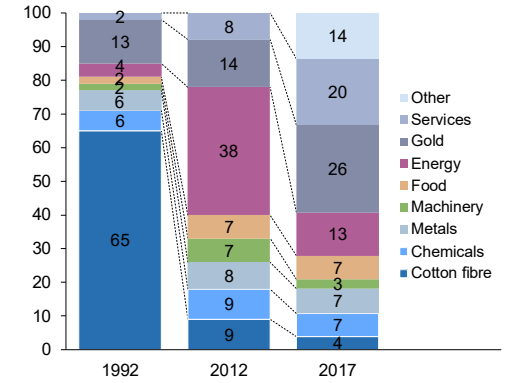
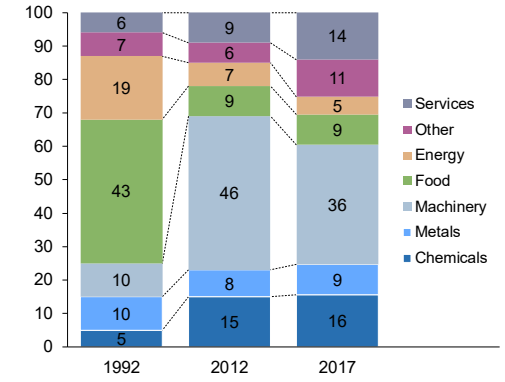
5 February 2019

Structure of exports, 1992-2017



Source: World Bank

Structure of imports, 1992-2017



Source: World Bank

Uzbekistan key macro indicators

	2013	2014	2015	2016	2017	2018
Real GDP growth, %	8.0	8.0	7.9	6.2	4.5	5.1
CPI price growth, eop, % YoY	6.8	6.1	5.6	5.7	14.4	14.3
Nominal bank loans, % YoY	-	25.8	23.5	32.5	110.2	51.4
External public debt w/guarant., % GDP	7.7	7.4	8.4	9.6	12.8	19.8
CBU's total FX reserves, % GDP	39.0	38.3	36.4	39.2	47.7	53.6
FDI & foreign loans (flow), % GDP	4.6	4.8	4.7	5.5	5.7	7.5*
Remittances, % GDP	13.2	10.5	5.8	5.6	8.3	7.5*
Current account, % GDP	3.0	1.7	0.7	0.6	2.9	-6.3*
USDUZS, average, UZS	2,095	2,311	2,569	2,966	5,121	8,068
Nominal GDP, USDbn	57.6	63.0	66.8	67.4	58.9	50.5

Source: UzStat. (*) Data as of 9mo18.

Sovereign Credit

Focus

Uzbekistan (-/BB-/BB-)

Contextualising the new borrower

Uzbekistan is marketing its debut Eurobond. Benchmarking the country against its peer group, which we describe in this report, we believe the fair z-spread for a ten-year tenor would be in the 250bp area, which is tighter than the country's rating category would suggest.

We see gold mining as Uzbekistan's key credit strength since it is large, fully under state control and manufactures reserves domestically. To outright repay a USD 1bn maturity at current gold prices would require less than five months' work by the NMMC, the key producer in the industry. There are other assets at hand, too (set aside at the sovereign wealth fund and kept on the Central Bank's balance sheet) that make net external public debt deeply negative.

We do not expect the sovereign to become a frequent issuer, as its fiscal situation hardly requires external support. Yet equally, we do not expect the credit to stay rare – the sovereign will likely be followed by quasis such as Uzbekneftegas (which would not make it to the EMBI, though, because of its privately-owned pref shares) and banks, NBU, Asaka, UPSB. For all of them, the 'quasi' notion will carry all its regular supportive meaning in full.

The country is in transition, making its way from a state-dominated and largely autarkic economy toward a more open, liberalised and market-friendly model. Having impressively dealt with structural distortions brought about by 75 years of command economy, Uzbekistan faces new challenges: this time, the collateral damage of too much government during the 25 years of the localisation drive.

The intensity of changes, driven by President Shavkat Mirziyoyev's resolute and hands-on approach to reconstitute the economy, are unparalleled. Successful progress along the reform path brings significant rating upside: we believe Uzbekistan will likely be an investment-grade name five years from now. Yet in this initiation report we conservatively focus on some of those economic features that we believe will have a durable impact on its post-reform structure.

The biggest risks for Uzbekistan are along two fronts. The first, more immediate, emanates from what seems to be resurgent militant activity in neighbouring Afghanistan (where a significant Uzbek minority population lives in the northern provinces). The second relates to the degree to which reforms will take economic activity from the grey into the formal sector among SMEs. This will not be easy: risks related to incomplete or incoherent reforms, inertia in management styles, strong patrimonial traditions, ever-present demographic pressures, and the significance of the rural population make the conservation of a 'two-speed' Uzbekistan a realistic threat.

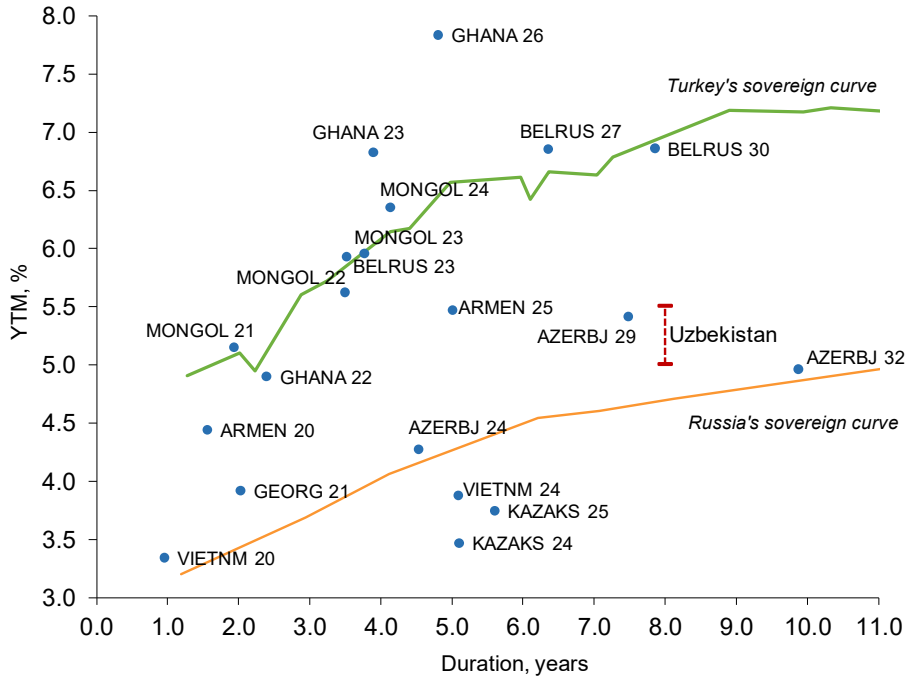
Fair spread estimates

Uzbekistan sovereign credit, in our view, ought to be benchmarked against a peer group that includes the following countries:

- Kazakhstan and Tajikistan – as immediate neighbours, they are interlinked via trade (formal and shuttle), migration, and remittances. They also share common geopolitical risks and significant volumes of commonly-used water resources. Kazakhstan is also similar in the sense of hydrocarbons export.
- Turkey, Vietnam and Georgia – they have close composite ratings and (with all necessary caveats) can be taken as role models. Georgia in terms of deep and successful reform, Vietnam as a manufacturing powerhouse capitalising on its large (previously agricultural) population, and Turkey (not necessarily in its current shape) is an example of successful opening up and economic 'westernisation' from a cultural base that is largely common with Uzbekistan.
- Belarus – a key resemblance runs along the degree to which state involvement in the economy is of paramount importance. Policies are frequently framed by management styles, and although related risks are clearly idiosyncratic and the timing of their realisation does not have to coincide between the countries, their exposure to such risks need to be reflected in spreads, in our view.
- Russia and Azerbaijan are hydrocarbon peers, both with negative net sovereign debt, just like Uzbekistan. Compared with them, Uzbekistan is likely to be less sensitive to spot markets because of the pricing in Chinese contracts. It also does not have a long position in crude oil. Yet its fiscal system, uniquely in the region, captures every last bit of upside from high commodity prices beyond certain point, exacerbating the boom-bust risks absent clear fiscal rules.

On balance, and taking into account Uzbekistan's quantifiable credit metrics (see the next page for a comparative table), we would see Uzbekistan sovereign risk fairly priced in the area of Z+250bp for a hypothetical 10-year tenor.

Figure 1: Uzbekistan USD fair spread estimate



Source: Bloomberg

Figure 2: Uzbekistan peer group: key credit metrics

Country	Fitch	S&P	Rationale for using as peer	GDP, USD bn 2018	Population, mn	Real GDP growth, % YoY, average 2012-2016	Real GDP growth, % YoY, 2017	CPI inflation, % YoY, 2017 year av	Unemployment, % labor force, 2018E	Current account balance, % GDP, 2017	General government balance, % GDP, 2017	General government debt 2017, % GDP	Share of short-term debt in total external debt, %, 2018E	Net sovereign external debt 2017, % GDP	Banking system assets 2017, % GDP
Kazakhstan	BBB	BBB-	Tight regional links (trade, remittances, political); hydrocarbons	173	18	3.5	4.0	7.4	4.9	-3.4	-6.4	19.9	4.8	-37.1	47.6
Russia	BBB-	BBB-	Remittances; hydrocarbons	1,571	147	0.7	1.6	3.8	4.8	2.2	-1.5	15.5	10.8	-29.1	85.2
Azerbaijan	BB+	BB+	Hydrocarbons	48	10	1.6	0.1	12.9	5.0	4.2	-1.6	22.7	14.6	-61.9	45.7
Vietnam	BB	BB-	Manufacturing base; close China connection	244	97	5.9	6.8	3.5	2.2	2.7	-4.7	52.4	16.1	-6.0	164.8
Turkey	BB	B+	Regional links; same composite rating	762	82	5.5	7.4	11.1	12.1	-5.6	-2.0	28.3	25.1	1.0	99.6
Georgia	BB-	BB-	Strong reform track-record and IFIs support; exact ratings peer	16	4	4.0	5.0	6.0	13.8	-8.9	-2.9	44.6	14.1	14.4	87.2
Uzbekistan	**BB-**	**BB-**		**50.5**	**33**	**7.7**	**4.5**	**9.4**	**7.3**	**2.9**	**0.7**	**19.7**	**4.0**	**-34.9**	**55.1**
Armenia	B+	NR	Remittances	13	3	3.5	7.5	1.0	15.9	-2.4	-4.8	58.9	11.6	31.5	79.8
Belarus	B	B	State-led economic model; links with Russia	56	9	-0.4	2.4	6.0	0.7	-1.7	-0.2	52.5	23.1	22.7	60.1
Ghana	B	B	Commodity play with moderate diversification, reform track-record	51	30	5.6	8.5	12.4	...	-4.2	-5.9	71.5	7.1	39.9	39.8
Mongolia	B	B	Commodity play with insufficient diversification, close China connection	13	3	7.1	5.1	4.1	8.0	-10.1	-1.9	81.9	11.5	48.8	96.0
Pakistan	B-	B	Regional links, close China connection	313	206	4.0	5.4	4.2	5.7	-4.1	-5.8	67.0	5.3	19.5	52.7
Tajikistan	NR	B-	Tight regional links (trade, political); common threats	8	9	6.9	7.1	6.7	2.1	-6.3	-3.8	52.4	23.1	31.1	27.6

Source: Fitch Comparator, IMF

Introducing Uzbekistan: What Matters and What Doesn't

There is no other country in Central Asia, or among the former Soviet bloc, where, over the last two years, reforms have taken place with such speed and breadth as in Uzbekistan. Just recently, its closed economic system displayed a rich plethora of complex peculiarities rarely found in other EMs; but now, under President Shavkat Mirziyoyev's leadership, the country has turned into a laboratory of large-scale change aimed at economic liberalisation, greater openness and increased entrepreneurship. We view the magnitude of these shifts as nothing short of breathtaking.

Managing change is always difficult – and particularly when economic distortions are ubiquitous and the strategic choice is for sweeping reforms – making the luxury of convenient 'sequencing' of actions unaffordable. The tempo of changes in Uzbekistan, resembling the initial stages of post-socialist transition in the 1990s, puts severe stress on available human resources, despite a notable return of high-profile businessmen and white-collar émigré professionals to Tashkent.

It also generates two other by-products: first, it supports continuity in management styles, and second, it dilutes the clarity of what exactly is being pursued on a tactical level. We sometimes get the impression that there are more outside policy advisors than cadres to implement the advice on the ground. A recent IMF mission statement epitomises this well, noting that, '*…one other option to further improve technical assistance coordination would be to create a public depository of existing reform roadmaps in key areas, while identifying the areas where roadmaps are incomplete or missing*'.

Such intensity, and the specificity of the starting point, ask the question of how durable the outside knowledge about the country's economy can be, especially for those who are not full-time Uzbekistan observers. In such a situation, would it be best to number crunch? Probably not: the space for quantitative analysis seems limited. There are breaks in most series, and their methodologies are being constantly amended – from fiscal to inflation to the external sector, transparency is being noticeably upgraded now. That sets a good base for the future, but equally serves as recognition that we are not there yet[1].

Do you, then, dig deep into all intricacies of how the previous economic system functioned? Equally no: this knowledge becomes obsolete quicker than you obtain it. Moreover, only rarely does it carry implications for the future. The fervour with which President Mirziyoyev is reconstituting the economic system, is telling. Having worked as Jizzak and Samarkand governor and then as the PM for thirteen years, there is nobody with a more informed judgement on the old system's efficiency or lack thereof. His speeches leave little doubt as to his overall assessment.

What does one look at, then, to understand Uzbekistan? Our approach for this initiation report is to stress the key features of domestic infrastructure, resource endowment, and geography that the reformed Uzbekistan will unavoidably have to inherit. However, before that, we start with gold production, a theme that is both quantifiable and directly consequential to Uzbek sovereign credit.

[1] As of now, we only have two data points for proper (inclusive of the Fund for Reconstruction and Development, a key extra-budgetary spending center) quarterly fiscal numbers and a sweeping tax reform, meant to reformat the tax base significantly, enacted from 1 Jan 2019. Adjustments to BoP data to make them BPM6-compliant are ongoing (for example, the initial 1Q18 current account surplus was made 5x smaller upon the first revision and then turned negative upon the second). The CPI methodology was revised from 1 January 2018 to reach (*de-facto* detrimental for interpretability of data, but needed for cross-country comparisons) uniformity with other countries in terms of weightings (from 2004, official CPI was a chain-linked series of Paasche indices with monthly weightings changes, and then in 2011 turned to the Rothwell formula – which made sense, given large seasonal swings in food prices). At the same time, 2018 was more than packed with price liberalizations, adjustments of regulated prices on bread, flour, coal, liquefied gas, fee-setting mechanism for higher education, tariff-setting mechanism for domestic railway transport, price increases for GM Uzbekistan cars, changes in tobacco excises, etc. (see here). As of 1 Jan 2019, restriction on exports of certain foods has been abolished, and eggs, meat, pork, vegetable oil, and sugar became hence tradable, also a significant structural break. (A ban on egg exports was put in place shortly after the border with Tajikistan reopened – since the shuttle traders quickly learned crossing the border make eggs twice more valuable. It is interesting – and defying the complaints of those outside observers who say the region is not showing any greater integration and bilateral trade flows – that when the border with Kazakhstan became easier to cross for Uzbek shuttle traders, an impact on certain food components of Kazakh CPI had also been noticeable).

