge 2020	Difficulty of Hedge 2019	% Change
All Regions Average	7,71	8,33	-8,1%
Asia	8,36	9,45	-13,0%
Europe / Central Asia	7,33	8,14	-11,0%
Latin America	7,50	7,67	-2,2%
Middle East North Africa	7,83	8,67	-10,6%
Sub-Saharan Africa	8,40	8,36	0,4%

Local Currency Bonds

Of this total exposure sold, **USD 1.146.586.247** accounting for **78,6%** were sold via the issuance and hedging of **117** offshore LCBs.

In 2020, the number of LCBs hedged under this structure is **30**, totaling a hedging volume of **USD 317.734.953**. This corresponds to about **67,6%** of the total 2020 Market Creation volume.

The residual **32,4%** were sold to investors directly via cross currency swaps.

Local-currency bond issues (million USD)

Pillar 3 | Thought Leadership

The third category through which TCX achieves impact, is the Fund's role of a thought leader in local currency. This entails all non-measurable activities such as advocacy, including all public speaking events that TCX staff organizes or participates at, technical assistance that staff provides to counterparties virtually or on-site, independent research that TCX supports and contributes to, and many other day to day tasks that further advance the awareness of currency risk in development finance.

However, in order to quantify the impact of these activities, TCX uses readily available indicators as a proxy for thought leadership. These include:

- **The number of currencies currently in TCX's Portfolio**

  > The larger the outreach of TCX, and the more awareness is spread across the globe about currency risk, the more countries will have companies and or governments who want to actively hedge their currency risk. Given the limited availability of long-term hedging products in the most frontier markets, the probability is high that the hedging occurs via TCX. This is reflected in the number of different currencies that TCX has outstanding in its hedging portfolio.

  > **On 31st December 2020, TCX had 62 different currencies, from 69 different countries outstanding in its primary hedging portfolio.**

- **The number of Forecasting and Policy Analysis System (FPAS) developed and active**

  >The FPAS is a forecasting model to price currency and macroeconomic risks in the most frontier markets. It was jointly developed with OGResearch, a Czech based research consultancy specializing on yield curves for developing markets. Developing an FPAS for a specific currency builds the capacity to price hedging instruments when no market data is available. TCX commissions OGResearch to develop an FPAS in a new currency if it notices demand for that country. Thus, the number of FPAS models that have been financed and developed, as well as the number of FPAS models that TCX is currently using[1], are an indicator for the demand for hedging services in the most frontier markets.

  >**On 31st December 2020, TCX has developed 43 FPAS models in total, of which 25[2] are currently active and used for pricing**

Another example of TCX's role as a thought leader in the local currency space is the Fund's continuous development of innovative local currency products. The most recent of which is the development of the TCX FI Index. The index was developed and designed throughout 2020 and was successfully launched in April 2021.

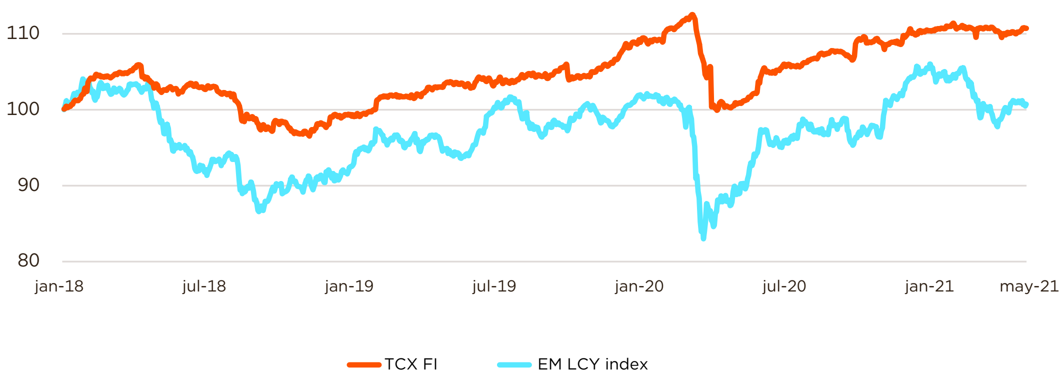
1 | If a currency, which is being priced with an FPAS model, develops over time and market data becomes available via a local bond market for example, TCX switches to the publicly available market data instead for pricing its hedging products. Thus, the gap between the number of FPAS developed historically, and the number of FPAS currently being used, can also be seen as an indicator for market development.