Gold: manufacturing reserves

The most important influence on Uzbekistan sovereign credit is its gold mining capacity. As a country, Uzbekistan is the 11th largest producer globally, with 85t (2.7mnoz) output in 2017. Formally, there is no monopoly on gold mining in the country. For the development of new deposits, the authorities are trying to engage with foreign miners; these deposits, however, are much smaller than those producing currently. The latter are operated by Navoi Mining and Metallurgical Complex (NMMC, which is also the only uranium producer in the country) and Almalyk (AMMC, which also produces copper and silver).

Official data on gold production have long been non-public, although a recently-signed presidential decree requires the government to declassify it. NMMC and AMMC occupy the lion's share of output: even by conservative estimates, they together exceed 2.5mnoz. Both are owned by the government (in case of AMMC, there is a minority shareholding by individuals, a legacy of certain asset integrations), and both were included on the list of companies to be kept in full state ownership, signed by President Mirziyoyev in 2017. Yet recently, both AMMC and NMMC were mandated to start preparing for a potential sale of shares by 2023. Nothing in this decision, to us, threatens the special link that exists between NMMC and the country's sovereign credit profile. If anything, better corporate governance and greater financial transparency would be welcome.

Independent gold mining (earlier, a criminal offence punishable by three years in jail) has finally been declared an permitted economic activity – but only at small sites that will be auctioned off by the State Geological Committee with a license period of three years. There will be a requirement for them to sell their output either to NMMC or AMMC or licensed jewellers. Their licensing will be done by the CBU's Agency for Precious Metals, and all jewellery will have to carry an individual tag to identify the producer. The state, clearly, intends to keep track of the strategic resource and its utilisation.

The key asset of NMMC is Muruntau (Figures 5-6 below), one of the largest open-pit gold mines in the world. Discovered in 1958, and producing since 1961, Muruntau's cumulative ore processing exceeds 1.5bnt, and the depth of the pit is now over 570m. In recent years, Muruntau, per press reports, has been producing some 70t/a of gold. Its remaining reserves are estimated to exceed 1,750t. The government has recently approved an expansion project of USD 734mn over the next nine years aimed at increasing ore throughput to 47mnt/a.

Gold features prominently in Uzbekistan's foreign trade. During 1H18, for instance, it was the single largest item in the country's export structure (USD 1.6bn, or 30% of total). During the same period, the biggest trading partner of Uzbekistan in terms of exports was Switzerland (31%). The bridge between domestic production and export are the operations of the CBU.

The CBU has no discretion over purchases of gold: it must purchase everything the miners have to sell. It pays in UZS, creating new monetary base. What it does determine is the sales abroad: whereas gold was the number one exports item in 1H18, none was taken out of the country in 3Q18.

The CBU sells gold to convert bullion into foreign currency on accounts and cash. Both NMMC and AMMC are accredited gold bar manufacturers: their products are included in the London Bullion Market Association's (LBMA) 'Good delivery list', meaning the bars carrying their tags are approved for global OTC trading. This makes the sale a relatively straightforward exercise – unlike for those central banks where no internationally-acknowledged refinery exists at home.

The bottom line is that Uzbekistan is a borrower able to manufacture FX reserves domestically. At current market valuations as of now, even a 2mnoz output estimate would be the equivalent of USD 2.5bn a year.

Box 1. Gold and the Quasi-Golden-Currency Board

To have a rule-based approach to its monetary policy, the CBU aims to follow what it calls 'the neutrality principle'. It tries to sterilise the new UZS monetary base generated via domestic gold purchases with a comparable sale of FX on the market. The rationale here is that autonomously-driven liquidity changes should not have an impact on monetary aggregates. The weak link in this logic is the same as in all monetary targeting regimes: there is no automatism in the offsetting sale, and being the largest supplier in the FX market, the CBU's views on the 'fair' rate of course matter. In this sense, the CBU's monetary regime, assuming no deviation from the 'neutrality principle', is akin to a gold-based currency board, but without a fixed exchange rate.

Other autonomous liquidity factors include supply/demand fluctuations on the FX market, such as seasonal fluctuations in remittances. They increase in Q2-Q3, and the market depth does not allow it to be converted at the 'reasonable' rate without CBU involvement (hence a strengthening of the USDUZS in summer 2018). Still others are the quasi-fiscal lending operations - e.g. when the Fund for Reconstruction and Development (FRD; see below) originates loans in FX, if a noticeable share of these are converted into UZS, either the local liquidity, or the FX rate, or both, might be affected. Hence both remittances and the FRD might incentivise the departure from the 'neutrality principle'.

If the FRD originates a loan that, for instance, fully goes to finance investment imports (a good example would be the recent Cabinet sign-off for a USD 288mn FRD loan for the above-mentioned Muruntau expansion), that would lead to the CBU's balance sheet contracting without affecting the UZS monetary base and liquidity. Pressure on the CBU to have more gold could then intensify: we believe that it would be reasonable to expect that reserves declining for reasons that are (or must have been) foreseeable would not be a workable excuse.

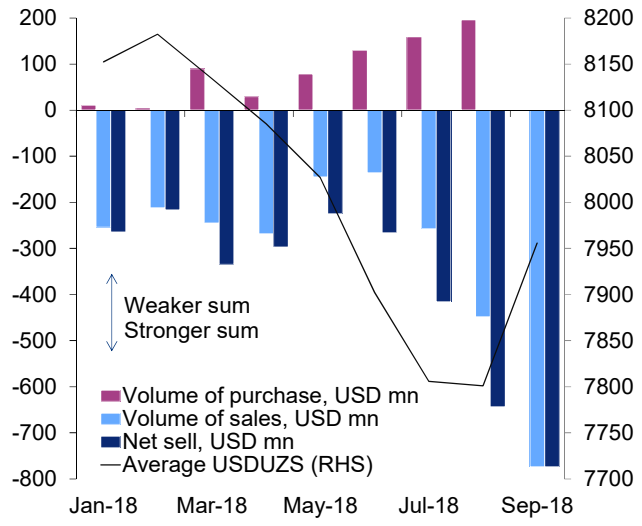
The data on interventions is disclosed with delay and on a monthly basis only. The CBU said in its 1H18 Monetary Policy Overview though that it sold USD 600mn in 1Q18 and USD 300mn in 2Q18; USD 0.9bn all in all. The FRD seems to have originated close to USD 800mn of 'deposit-at-CBU-reducing' loans. During the same six months; the export of gold reached USD 1.6bn. Roughly, the numbers seem to match.

Figure 3: Gold output, metric tonnes

	2013	2014	2015	2016	2017
China	432.2	478.2	454.1	453.5	426.1
Australia	267.1	274.0	279.2	290.2	295.0
Russia	232.7	247.5	249.5	253.6	270.7
United States	229.6	208.7	216.2	222.0	230.0
Canada	133.6	152.5	162.5	165.0	175.6
Peru	187.7	173.0	177.9	168.5	162.3
Indonesia	152.7	158.4	176.3	174.9	154.3
South Africa	168.9	159.2	151.0	145.7	139.9
Mexico	119.8	118.1	141.3	133.3	126.8
Ghana	107.4	107.4	95.1	94.1	101.7
Uzbekistan	77.4	81.0	83.2	82.9	84.9
Brazil	80.1	83.0	81.8	84.0	79.9
Papua New Guinea	62.4	56.3	57.2	62.8	62.5
Argentina	50.1	59.7	63.8	57.9	61.0
DRC	25.3	40.0	45.7	60.4	60.1
Kazakhstan	42.6	46.1	48.2	49.8	55.1

Source: Thompson Reuters

Figure 4: CBU interventions and the FX rate



Only exchange-based operations are shown. Source: CBU

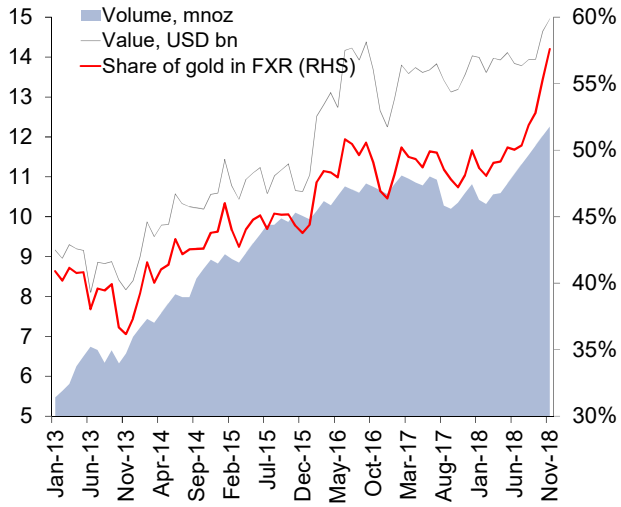
Figure 5: NMMC's key Muruntau gold open pit (click here for a Google map link)

Source: Mining Journal N9 (2018)

Figure 6: NMMC's Hydrometallurgical Plant N2 (the largest refining and bar production facility)

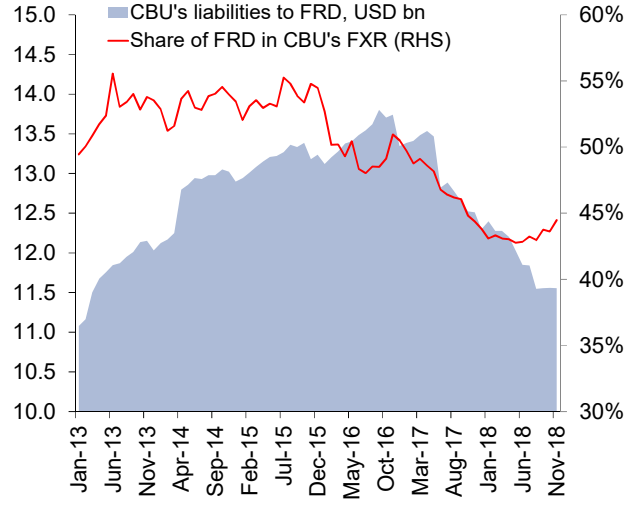
Source: Mining Journal N9 (2018)

Figure 7: CBU's gold reserves, value and volume



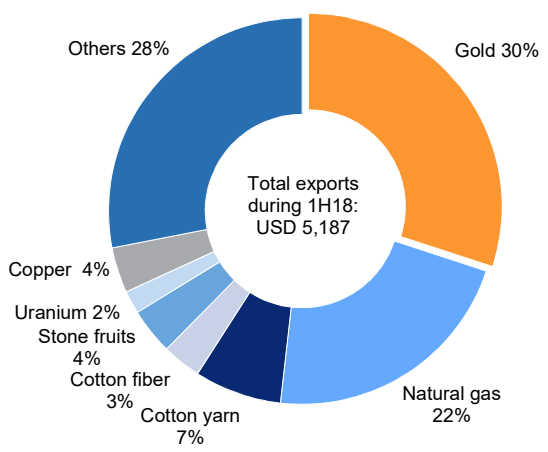
Source: Company data

Figure 8: CBU's net liabilities to FRD



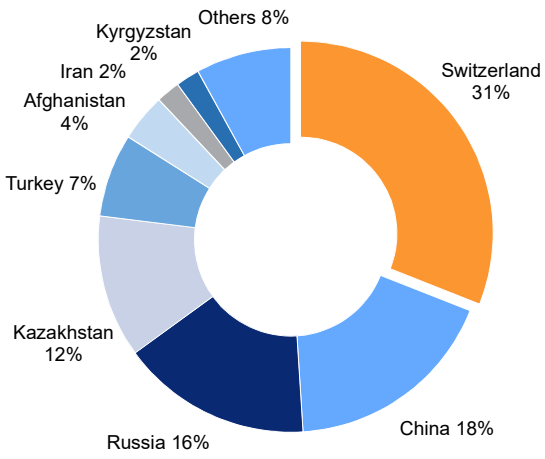
Source: Company data

Figure 9: Goods exports in 1H18 by commodity



Source: Customs, CBU

Figure 10: Goods exports in 1H18 by destination



Source: Customs, CBU

Fiscal, Quasi-fiscal and the Banks

The best approach, in our view, for the examination of Uzbekistan's peculiarities is through the investment programme, with sources of financing as approved yearly by Presidential decrees (Figure 11). 'Centralised' investment in this programme have in recent years been roughly constant in real terms (as a share of nominal GDP), at 5-6%, and together with the 'corporate sector' and 'banks' (which are also predominantly state-controlled), this produces a 15-16% share of GDP. Direct budget expenditures, narrowly defined, are thus 10x smaller than the headline number (first row, Figure 11) would suggest.

Figure 11: Programme capital spending by financing source, UZS bn

	2012	2013	2014	2015	2016	2017	2018	2019
'Centralized' investments								
Budget	1,059	1,300	1,500	1,800	2,100	2,450	3,048	3,960
FRD	1,432	1,633	1,982	2,002	2,360	2,813	7,552	7,702
Other extra-budgetary funds	1,547	2,008	2,258	2,723	3,254	3,852	4,877	7,700
FDI under state guarantee	1,702	1,751	2,808	2,466	3,862	6,592	18,378	22,278
'Non-centralized' investments								
Corporate sector	6,836	8,151	8,557	11,818	14,240	16,982	n/a	18,222
Banks	3,525	3,236	4,007	5,346	5,870	7,487	n/a	17,193
FDI	4,341	4,563	6,173	6,564	7,799	9,424	n/a	34,213
Population savings	3,238	4,482	5,720	7,886	10,454	11,803	n/a	983
Total	**23,680**	**27,123**	**33,005**	**40,606**	**49,939**	**61,403**	**n/a**	**112,251**

Source: respective annual laws

In this sense, Uzbekistan is similar to other post-socialist countries that preserved the leading role of the state in directing growth – most notably Belarus, where the headline budget plan or execution numbers neither properly show a 'true' fiscal stance nor help predict any potential distress. In this particular case, other channels in operation include: i) extra-budgetary expenses from funds not counted as part of the budget, most importantly the FRD; ii) back-to-back deposit-lending schemes run through the funds, again predominantly FRD, and the banking system; iii) 'excess profits'-related rules; iv) energy subsidies; and v) and tax exemptions (unearned budgetary revenues).

On this list, channels i) – iii) are essentially different faces of the same mechanism; see Box 2 below for a description of how the FRD functions. Closely related is the 'excess profits' redistribution mechanism. This, essentially, is a mechanism whereby the state captures all 'windfall' gains on selected resources. As we show on Figure 15, a convenient way of thinking about this mechanism is as follows.

- If export selling prices turn out to be below the 'estimated price' for a given commodity, then a regular taxation system is in place: a mineral extraction tax MET (goes to the budget, not FRD) and a profit tax (no VAT on exports). The 'estimated price' is discretionarily set in budget law separately for every commodity on the 'strategic list' for any year.
- If the price exceeds the 'estimated level', an 'excess profit' appears. This is taxed via the 'excess profit tax' and goes to the budget (not FRD). The after-tax excess profit must be deposited in a separate banking account and can only be used with the authorisation of the authorities, and chiefly for funding future capex. There are no publicly available statistics on the balances held in those accounts; however, it is our understanding that they are to a significant degree behind the corresponding line in Figure 11.
- All revenues above 'cut-off' price levels – which are listed in a classified Presidential decision and have never been made public – must be transferred to the FRD. These transfers are shown in the table above as 'rental payments' for mineral rights to FRD. It is in this sense that, after the 'cut-off price level', the Uzbek mineral resource tax system becomes infinitely elastic – all upside goes to the government, not (however progressive) part of it.

Box 2. The Fund for Reconstruction and Development

Uzbekistan's Fund for Reconstruction and Development (FRD), a separate legal entity and fiscal unit in existence since 2006, effectively has a triple mandate: a development bank, a sovereign wealth fund, and a bank recapitalisation agent. The government made a decision made in 2017 that state funding for investment programmes would be transferred to a new entity, the State Programmes Financing Fund. We understand the transfer has not yet happened, and that for 2019, the old rulebook still applies.

FRD's key revenue source is a share of mineral revenues that the state (understood broadly) collects, including profit and foreign trade taxes, the government's share in PSA revenues, and receipts from mineral exports directly transferred by exporters to the budget. Unlike in most other resource-rich countries, the FRD is not only limited to accumulating hydrocarbon (read natural gas) 'rents', but also receives from other commodities to which the 'excess profit tax' applies (natural gas, refined copper, granulated polyethylene, cement and clinker).

Every year a Presidential decree sets 'cut-off prices' that act as thresholds for determining the distribution of revenues between the budget and FRD. These prices have never been made public. We understand that in recent years they have been chosen to 'reverse engineer' the FRD's revenue stream to match its expected commitments. An old IMF report makes it clear that the budget was gradually and predictably losing these, whereas the FRD absorbed all volatility in mineral revenues (Figures 13-14).

The FRD assets are neither meant for financing the budget deficit nor funding budget expenditures – in contrast to the situations in Kazakhstan, Azerbaijan or Russia. Yet because of the discretion over how much revenues are allocated to the FRD vs. the state budget, this statement makes no sense. It is not even about the presence or absence of a fiscal rule; it is about flexibility or reallocating revenues to various levels of the broader government. The deficits at the state budget level can be controlled by the interplay of the 'estimated' prices and 'cut-off' prices for any given year (again, see Figure 15 for a graphic explanation).

When a decision is made for the FRD to co-finance a project, it can take the form of either a grant (reflected as expenditures, and hence reducing the asset size, in the GFS reporting; see next page) or as financial investment (loans or equity participation)*. When a loan is chosen as the form of FRD participation, more often than not, the banking system is involved as a 'refinancing' layer (see below).

In 2017, FX-related credit risk materialised for many borrowers, negatively affecting the asset quality of the banking sector, which thus required recapitalisation. The FRD acted as a direct capital contributor to the banks, injecting some USD 0.5bn into their capital in 2017.

Finally, on the technical side, FRD revenues come directly to it, without first being recorded in the budget**. Receipts in UZS are converted by the CBU online***. Before utilisation, FRD's assets must be kept in FX at the CBU, so the CBU's balance sheet includes FRD assets insofar as they remain liquid****.

———

* See the structure of the FRD's investments in the Base Prospectus, page 146.

** This accounting practice is in line with the approaches in Kazakhstan (where only customs duty goes straight to the budget, while other hydrocarbon revenues, including key flows from the 'large [big] three' working on their own fiscal terms, go to the National Fund) and Azerbaijan (where the government's share in ACG/SD revenues is transferred by SOCAR as an agent directly to SOFAZ). It is contrary to the Russian approach (where oil & gas revenues, be they 'regular' or 'excess', initially flow via the budget revenue line).

*** Similarly to Kazakhstan, where the NBK is supposed convert on a daily basis, but unlike the 'old' system in Russia (where the accumulation of 'excess' revenues was initially in RUB and only converted into FX to transfer to the Reserve Fund at discretionary moments). In Azerbaijan, 'core' SOFAZ revenues all come in USD, so conversion is not an issue.

Reporting of other expenditures (line 28 in GFSM) is not transparent. It might include, for example,. unearned tax revenues (because of exemptions) and other forms of spending on the economy not classified as subsidies

FRD (key extra-budgetary fund) collects about a quarter of what the state budget does

Figure 12: 1H18 consolidated fiscal accounts (GFSM-2014, without public companies), UZSbn

	State budget	Extra budgetary funds	Central government	Social security funds	Regional governments	General government
Total revenue	22,688	5,770	27,841	11,315	15,560	49,629
Taxes	21,458	2,156	23,614	2,439	9,324	35,377
Personal income tax	1,062	0	1,062	0	2,368	3,430
Corporate profit tax	2,351	1,717	4,067	2,439	2,070	8,576
VAT, sales, other on goods	16,997	0	16,997	0	3,008	20,005
Foreign trade-based	1,048	440	1,488	0	0	1,488
Social contributions	0	0	0	8,871	0	8,871
Rental payments (mineral rights)	268	2,024	2,293	0	0	2,293
Total expenses	19,670	922	19,975	9,700	13,992	38,581
Wages and salaries	2,390	45	2,435	3	8,379	10,817
Goods and services	1,975	575	2,550	10	1,359	3,919
Social benefits	756	0	756	9,607	936	11,300
Interest payments	127	0	127	0	0	138
All other expenses	14,422	302	14,107	80	3,318	12,407
Operating balance	3,018	4,848	7,866	1,615	1,568	11,048
Investments into fixed assets	822	1,528	2,350	19	1,456	3,825
Issuance of loans	1,382	4,911	6,292	0	0	6,292
Investments into equity	0	1,635	1,635	0	0	1,635
Δ currency and deposits	111	-3,085	-2,975	1,596	34	-1,345

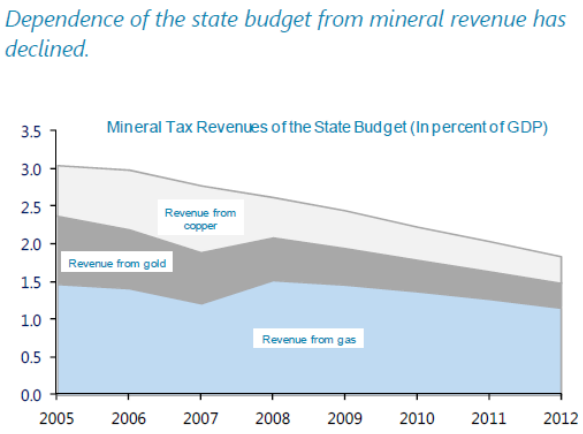
Consolidation columns not shown. Only select rows (do not have to sum up to respective headlines). Source: MinFi

FRD outlays in all forms, when the spending needs are high, like in 2017-2018, are, for example, triple the wage bill of state employees

Direct transfers of the windfall part of company revenues (not excess profit tax) is included here

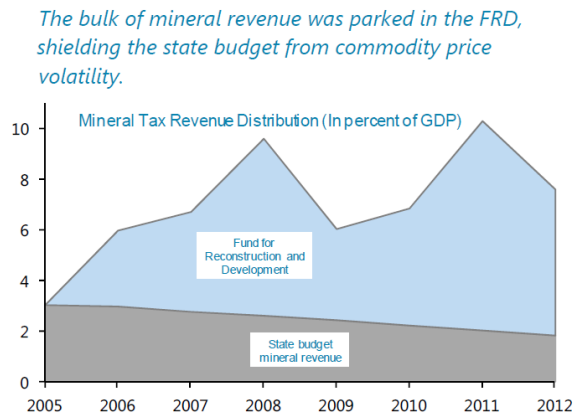
When it taps into existing assets to fund outlays greater than receipts, it generates liquidity by transferring cash from the CBU to banks – mostly in FX

Figure 13: Mineral revenues to the budget, % GDP



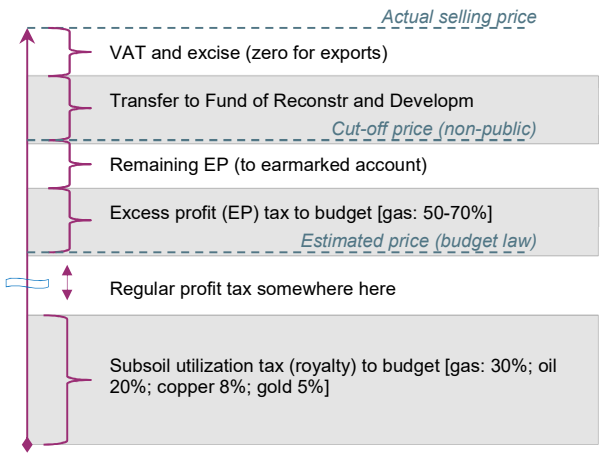
Source: IMF

Figure 14: Mineral revenues to 'wider' state, % GDP



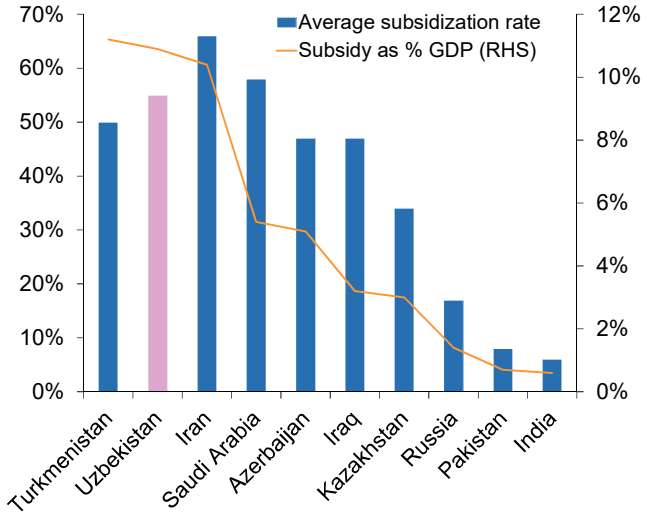
Wider state = inclusive of both the budget and FRD. Source: IMF

Figure 15: 'Excess' and 'Excess-Excess' profits



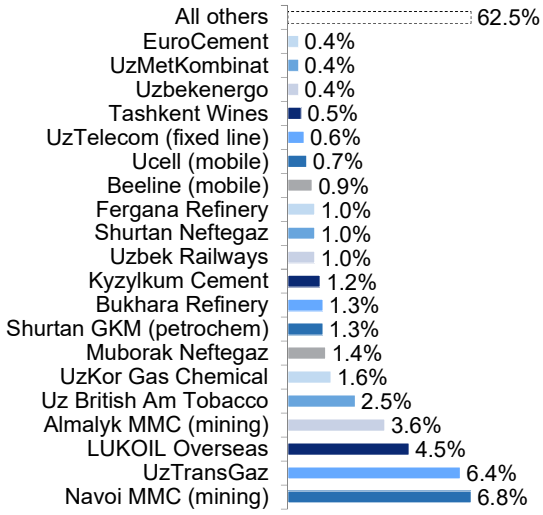
Source:

Figure 16: Energy subsidies, % GDP



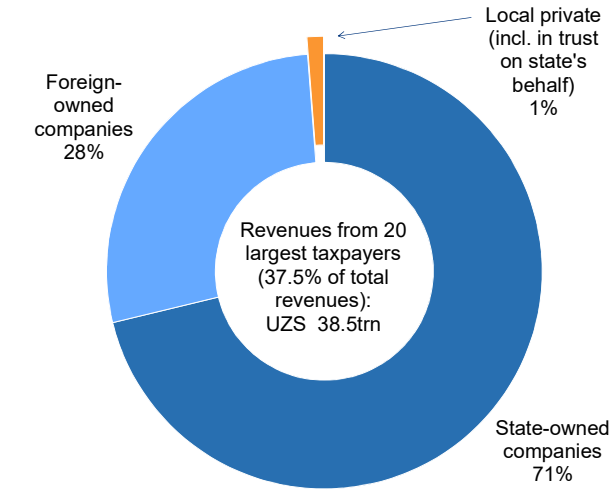
Source: International Energy Agency 2018 Subsidies Analysis

Figure 17: State budget revenues by company-payer



Source: 'Budget for citizens 2019'

Figure 18: Largest corporate taxpayers by ownership



Source: 'Budget for citizens 2019'

Energy subsidies – structured simply as cheap domestic supply – are a standard mechanism found in many EMs. What sets Uzbekistan apart is their magnitude (Figure 16) and the scope of their relevance (see the below section on cotton, in which sector the state covers all electricity costs for pumping irrigation water).

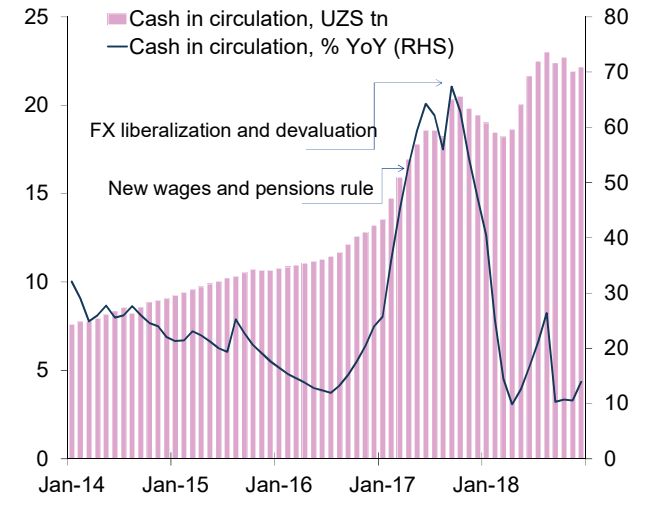
Tax exemptions are also widely used in Uzbekistan: as abovementioned, it was previously the case that inclusion into the localisation programme meant that the entity was exempted from import custom duties on the imported machinery and oftentimes VAT and/or profit tax and/or property taxes. Unfortunately, even cataloguing them – let alone estimating unearned tax revenues because of them (the so-called 'tax expenditures') – is a task that most EM governments approach last because of more pressing issues elsewhere.