2 | 11 of the 25 are currencies where FPAS pricing is in principle the way to go, but where TCX has not done deals yet, due to lack of interest or e.g. legal obstructions.

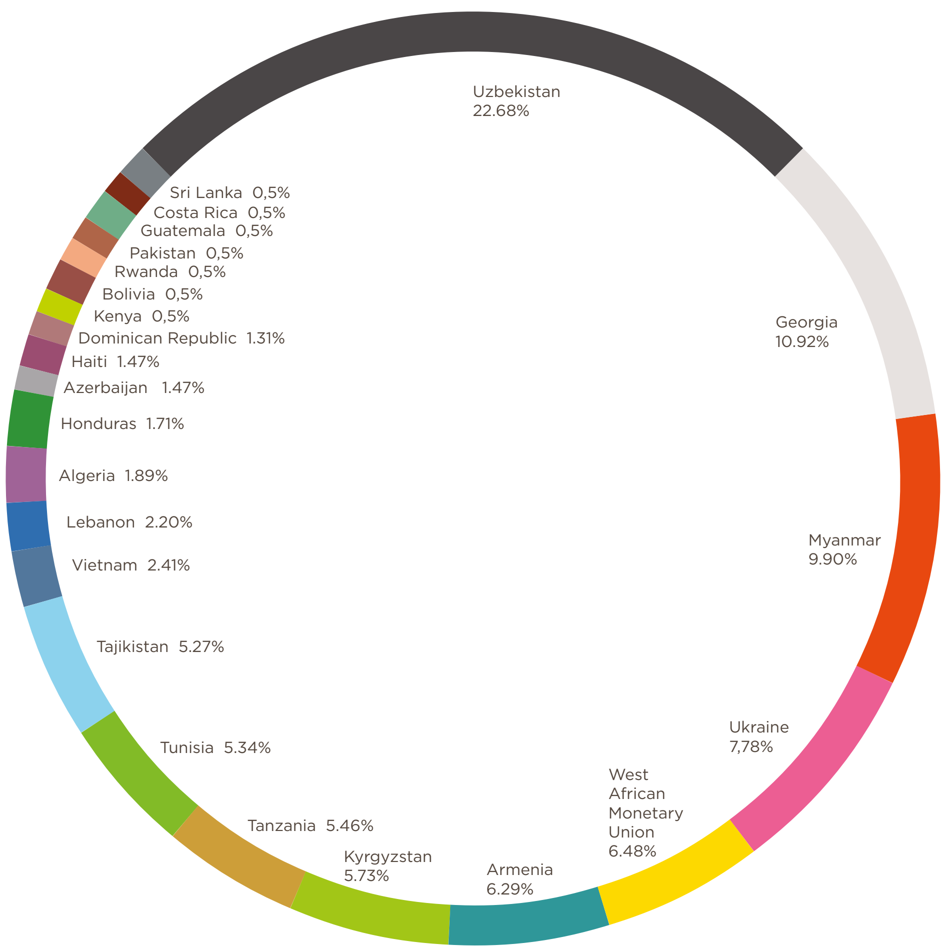
The TCX FI is an informative index tracking the performance of frontier currency linked Eurobonds issued by DFIs. Through this initiative, TCX aims to raise investor's awareness concerning available frontier assets and increase the depth and efficiency of frontier currency capital markets. The index is based on the synthetic local currency bonds (LCBs) described under Pillar 2, which allow issuers to fund SDG-related projects in frontier countries. The bonds redistribute currency risk from frontier markets to international investors, who can access frontier currency exposure, with minimal credit risk and no transfer nor convertibility issues. TCX also expects the index to have a signaling effect for onshore frontier debt markets, contributing to increase asset flows denominated in local currency.

TCX FI versus EM LCY index

Comparative performance



TCX FI Currency Weigths



The Currency Exchange Fund

TCX Investment Management Company
Mauritskade 63 | 1092 AD Amsterdam | The Netherlands
e | info@tcxfund.com **t** | +31 20 531 4851 **w** | www.tcxfund.com