Finally, there is a simple 'control via ownership' channel. That the state directly owns most of the economy can easily be seen through, for instance, a breakdown of budget revenues from corporate taxpayers expected for 2019 (which we do, based on MinFin disclosure, in Figure 17-18). SOEs generate over 70% of budget revenues from the twenty largest corporate taxpayers.

Moving from the fiscal sphere, there have been a variety of monetary fiscal channels of influence. The most obvious are the multiplicity of exchange rates[2] and the direct allocation of hard currency to those deemed 'worthy' (under the auspices of the Republican Monetary Commission, an organ more powerful than the CBU, in our view).

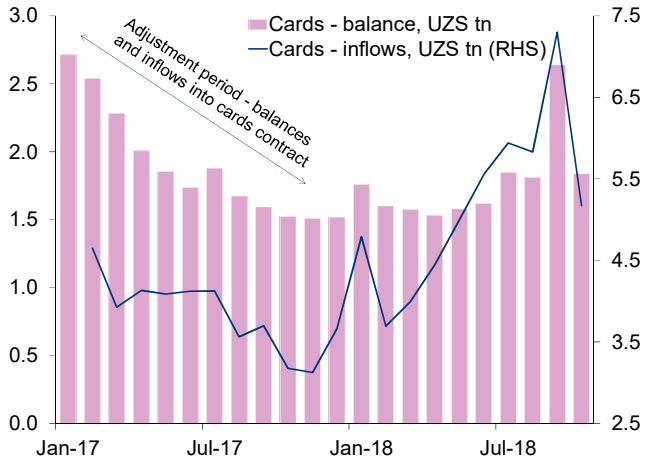
Well understood by anyone who lived in Uzbekistan before the reforms started was the *de facto* multiplicity of domestic money. Formally all 'soums' (non-cash and cash) were convertible into one another, but in practice there were severe obstacles to do this even for the general population, let alone companies. One of the first liberal decisions – before the much-praised FX liberalisation – was to require all salaries and pensions to public employees to be paid in cash rather than to bank accounts. The economy's reaction to this (Figures 19-20) shows the constraint was binding, and hence distorting. 'The fear of the cash soum' is one of the legacies of which there are still traces – for example, in the low denomination of the largest banknote in circulation – which is UZS 50,000 (USD 6 equivalent).

Figure 19: Cash in circulation, UZS bn



Source: CBU,

Figure 20: Personal plastic cards



Source: CBU,

[2] There was an interesting standoff between Uzbekistan and the IMF, triggered by the re-introduction of multiple exchange rates and FX rationing in 1996. The programme in place then went off track as a result, giving rise to an unusual amount of ideological wrangling and writing over the next five, culminating in the decision not to have a resident representative after Christoph Rosenberg's term expired. For a colourful exposition of this, see Broome (2010). A number of excellent papers were produced during this period, dealing with the distortions from multiple exchange rates. See, among others, contributions by *Rosenberg and de Zeeuw (2001)* or *Gemayel and Grigorian (2005)*.

Figure 21: Largest Uzbekistan banks' key numbers, UZS tn

	Sector focus	% sector assets	Assets	Loans	Equity	Deposits
NBU	Gas/ transport	27.0%	56.1	45.0	5.7	12.8
UPSB	Energy	14.1%	29.3	26.5	2.6	4.5
Asaka	Auto/textile	14.0%	29.0	23.7	3.1	6.6
Ipoteka	Mortgage	9.1%	18.8	16.7	1.6	6.5
Agrobank	Agriculture	4.6%	9.5	8.0	2.2	2.4
Qishloq Qurilish	Mortgage	4.5%	9.2	8.2	1.2	2.7
Xalq	Pension savings	4.2%	8.8	4.4	1.7	4.5

Source: Company data

Unlike in other countries in the region, where growth took (or is taking) place without the material involvement of banks, the banking system in Uzbekistan is an integral part of the economic model (see this overview by Fitch, published last September, for a helpful and detailed introduction to the sector). We view the system as follows (Figures 22-27):

- Predominantly state-owned, especially after the two recapitalisation rounds of 2017 (when UZS 1.2tn of budget funds, and USD 500mn from the FRD, was used for this purpose), the by-product of which has been that the state-owned banks have taken an even greater share of the system's assets.
- Predominantly state-funded, with the key element being funding from the FRD (which is not included in deposits in the published banking data). The FRD's placements to banks are 4x larger than all retail funding. They also help rebalance the currency mismatches the system generates in its 'core' business away from FRD[3].
- Mostly dealing with state companies on the asset side. Moody's reports that the NBU's ten largest borrowers account for 67% of its gross loans; Fitch speaks of the banks UPSB and Asaka, where 25 largest borrowers total 87% and 65% of gross loans, respectively.

The CBU estimates that some 60% of new loans in 1H18 were provided at non-market terms. Lending in UZS could not have grown at 70% in nominal terms (or over 50% in real terms) if this was otherwise. The soum interest rate subsidisation is a large-scale phenomenon: the range of average market to non-market lending rates was reported by the CBU in November 2018 to be from 6.7% to 21.7%. Also, unlike the systems in which interest rate subsidies are explicitly borne by the budget and can be clearly singled out among expenditures, Uzbekistan is not there yet. The subsidy is predominantly transferred to a bank by providing below-market-rate back-to-back deposits from the FRD and 'a margin' on top[4] for participating banks.

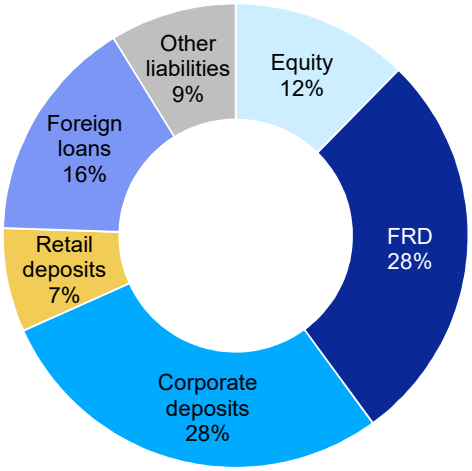
We also highlight that whereas populations in the region are typically net savers vis-à-vis banks, Uzbekistan is an outlier, as people borrow significantly more from banks than they keep with them (Figure 26; the numbers include term deposits and current accounts alike). This reflects i) still-low rates that do not incentivise savings enough, ii) incomplete FX market liberalisation, so that people have doubts about how freely one can withdraw FX cash from banks; and iii) the availability of alternative 'network' instruments of saving.

The role of informal networks is notoriously difficult to quantify. Tajikistan, a good peer in terms of similar networks, shows a similarly low retail deposit base in banks. Yet its banking system's credibility with domestic savers is questionable: there were protracted periods in recent years when it had to freeze personal deposits. Qualitatively, we discuss informal financial networks in Box 3.

[3] As of 1 October 2018, FX loan book amounts to USD 10.3bn, of which only one-third is covered by FX customer funding base (USD 3.4bn). FRD's placements (which do not count as customer deposits in the banking statistics) hence help fulfil the reverse function to the one that had been implemented elsewhere in the region before de-dollarization efforts (both in Kazakhstan and Belarus, for example, the regulator's problem has been how to take dollars that the banks generate on the liability side – which in turn stems from customers' preference for FX savings *and* willingness to accept the banking system's risk – and turn them into local currency to allow for local-currency-based lending).

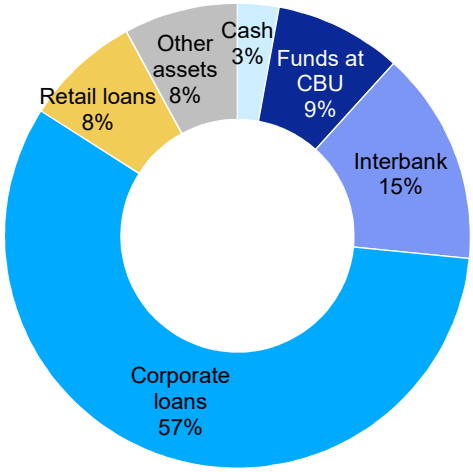
[4] This simultaneously (i) creates long-term funding base; (ii) alleviates RWA pressure on regulatory capital; (iii) supports NIMs and capital adequacy; and (iv) makes FRD the ultimate credit risk-taker. The size of the 'margin' for leasing out the banks' balance sheets to the state and servicing the loan has narrowed in recent years – from 1% in 2012-13 to 0.5% in 2014-15 and now down to merely 25bp.

Figure 22: Banking system's funding structure



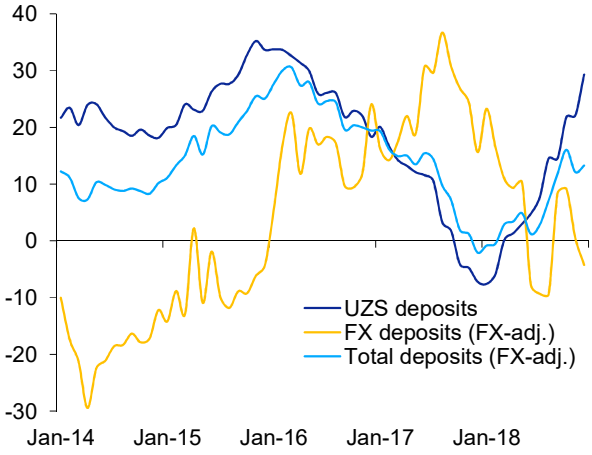
Source: CBU

Figure 23: Banking system's asset structure



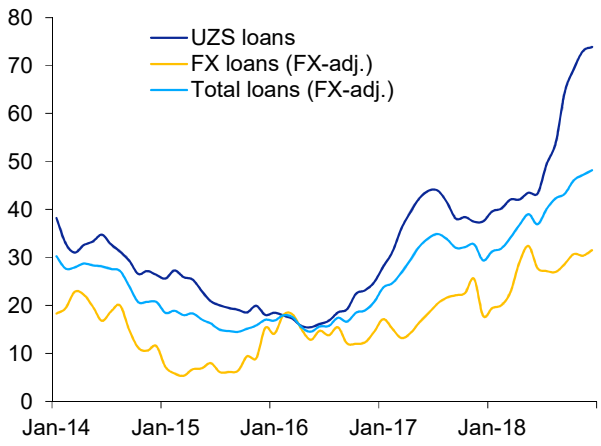
Source: CBU

Figure 24: Deposit growth, % YoY



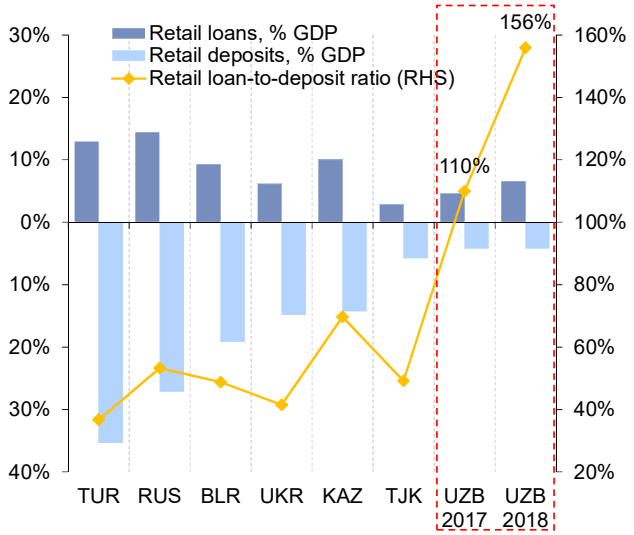
Note: FRD placements are not included. Source: CBU

Figure 25: Loan growth, % YoY



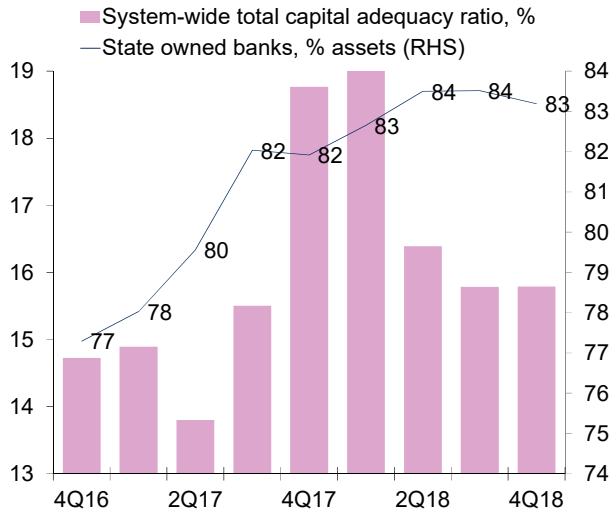
Source: CBU

Figure 26: Loan-to-deposit ratios in retail business



Source: national banks

Figure 27: Recap triggers higher role for state banks



Source: CBU

Box 3. Alternative financial networks for managing household wealth: the phenomenon of Gap

Of all Central Asian countries, Uzbekistan seems to show the strongest reliance upon the Gap, the traditional informal network institutions that resemble and extend the functions of savings-and-loans cooperatives found in many other countries.

They manifest themselves in various guises (for example via 'socialising' meetings with shared meals), be either life-cycle-driven (birth, circumcision, wedding, death) or just with hosts alternating one after another, embracing a number of people grouped along various criteria (kinship, neighbourhood, belonging to the same Sufi Muslim order), held in different locations (private homes, district teahouses, or modern restaurants).

The direction of flow of the economic benefits can be different and complex. For example, the tradition of offering significant gifts, well above 'token value', both in money and in kind, when you are invited as a guest and hence hosts expect these inflows to partially offset the cost of preparing the event.

From an economic perspective, individuals, through this channel, carry their wealth over time and across states of nature (i.e. also acting as insurance policy) by investing in relationship capital: the individual motivation in the simplest case roughly resembling, 'I have to host a lavish feast this month for my neighbours, because they will invite me to similar events during the next eleven months of the year'. Similarly, 'I must give a monetary gift today, but will receive similar-sized gifts for the remainder of the year'.

For such institutions to work the following must be in place. (i) The sense of collective identity must be strong (which is the case in towns as well as in rural regions, as underscored by the importance of mahalla). (ii) The households of participating members must be growing size-wise (which is still a reasonable assumption for many social groups, especially in rural societies). (iii) The transaction costs of interacting with formal savings institutions must be high (which holds true). (iv) Uncertainty over whether your bank deposit rates cover inflation must be significant (and perceived inflation is reported, as one should expect, well above the CPI, which is unsurprising given the magnitude of FX-related shock and the width of price liberalisations in 2017-2018).

On the final point, researchers suggest simple indexation mechanisms to track real value, such as when the contributions of members in 'savings' mode (and liabilities of the 'borrowing'-phase members) are be indexed against the price of meat on the local market. Both saving and borrowing in such systems are zero-interest rate (in real, say meat-price-adjusted, terms).

Also interesting is that in some sense the Uzbek banking system complements the existing traditional system. Where a celebration cannot be funded by a person because either he is not a member of any such circle, or has exhausted his informal 'borrowing limit', banks offer loans to pay (usually advertised under the heading of, and reported in statistics as falling under 'consumer finance' products).

The sociological and anthropological literature on this topic is rich. See *Kandiyoti* (1998) or *Hiwatai* (2008), or a recent overview in *Alexandrov* (2017); *Abashin* (1999) is a delightful and classic read for Russian speakers.

Demographics and the Source of Underemployment

Of all Central Asian countries, Uzbekistan is the most populous. Its population, approaching 33mn, is 70% larger than Kazakhstan and more than three times bigger than Tajikistan. From the economic policy point of view, the three important features of its demography are i) the population's swift expansion over previous decades (despite the rapid slowdown as of late); ii) its young average age; and iii) its equal urban-rural split.

With total fertility rates starting at high levels of above six children per woman in the 1960s, and against the background of improving child mortality, Uzbekistan's population has grown rapidly. After WWII, it barely exceeded 5mn; it then doubled over the next 20 years, reaching 21mn by the time of the USSR's disintegration. It crossed the 30mn mark in 2013.

In the last several years, fertility rates have compressed, and now stand at 2.4-2.5 per woman, which is low (2015 population growth: 1.8%; 2016: 1.7%, 2017: 1.6%). Reproductive patterns might change as migration also means relocation of 'reproductive geography'; mortality is also gradually picking up, making the total annual increase in population smaller. Nevertheless, the problem of aging is still decades away for Uzbekistan. Taking 2015 as the base year, the 15-64 age group (a rough proxy to the potential labour force) would grow by 8% in five years and by 16% in 10 years; this is somewhat better than in Turkey and Brazil and clearly superior to ageing countries such as Russia or Ukraine (-3% and -5%, respectively, for both). Old-age dependency ratios is thus unlikely to become a real challenge any time soon.

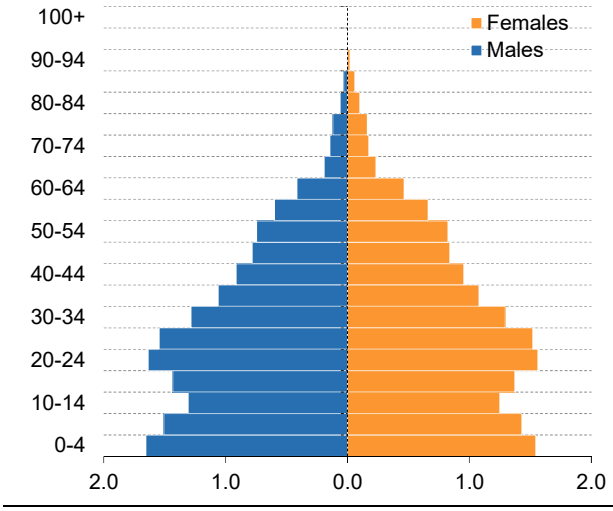
Uzbekistan's median population age is 26 years – between its southern neighbour Tajikistan (22 years) and Turkey (30), but more than ten years younger than Russia (39) or Ukraine (40). It is older though than both Pakistan (23) and particularly Afghanistan (17). In not-so-distant memory, there was a time when Uzbekistan was younger (in the 1970s: between 17 and 18 years); now it is overall as young as after WWII.

The split between urban and rural is open to the vagaries of administrative classifications, and the current 'official' is 50-50; however, was strongly affected by the 2009 administrative reform, when over 960 rural settlements were reclassified to townships. Immediately before this change, urbanisation was merely 36%, and, importantly, the population in those areas that were clearly rural has always been growing more rapidly (and, unlike cities, it did not experience the negative effect of the outflow of Russian-speakers after 1991).

Also, the distinction is sometimes more imagined than real. For instance, in the Fergana Valley, one of the most densely populated areas not only in Central Asia but globally (680 inhabitants per square kilometre in the Andijan region, for example), the boundaries between towns and rural areas are more often than not meaningless, as 'towns' overflow into adjacent 'villages' smoothly and naturally. In short, it would be safe to assume that agriculture remains a key source of living for well above half of population.

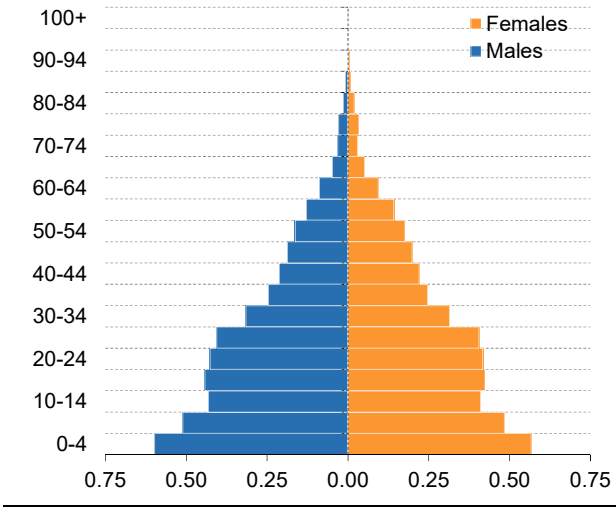
This gives rise to an old problem familiar to most EMs: how to employ people. Simply put, there is always a large cohort of youngsters in waiting to enter the labour force. Under less pluralistic regimes, decision-makers are naturally incentivised to favour activities (industries) that are not necessarily efficient, but can generate large scale employment (even if with the collateral damage significant under-employment). One such safety valve in the past has been cotton, on which reliance has been massive in Soviet times – absorbing at harvesting peaks, 40% of the economically active population. A better alternative in use now is external migration, directly giving work and means of living to half that number – albeit including families more than cotton.

Figure 28: Uzbekistan population by age groups, mn



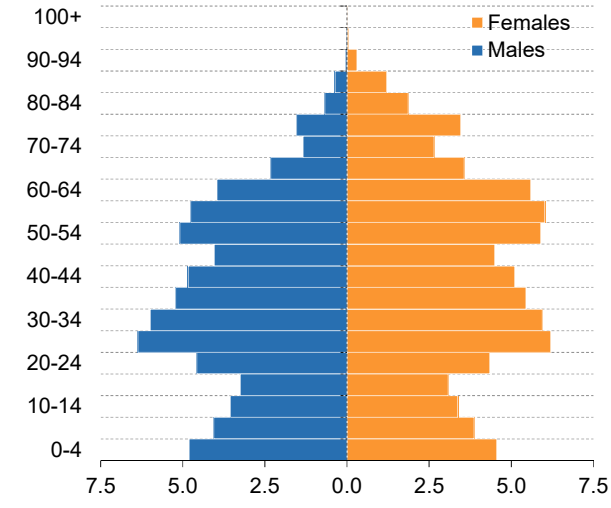
Based on 2015 population estimates. Source: UN

Figure 29: Tajikistan population by age groups, mn



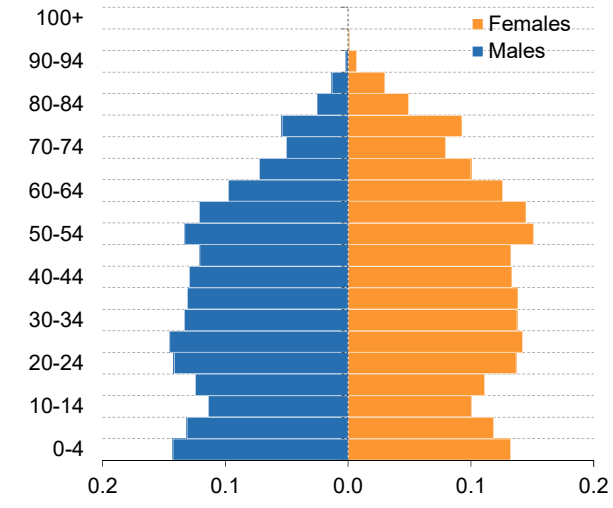
Based on 2015 population estimates. Source: UN

Figure 30: Russia population by age groups, mn



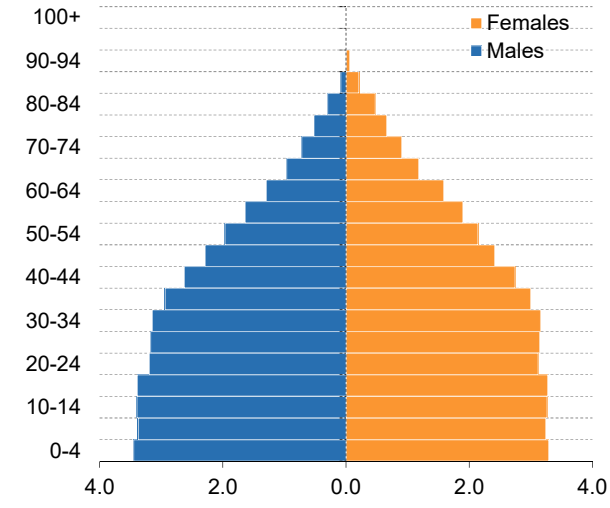
Based on 2015 population estimates. Source: UN

Figure 31: Georgia population by age groups, mn



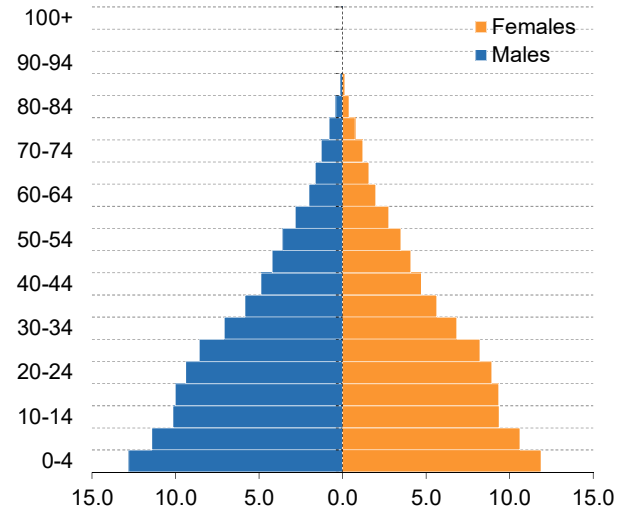
Based on 2015 population estimates. Source: UN

Figure 32: Turkey population by age groups, mn



Based on 2015 population estimates. Source: UN

Figure 33: Pakistan population by age groups, mn



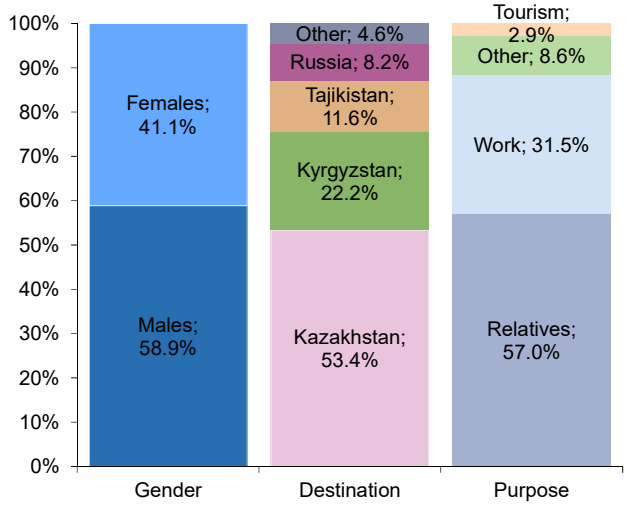
Based on 2015 population estimates. Source: UN

Current Safety Valve: Migration

There are no reliable data from either the home country or the host country sides as to how many people with Uzbek passports are abroad at any given time. Within the former USSR, travel is generally visa-free, and the degree to which residence (leave alone employment) in a host country is reported (let alone complies with regulations) varies widely. As a common Soviet legacy, reconciling stocks and flows in this respect is a difficult task. The border control authorities record and break down entries and exits by the nationals of specific countries – but fail to identify the degree to which these represent movements by different individuals vs. repeated moves back and forth by the same people.

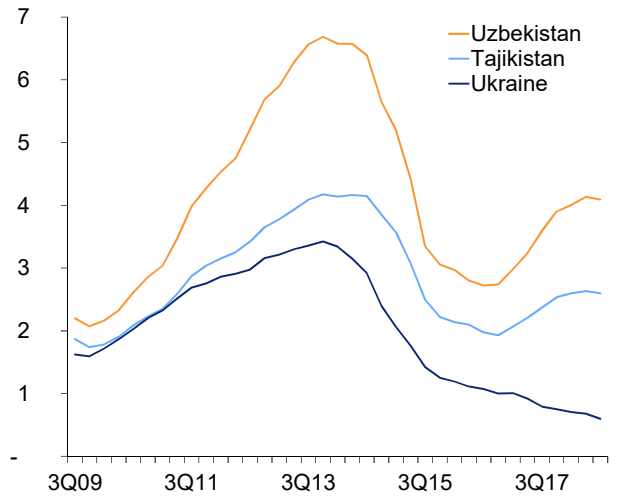
- Stock-wise, most recent Uzbek estimates point toward 2.6mn people working abroad. Flow-wise, 9m18 data show that total outgoing border crossings by Uzbek nationals were 10.8mn, more than double that for the same period a year earlier (Figure 34 shows some descriptive data; note that 'the shuttle trade' is missing as an aim of travel from border control forms, so this must be channelling toward 'visiting relatives', in all likelihood, as least risky to report and generic category).
- From Russian flow data, there were 15.7mn temporary residence registration forms submitted during 2017, of which 4.1mn were Uzbeks, and of which 1.8mn specified work as the purpose of visit. The Russian Ministry of Internal Affairs (MIA) estimates the stock of Uzbek workers in the country at close to 1mn.
- Flow data from Kazakhstan is compatible with the Uzbek numbers. They picture a stock of some 1mn of Uzbek passport holders being in Kazakhstan on average. With a shorter duration of stay and hence a higher frequency of border crossing, this does not contradict Russian data. Remember Shimkent is just a two hour drive from Tashkent, while even the closest Russian city is a two hour flight.

Figure 34: Outgoing border crossings by Uzbek passport holders, 9mo2018



Source: UzStat

Figure 35: Personal remittances from Russia, USD bn, 12months trailing



Source: CBR

In terms of how money moves, Russian data captures outgoing personal transfers to Uzbekistan as one of the biggest destination countries (second only to Switzerland). As of the most recent reporting period, the figure was approximately USD 4bn per year. At the same time, the Kazakhstan NBK data only show some USD 160mn of annual personal transfers to Uzbekistan, clearly indicating the dominance of other – less recordable – means of transferring money, such as cash-in-the-pocket (just the way a traditional shuttle trader is expected to behave).

Previous Safety Valve: Cotton

The story of Uzbek cotton growing is nothing but dramatic. It is also clearly inferior, as an absorber of excess labour and in dealing with un(der)employment, than migration. The best exposition of the industry's story in detail and from a long-term perspective is *Obertreis* (2017); an early, but precise and quantitative assessment of its economic wastefulness is *Rastyannikov* (1996); a recent documentation of its half-reformed status is World Bank (2016).

The story of cotton demonstrates how its overstretched raw agricultural product specialisation was superimposed on Uzbekistan by the central-plan-established needs of the larger USSR economy, and how it had to develop (out of all proportion) into a dominant monoculture at the expense of foodstuffs, chiefly grains. Its low efficiency and a never-ending drive to extensively raise output turned it into a monstrous labour engagement mechanism throughout the 1960-1980s. At annual peaks of harvesting, cotton used in excess of 3.5mn people, of which roughly 1.5mnt were part-time and mostly unpaid workers brought to the fields either from families with individuals who were members of a kolkhoz, or from towns. Abolishing child labour at cotton harvesting season has only recently been achieved.

We believe that the salient points about the history of Uzbekistan's cotton industry are as follows:

- In the Soviet years, cotton was exclusively a 'command item', with the state being the only off-taker for the product. For all other agriculture outputs – barring kenaf, for apparent reasons – a free market was allowed, where kolkhozes were selling above state procurement targets. Even when the plan for cotton was surpassed, the state took it all. This shows the special status the commodity enjoyed in the minds of the planners, which in turn goes back to the years when, before big oil, cotton was one of the USSR's 'FX earners'.
- For several decades, cotton was allocated 47-49% of arable areas in Uzbekistan (Figure 36), which – for a technical culture that requires significant crop rotation (lucerne/alfalfa was, and largely remains, the alternative of choice) – is beyond compare in any economy where costs of land and labour are market-driven. Agronomists agreed throughout the Soviet period that such an extensive planting did not provide enough recovery for the types of land, climate, water, and exact cotton species that Uzbekistan featured. Yields would have been higher if cotton planting was less extensive – yet despite much talk of yields, the hard plan cared about absolute volumes alone.
- Because of perennial lack of proper incentives for cotton growers (a term which gives rise to Uzbek's main football team *Pakhtakor*), improper watering, soil salinisation, abusive fertilizer and defoliant application, poor harvesting, heavy machinery, etc. meant yields have not been able to rise above double that of the pre-Soviet period, or beyond 1.5x the levels of 1960. Compared with the volume of resources used, the marginal productivity of involving more and more resources has been deeply negative.
- This does not account for the disastrous externality effects these practices had on environment (see below in *Water*). In terms of water resources available for irrigation, planners (starting from the late 1960s) always assumed that the megaproject to divert Siberian rivers would have taken place by 1990s. Arable and irrigated lands, in other words, were *de facto* assumed to be infinite – not to be binding constraint – as the project of diverting the Siberian rivers to Central Asia was assumed to be progressing.
- In late 1970s, for external sales to the world market, the Soviet system failed to adjust to the rise in the Chinese output – not so much in volume terms, but more in the sense of quality. The Chinese cotton was a fine staple type. For a command economy obsessed with gross output numbers, it presented a particular incentive problem – since the yields per hectare of fine-staple cotton are smaller, no *kolkhoz*

was incentivised to even try it, as its targets were still gross tonnage (not quality, or yield-adjusted).

- As a result of this crowding out effect, by the time independent Uzbekistan emerged, its own grain production only covered a quarter of its needs. The largest share of grains, mostly wheat, had been imported from other republics or even from abroad. It was through this channel, among many others, that the risk of dependency on others materialised into a real danger of having no key food item within the country in early 1990s. As a consequence of the deficit of grains for fodder, dependence on meats and milk imports also appeared.
- In intra-USSR exchange, cotton fibre was sent to other republics, and only a small share of it was processed into textiles locally (some 15% by the time of independence), despite there the massive oversupply of labour. Per capita output of textiles in Uzbekistan in the late 1970s was actually smaller than in 1940s.

At the peak, Uzbekistan produced close to 6mnt of raw cotton, although the quality of this data is debatable. More recently, with the decline of resources used in the industry and the mandatory re-allocation of less efficient farms away from cotton and toward other cultures, the country's output is down to roughly 3.5mnt of raw cotton and some 1-1.2mnt of cotton fibre. The country exports approximately 50% of the cotton fibre it produces; the remainder serves as an input for the textiles industry, the utilisation of which has grown in the last decade from a starting point of just 15% of production.

In future, the country intends to cease exports of cotton fibre and fully process all cotton domestically to supply ready textiles to the world market. There might be doubts as to whether this is feasible, as no other cotton-rich country has managed to fully mover toward complete processing at home; however, the government does not feel comfortable letting 'market forces' decide on the distribution of the product, and still keeps the industry under its auspices in terms of strategy and operations.

Since 2018, textile companies have been purchasing cotton directly from farmers (previously all procurement was centralised via the government-owned Uzpahtasanoatexport). At the same time, textile companies must prepay at least 60% of the expected contract value to farmers. These contracts must use government-set purchase prices as pricing floors. The old state paternalism in the sector has changed shape and colour, but – unavoidably in our view – remains in place for now.

Figure 36: Uzbekistan raw cotton key indicators

	Arable land, '000 ha	Irrigated land, '000 ha	Cotton as % of arable land	Fertilizers utilization, kg/ha	Use of tractors, units/1000ha	Raw cotton yields. 100kg/ha	Labor productivity, kg raw cotton / man*hour
1953	2,820	2,402	39.0	71.9	10.5	20.0	1.8
1960	3,038	2,694	36.0	111.1	20.0	21.3	1.9
1965	3,336	2,752	46.5	146.9	27.8	21.9	2.5
1970	3,476	2,696	49.2	203.4	34.8	25.1	2.5
1975	3,723	3,006	47.6	238.3	39.0	28.5	3.1
1980	3,995	3,476	47.0	263.1	39.4	29.4	3.2
1985	4,080	3,930	48.8	285.6	46.3	26.7	2.6
1990	4,194	4,155	47.5	297.0	43.4	25.7	3.0

Adjusted in the source to reflect the 1983 issues with data. Source: Rastyannikov (1996)

What Comes with Cotton: Water

Even under more efficient economic systems, rolling out cotton production on such a grand scale would have been impossible without huge irrigation efforts. Uzbekistan is mostly arid – or outright desert. Just 10% of its land is arable, and 'arable' almost necessarily means an artificial watering system, since areas suitable for dryland farming or basin irrigation are minor. The Aral Sea tragedy was not the only such affair directly linked with Soviet water resource mismanagement. There are many other stories of how water was lost in immense quantities[5] – either accidentally (see Lake Aydarkul, now the biggest mass of water in Central Asia), as collateral damage from drainage techniques (exemplified by Sarakamysh), arising from the lack of post-transition coordination between various countries along the same river and the need to preclude floods (as Koksaray shows), or as an outright whim of decision-makers (Altyn-Asyr massively stands out).

Figure 37 shows part of a 1971 map of the Fergana Valley irrigation system. We note that the growth over the subsequent two decades to the fall of communism was to have added even more density to canals, drainage systems (collectors), fresh water reservoirs and waste water dumps. All of this is an indispensable part of the inhabited terrain of the country, be that Fergana, the Chirchik, 'The Hungry Steppe', the Zerafshan valley, or the lands in the low stream where Amu-Darya now disappears in the sands. Irrigation is everywhere. As the old Uzbek proverb goes: 'Land ends where water ends'. And water does end, literally – despite a turn away from cotton to less-water-intensive produce, despite ongoing efforts to trim losses as Figure 38 shows.

Currently, Uzbekistan has 180,000km of canals, a drainage network of 140,000km, 1620 pump stations, and 41,100 employees working under the Ministry of Water to look after a territory of 4mn hectares. Uzbek canals are generally wide, predominantly open-air (i.e. not protected from evaporation) and with imperfectly sealed against contact with the ground[6]. They require a great deal of upkeep, cleaning, and energy for pumping water up hills (where it is not freely flowing). In money terms[7], what this leads to for Uzbekistan is a large direct pull from the budget. In 2019, the figure was UZS 5.6tn, or over 5% of all republican budget spending, if direct water installation running costs, the centralised investment programme for new construction of irrigation facilities, and measures to restore the quality of irrigated lands are added.

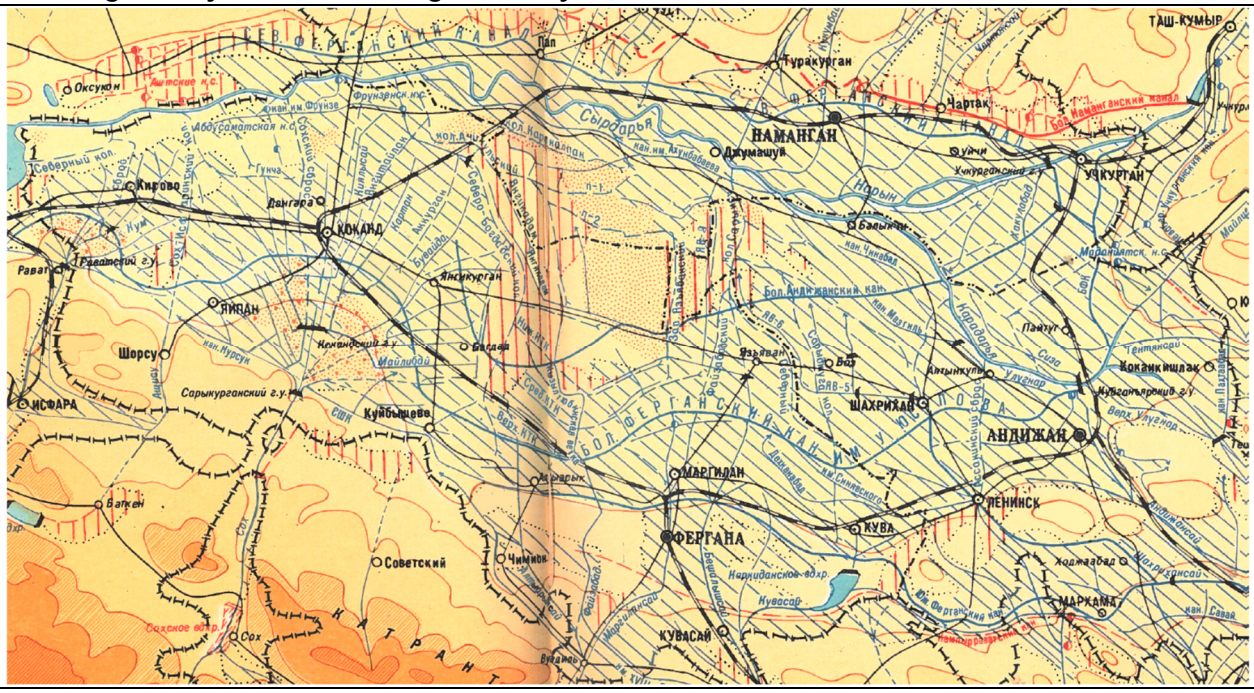
The irrigation system is therefore a complex piece of infrastructure that:

- displays signs of being a congestible and exhaustible public good of paramount importance with non-excludable.
- is a natural monopoly – and not only because of how the existing system is laid out. If an alternative canal were built, it would depend for its feedstock on the same weather conditions, which are the same for much of the country.
- critically relies, in terms of water flow, on the behaviour of upstream neighbours (Tajikistan for the Amu-Darya and Kyrgyzstan for the Syr-Darya).

What this list of features means to us is that the state is poised to stay remain strong in Uzbekistan, and that the land market with respect to large plots, when and if it develops, will be severely constrained by what 'land ownership' can imply.

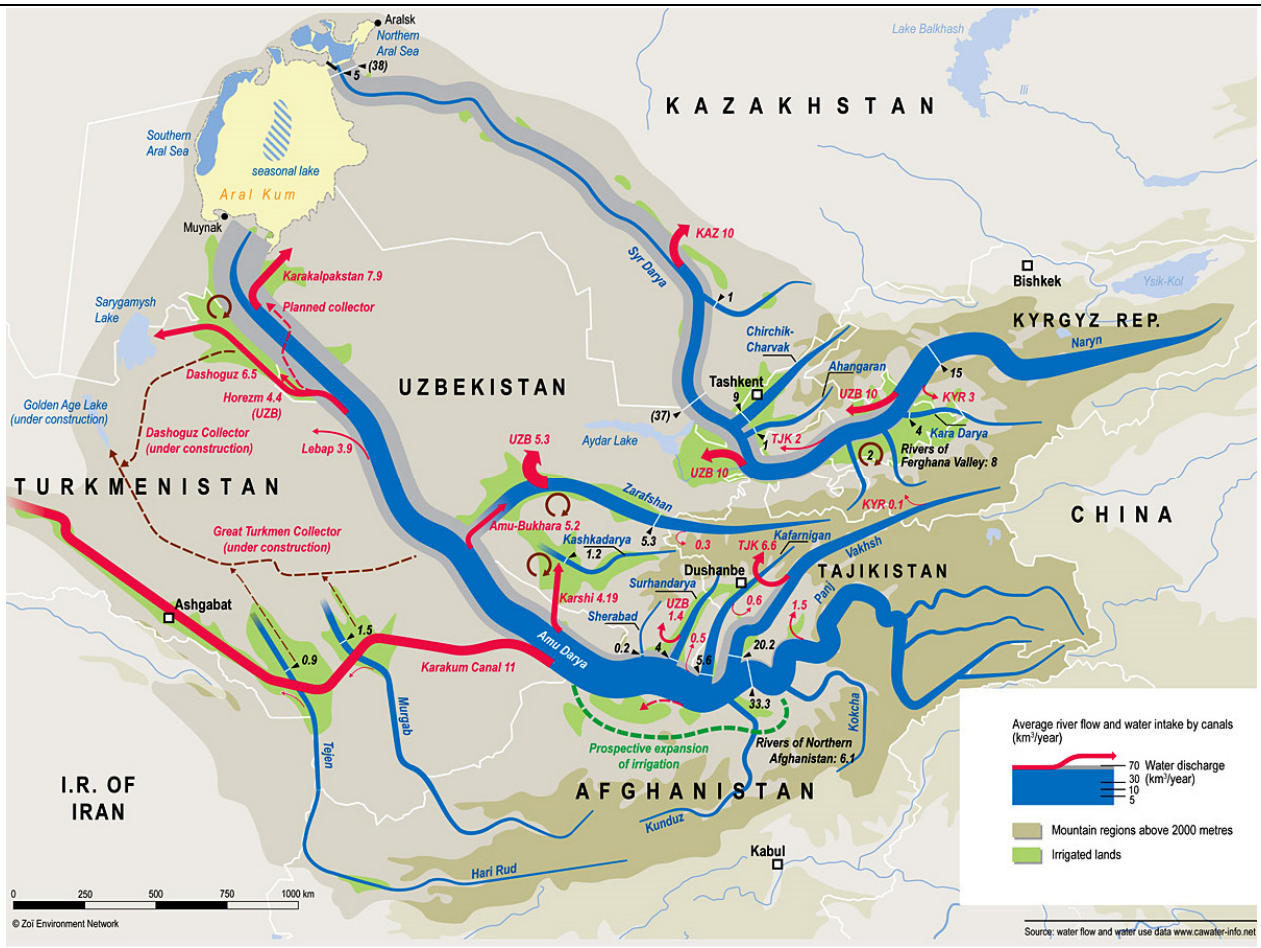
[5] The most comprehensive web source on water problems in Central Asia is this website; it contains a wealth of data and research on the topic. There are also numerous other problems linked to irrigation such as, for example, excessive salinization (to which over a half of the country's arable land is exposed) – see FAO (2018). Pravilova (2009) tells a story of early views on diverting the Amu-Darya 'back' to the Caspian.
[6] This sets them apart – both in terms of dimension (much larger) and efficiency (much smaller) - from the traditional *kyariz* system of wells for channelling rainfall and above-ground water flows into underground corridors with tiles on the floor and walls, so that silting is easier to clean and salts from adjacent layers of soil does not get mixed with water flow. In Jizzak region of Uzbekistan alone, there remain over 300 or kyarizes with over 300 wells each, on average.
[7] This is only an immediate and tangible cost, without changing the prevailing technology; it is scary how capital it would require to at least partially stop the near-permanent loss of used water – given that over 48% of used water in the Amu-Darya basin and 17% in the Syr-Darya are just dumped in natural depressions such as Sarakamysh.

Figure 37: Irrigation systems of the Fergana Valley as of 1971



Solid blue lines indicate existing canals (dashed –existing discharge collectors for used water), red lines – respectively the planned ones. Note the confluence of the Naryn and Kara-Darya (northeast from the central non-arable area), the starting point of Syr-Darya. Source: Irrigation of Uzbekistan (Tashkent, 1975), vol. 2 – the Syr-Darya basin.

Figure 38: Schematic current water balances in Central Asia



Source: ZOI Environment Network

What Comes With Water: Energy

In the Central Asian context, irrigation and energy go hand in glove. This is largely pre-determined by the geography of its two largest rivers. All five counties in the region are clearly grouped by their natural endowments into 'down-the-river' (Uzbekistan, Kazakhstan, Turkmenistan) and 'up-the-river' (Tajikistan and Kyrgyzstan). For the former, there are large swathes of land suitable for cultivation, and there are fossil fuel deposits, so rivers tend to mean agriculture and irrigation, as energy can be produced elsewhere. The latter group, whose terrains are mountainous, and contain few sources of energy beyond hydropower, tends to see water as a source of electricity (Figure 40). Connections through rivers thus form the strongest technological interdependencies between the five nations.

The region's energy has overall remained underinvested in the two and a half decades since independence – not least because the fall of industrial usage (and even minor efficiency gains in consumption via a gradual increase in tariffs have been enough to balance demand with supply). The only exception to this is Turkmenistan, where a spike in consumption has been the by-product of a ramp-up in its China-pipeline-related natural gas output. This is how Uzbekenergo routinely explains the blackouts to its smaller regional consumers, - by pointing to the fact that the newest generation assets are three decades old. Lack of demand-pull increase in capacities mean that the old technological solutions largely remain in place.

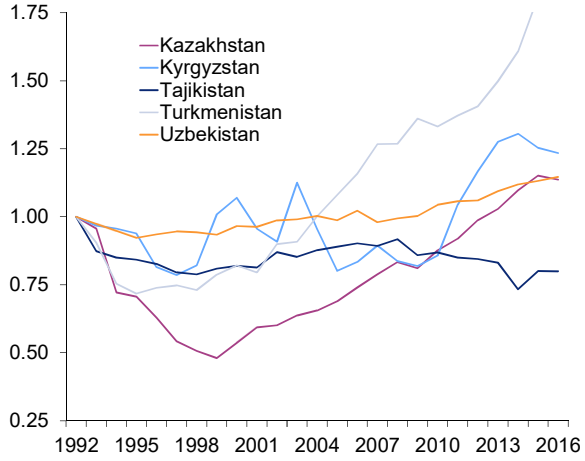
And these solutions, was the case with cotton, were not made for Uzbekistan uniquely, but for the whole of Soviet Central Asia. The underlying logic behind the United Energy System of Central Asia (UESCA; see map here), whose central dispatch centre happens to be located in Tashkent, has been the seasonal exchange between up-the-river and down-the-river countries. Up-the-river nations discharge more water from their reservoirs in summer (when it is needed during the growing season for down-the-river countries' agriculture) and hence generate more electricity. In winter, by contrast, when there is no need for water in the downstream sections of the rivers, water is accumulated in reservoirs, with the resulting energy needs of upstream countries covered by energy flows (transmission) from those downstream.

When run in such a way, the system generates a public good by achieving a result superior for all parties involved. This is possible if there is either a central command or good contractual relations between the countries. The former disappeared in 1991, while the latter has not yet managed to materialise. First, Turkmenistan left UESCA in 2003 to synchronize with Iran, which was largely been a political choice. Then Tajikistan was pushed out from UESCA in 2009 because of the repeated failures of its generation, which, under a synchronised regime, means unplanned electricity take-offs from the common system and an (unpaid, in this case) claim on neighbour's generation capacities.

As a result, the volume of cross-country electricity flows has collapsed (Figure 41), and the logic of seasonality of water discharges has broken down. As Figure 42 displays, using the example of the Toktogul reservoir, the largest artificial body of water on the Naryn (Syr-Darya source) in Kyrgyzstan, the post-independence period has seen a clear shift from discharging water in summer to winter runoffs – when it is lost water for the purposes of agriculture in Uzbekistan.

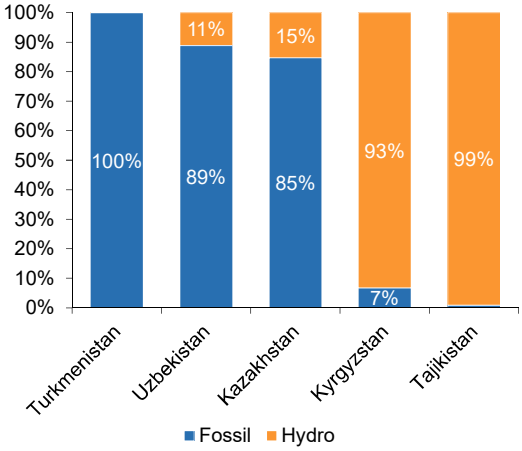
World Bank (2004) provides a good exposition of the energy-water link and the risks unplanned or uncoordinated discharges create for water users downstream. Some of the abovementioned 'unintended' waste lakes are a direct consequence of such risks. Others include a general lack of trust in contractual obligations that can block mutually-agreeable water utilisation decisions for protracted periods.

Figure 39: Electricity consumption, bn kWh



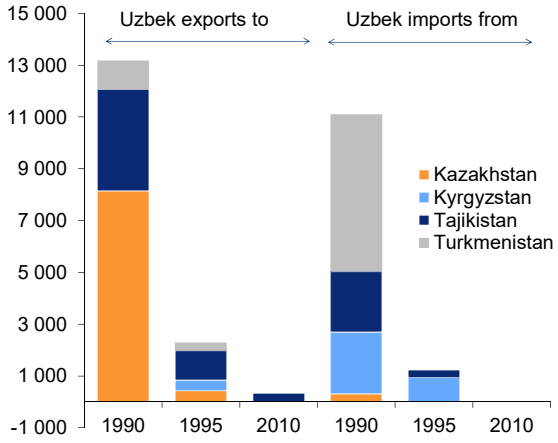
Rebased to 1992=1. Source: Energy Information Administration

Figure 40: Electricity generation structure



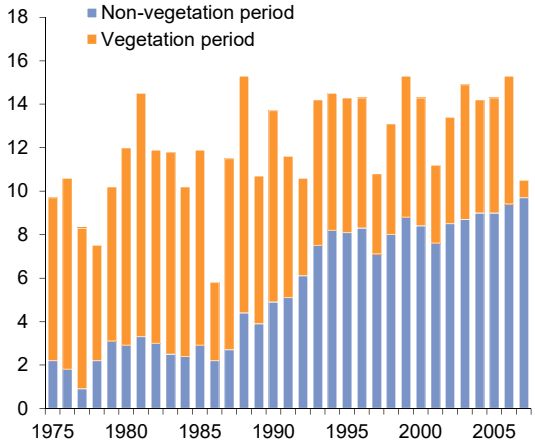
Based on 2005 generation. Source: World Bank

Figure 41: Regional electricity flows, mn kWh



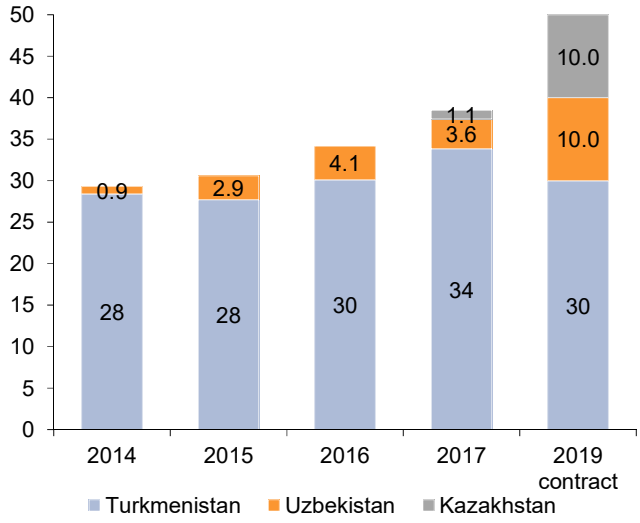
Source: KDC Energia

Figure 42: Water discharge from Toktogul, bn m3



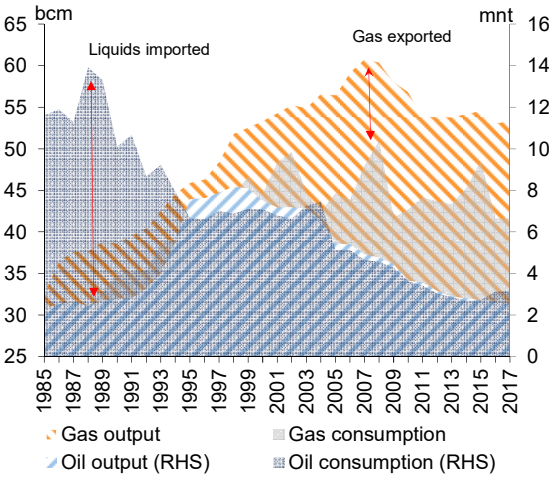
Source: NIC MKVK

Figure 43: Central Asian gas to China, bcm



Source: KazTransGaz

Figure 44: Oil and gas balances and foreign trade



Source: BP Statistical Review 2018

It was precisely this lack that required change of leadership in Uzbekistan before a green light was *de-facto* given for the Rogun HPP on the Vakhsh (one of two Amu-Darya sources) a large infrastructural project in Tajikistan that was revitalised 2 years ago and recently started producing from its first turbine. As is the case with many other aspects of the Uzbek-Tajik relations, the benefits of markedly improved cooperation and trust are already obvious: work has started to reconnect Tajikistan to UESCA. Damage done to the previously unified system will require time and money repair when the new competitive considerations of supplying to Afghanistan might become binding. Yet the need for international coordination in the region is understood by all parties involved; there is an Asian Development Bank's technical assistance project in place, which targets precisely this.

Restoring old technological links are also important for developing new projects, such as increasing exports of Central Asian electricity to Afghanistan. For example, in December 2017, Afghanistan and Uzbekistan signed a USD 150mn agreement to build a new 500-kV (capacity 1000 MWt) 260km transmission line ('Surhan–Pul-e-Khumri'), and construction work is now underway, with completion expected by YE19. It is expected that the line will allow increase deliveries of Uzbek electricity to Afghanistan by 70% to some 6bn kWh. The project effectively links with CASA-100 (updated feasibility study here), despite not being a part of it. In parallel, technical bottlenecks related to stability of the Tajik segment of UESCA are resolved and allow for a potential connection between the two; CASA-100 architecture allows for open third-party supplier access during winter, which Uzbekistan is likely to use.

It is impossible to discuss energy in relation to Uzbekistan, without covering natural gas. The country was the first large base for the Soviet natural gas industry, and is deeply interlinked with the Russian transportation system – from the Bukhara-Ural project to the Central Asia-Centre system. In the last decade, the country has emerged as an important supplier of pipeline natural gas to China.

Known as the Asian Gas Pipeline (AGP) and having capacity of 55bcm/a, the project has had a transformational effect in opening up the region to China's growing consumption. Deliveries via AGP amount to over 90% of China's pipeline imports of natural gas and over 40% of its total imports of gas including LNG. It is of paramount importance for Turkmenistan, which supplies the bulk of the gas, but also provides an important new outlet for Uzbekistan and Kazakhstan by diversifying their marketable gas destinations away from domestic markets (where prices remain universally below netbacks) and Russia. Gazprom seems to be ready to allocate the region the role of the marginal supplier, serving predominantly seasonal peaks in demand, while off-taking only a moderate volumes on a firm basis throughout the year. Gazprom's current contract with Uzbekistan is for 4bcm a year over 2018-2022.

The decline in Uzbekistan's natural gas production has been reversed – and new export capacities added – in the last two years, driven by greenfield projects developed by Lukoil, the largest foreign investor in the country's upstream hydrocarbons sector. In 2018, the company commissioned the Kandym group of fields and a gas processing facility with a capacity of 8bcm. This follows the 2017 ramp-up of production at South-West Gissar, another gas complex, which initially started producing in 2011, and has now reached a capacity of 5bcm. For both projects (which are two separate PSAs), there is one operating entity (90% owned by Lukoil and 10% by UNG). Natural gas exports from the country remain under the exclusive purview of UNG, be that via old routes to Russia or new ones to China.

Geopolitics

With Tajikistan and Kyrgyzstan, Uzbeks share borders that were drawn artificially in the early Soviet years. Looking at the maps that resulted from this process of 'national delimitation' – and which still determine the borders today – it is impossible not to conclude that they were purposefully crafted to ensure that the republics remain part of the one country, and dysfunctional individually. In 1992, therefore, the starting point in terms of the 'convenience of geography' was highly problematic for all countries involved. We believe that this explains why the 'divorce' process has been painful.

For example, there was no year-round road from Tashkent to the Uzbek part of the Fergana valley. This has been partially remedied by the 2016 construction of the new Angren-Pap railway and Kamchik tunnel, the longest rail-tunnel in Central Asia in 2016. Similarly, during roughly six months of the year, there was no direct car route from Dushanbe to Khujand, as this would have required crossing the Anzob and Shahristan passes (over 3300m elevation each) when they are snow-covered and avalanche-prone. The problem was solved by digging two tunnels (Shahristan is also the longest road tunnel in CIS). There are similar problems with rivers, irrigation canals and electricity lines – some of them need to be 'twice cross-border'.

In terms of ethnicity, the result of the national delimitation has been that there are significant minorities of Uzbeks living on the other side of all of its borders. In the Kyrgyz part of the Fergana Valley, there is Osh (a town in which large inter-ethnic riots broke out in 1990), and a number of enclaves on the south valley foothills. In Turkmenistan, this is Turkmenabat (formerly Chardzhou, the second-largest town in Turkmenistan) and Dashoguz. In Kazakhstan, there is Chimkent (the third largest city in the country, a large agglomeration with strong economic links to Uzbekistan). In Tajikistan, there is the northern part of the country (Khujand, one of the oldest settlements in Central Asia) and also Hissar. There are also reverse inlets of non-Uzbek groups in contemporary Uzbekistan, most notably in the ancient cities of Samarkand and Bukhara, historically centres of sedentary Tajiks and Jews and religious learning (among the Tajiks, this still might generate resentment even now that Dushanbe has been turned into a proper capital city).

Finally, and perhaps most importantly for the current moment, there are significant Uzbek populations in Afghanistan – estimated at close to 2mn people – centring in the north-west of the country, chiefly around Mazar-i Sharif. Individually, Abdul Rashid Dostum is perhaps the best-known representative of the Afghani Uzbeks. Former President Islam Karimov's policy towards Afghanistan went through several stages, including early calls on the threats emanating from Afghanistan's instability (in 1993 at the UN); then tactical support to Dostum's separatist tendencies in his efforts to carve out a non-Pashtun state in the north (including a free supply of electricity from Uzbekistan to Mazar-i Sharif). Later, Karimov took a more balanced approach, driven, among other things, by complications resulting from the large inflow of Tajik refugees to northern Afghanistan during the Tajik civil war (1992-1997) and the growing power of Ahmad Shah Massoud, an ethnic Tajik, who claimed influence that transcended the Afghan borders and appealed to Tajiks living beyond them. (Note that Karimov, because of his Samarkand origins, was a fluent speaker of Tajik, which must have facilitated his engagement with the power struggle in Tajikistan, which in turn he could have viewed as consequential for the eventual emergence of Emomali Rakhmon as the winner).

With the Taliban making progress in Balkh province in 1997-1998, the fall of Mazar-i Sharif and repeated bombardments of Hairatan, a town across the Amu-Darya from Termez, the southern-most Uzbekistan settlement, and the onset of the repressions against the non-Pashtun groups, Karimov tried to mediate between conflict participants. There was a short-lived restoration of military cooperation with Moscow, and a peace conference in Uzbekistan – to which Taliban was also a party – resulting in the 1999 Tashkent declaration. This chain of events was largely overshadowed and forgotten due to the US-led operation in Afghanistan started in 2001.

We believe that the 'external' Taliban threat in 1997 was clearly a key driving force behind the shift of President Karimov's tolerance toward anything resembling assertive – let alone militant – Islam. Others were the 'internal' growth of the Islamic Movement of Uzbekistan (IMU; banned in the Russian Federation), particularly from 1996, and most visible in the Batken events of 1999 (when the IMU attempted to break into Uzbekistan from Tajikistan via Kyrgyzstan) and in particular an attempt on Karimov's life that year when it detonated six car bombs simultaneously in Tashkent. Then, over the next several years, a number of other attacks for which IMU has claimed responsibility shook the country.

It is against this background that Uzbekistan started becoming a country in which traditional forms of Islamic worship were subject to strict state monitoring and control – even involving undercover police – non-registered religious teaching (at home, for example) was prohibited, and those of traditional Muslim appearance, such as women in veils or men with beards, faced greater scrutiny from the authorities. Uzbekistan's self-isolation and turn toward autarky on the micro level (let alone large state initiatives in select sectors where active industrial policy was applied) also started in 1999. An interesting report by Megoran et al (2005) documents how this was executed, felt on the ground and was presented for official purposes in Ferghana – once a true hub for buzzing inter-state trade – in terms of SME and shuttle trade flows.

The U.S. war in Afghanistan has increased the importance President Karimov's foreign and domestic policy stance in many respects. In our view, though, it had little relevance to the change of the economic course. Later, events in Andijan in 2005, and in particular the government's response to them, signalled the solidification of President Karimov's crackdown on Islamism in any form, but also served as a turning point for the US-Uzbekistan relationships, on the grounds of human rights issues. See this volume by Ahmed Rashid on the government's treatment of the IMU (whose key leaders perished in Afghanistan as a result of the US-led operation) and the much less militant Hizb ut-Tahrir (banned in the Russian Federation).

Under President Shavkat Mirziyoyev, the liberalization of political and religious practices started. Large volumes of political prisoners, usually pigeonholed as Islamists, have already been released, and business diaspora and professionals alike are now welcome in Tashkent and are indeed returning. (See the 2017 U.S. religious freedom report here for an overview of recent changes, which have heralded significant liberalisation.) After twenty years of autarkic tendencies, the reversal wel underway, with major normalisation of relations visible on all sides. The last two years have seen a major breakthrough in the border setting between Dushanbe and Bishkek. New border crossing points have been opened. There is now 30 day visa-free travel between Uzbekistan and Tajikistan, and regular bus and air traffic have been restored between the two countries (which, not so long ago, protected their border with land mines). Supplies of natural gas to Dushanbe have been reinstalled – initially only to industrial users, but now to the population as well. Uzbekistan and Kazakhstan have signed a mutual visa recognition agreement, allowing travellers to visit both countries, and have launched a high speed rail connection between their capital cities.

One area in which clarity is missing is the degree to which the remaining militants from the IMU have managed to reconstitute in the northern provinces of Afghanistan in the last couple of years (where they have been driven out from Pakistan's former tribal areas and Waziristan in particular). There have been reports of Taliban or ISIS (both banned in the Russian Federation), into which former IMU is believed to have merged, operating in the Sar-e Pol province. It seems that activity in the border regions started to mount last summer, when in July 2018 there were reports of 'dozens' of casualties as the result of the attacks at a checkpoint in Badghis. Speaking in November last year, the head of Collective Security Treaty Organization (CSTO) Valery Semerikov characterized the risk of outbreak of hostilities there as 'realistic threat'. Last week, higher concentrations of militants were reported all along the Afghan-Turkmen border with minor exceptions, from Herat to Balkh, prompting authorities to prepare to call reservists if needed (see here and in greater detail here).

It is because of this that the focus of Uzbek foreign policy remains closely connected to its biggest source of potential risk, Afghanistan. Listening to President Mirziyoyev's speech at the UN General Assembly, there remains little doubt about this point. In March 2018, Uzbekistan hosted an Afghanistan reconciliation conference – with good high-level attendance – and a meeting with the Taliban delegation a little later. In early 2019, a ministerial-level meeting of the regional foreign ministers followed. President Mirziyoyev's policies here display continuity with Karimov's (Foreign Minister Abdulaziz Kamilov is one of the few top government officials to have retained his post after the change of leadership). One point where President Mirziyoyev will probably differ might be the greater consistency in keeping the equidistant positioning: no other CSTO member has twice frozen its membership. After the US base at Karshi was closed, it seems all sides have learned to keep military and security connections and cooperation low-profile. If so, we would assume the firmer and consistent non-block status of Uzbekistan will remain perfectly compatible with the interests of other powers in the region.

What has also changed is the focus. It is now expressly less on mediating between belligerents, and more on facilitating the peace process via economic aid and infrastructural development. Most activities along this track are usually under the auspices of the Asian Development Bank, and energy is of course the most widely-discussed, given Afghanistan is energy-deficient (see below). Other examples of cooperation with Afghanistan include, a completion at Uzbek expense (USD 0.5bn commitment), and with Uzbek-trained specialists, of the extension of the exiting railway from the Mazar-i Sharif to Herat, a USD 1.8bn project. It is to pass through Taliban-controlled areas, and then connect to Iran's network, and alternatively travelling south-eastward toward Peshavar and the Pakistani system.

The railway from Hairatan to Mazar-i Sharif was an initially an IFI-supported project meant to carry US military supplies; however, its tracks use 1520mm width gauge, which is compatible with the CIS standard. This keeps the project inclusive, i.e. leaves it within in the realm of competitive logistic solutions, where economic calculation prevails and business interest predominates. This is why Russia has also expressed interest in participating in the extension to Herat (where the Iranian gauge of 1435mm starts, so there will have to be solution to the switching of bogies).

Although some of the north-south ideas on cooperation have been promoted in western policy-making circles in connection, and as offshoots, of geopolitical thinking, the arguments with which they were justified are extraneous to the region itself. Even the 'Great Game' theorists agree now that in their new forms, these are not zero-sum encounters any longer. For a country trying to open up to the wider world, gain access to new markets and secure its position in the region in any achievable way – 'secure' understood literally – anything strengthening Central Asia-Middle East links makes perfect sense.

Uzbekistan Now: Managing the Change

We have already discussed Uzbek demographics in some detail, but their economic implications is easy to summarise in one paragraph. i) The total population is 33mn. ii) The working-age population 23mn. iii) The economically active population is close to 13mn. iv) Those formally employed number fewer than 6mn. v) Active personal income tax payers are less than 5mn, of which in the private sector accounts for just 1.5mn. Alternatively, looking at the total collection of social contributions (reported in GFSM budgetary data), it turns out that the state itself contributes exactly 30% of this type of revenue.

In other words, when a pro-market environment is being created and there are not enough 'agents of change' able and ready to work in what this future environment is supposed to look like when the reforms are completed – with the private but formal sector taking a much larger share – aversion to risk in policy experiments must be high. A 'transitionary recession' then becomes particularly unacceptable, especially with the example of Turkmenistan next door. There, the 'welfare state Turkmen-style' is now shrinking, which may be incentivising militants' interest toward this side of the Turkmen-Afghan border.

To keep economic performance high number-wise, while also transforming the economic system is challenging. One thing this challenge produces is a perpetuation of management styles that resemble the previous ones: President Mirziyoyev's involvement in economic reform is direct and hands-on. But is there really any room for a conscious choice here? A reform can quickly reset institutions, but changing people takes much longer[8]. It is the lack of a formal, large, and resourceful private sector that could empower the change and assume responsibility for managing large assets, were the state to just disappear, that motivates his centralist approach, in our view. '*It is my tragedy that I know everything about you'*, said the President one Cabinet meeting shortly after being elected President.

In sectors where sufficient external managerial expertise can be relied upon by temporarily outsourcing management of state property to private capital, this has been happening, and we see impressive results in large-scale mining and metallurgy. In most other industries, however, this is not an option. We believe that it is for these reasons that even in sectors that do not look 'strategic', and which other 'transition reformers' could approach drastically, President Mirziyoyev chooses to nurture new institutions or corporate forms – above the industrial structures that already exist – proactively and gradually (but by no means slowly). Good examples would include the edible oils industry or vineyards and wine sector. There, as everywhere else, the approach is an engineering one.

How shared and internalised the reform agenda is between various layers of the administration is also a source of risk. Changing the form is oftentimes much easier than altering the substance, to which two and a half decades of post-communist transition provide abundant examples. Irrespective of how formal (as opposed to patrimonial) an emerging economic system is bound to be, a strong tradition of state paternalism complicates matters further. In the last few years, when farmers were either 'guided', or interpreted as having received the 'signal', often with directed bank-lending attached, to boost production of chicken, radish, lemons, eggs, and most recently chili peppers, the results have been mixed.

Even at the central level, there might also be setbacks and seemingly incoherent decision-making loops. For example, during 2018, an achievement most frequently mentioned by both the domestic press and foreign observers seems to have been FX liberalisation. But this remains unfinished business. Individuals can indeed sell cash FX to banks freely, but can still only withdraw cash FX from ATMs or branches using so-called conversion cards, which remain of limited popularity[9].

[8] A superb analysis of how traditional patterns of interaction in Central Asia can adjust to new external forms and outlive them is *Roy* (2000).
[9] They are a high-transaction cost instrument with a large annual fee and large minimal balance that must be maintained at any time). Individuals cannot simply walk into a bank branch with UZS cash and have this amount converted into cash USD. And exchange kiosks (*bureau du change*) or private exchange operations remain illegal. The CBU intends to revisit this issue once a new currency control law is in place. Until this happens,

Against this background, an initiative appeared last November to tighten criminal punishment for illegal FX operations (which is already tough) and widen the scope of punishable transactions (which is already wide) – and it became law earlier in 2019. This, to us, is a setback. Where cash FX is most in demand is the shuttle trade, which, judging by border statistics, is booming (as discussed above). Unless and until there is full currency liberalisation on current-account operations, we believe it is a safe bet that stricter responsibility will only make the black market move deeper.

Box 4. Food prices: control de jure and influence de facto

When bread prices were increased in Sep 2018, headlines spoke of the beginning of gradual price liberalisation. The obvious mispricing that has helped the government to explain the move was that at UZS 650 – where the price level was fixed for over three years – small farmers (*dekhans*) sometimes purchased the simplest type of bread to feed cattle, as it was a competitive source of carbohydrates against (unregulated) fodder. Reacting to popular discontent, the initially announced new level of UZS 1,200 level has been temporarily adjusted downward to UZS 1,050.

Simultaneously, the government introduced a special compensatory subsidy (10% of the minimum wage per month per person, without a fully-fledged means-testing). Moreover, the government fixed the wholesale prices of flour. It intends to liberalise those as well, after the bread market stabilises. Even if there were no direct price controls, the state purchases close to 50% of all wheat produced in the country, so there are other channels through which it can affect the price.

There is a wheat price floor for producers guaranteed by the state, which for the 2019 harvest was set at UZS1.2mn/t (+60% YoY). The government is also trying to build in an incentive component into it, adding a premium to the purchase price depending on yields, but more important are the negative components: for the lowest yields, the single agricultural tax is to be double the usual level, and at below 0.4t/ha the 'treachery toward the land' rule might be invoked, leading to the termination of a lease agreement.

The latter is important, as there is no ownership of agricultural land. There have been a number of stop-and-go initiatives in the past to allow, for example, private residents to have a title on the land underneath their house, or in cities with respect to the land under the buildings, but the final landscape is not yet set in this regard.

Crop financing is also a channel in which the government is ubiquitous. It provides below-market-priced working capital facilities for the *dekhans* to purchase seeds, controls (via material balances) the distribution of mineral fertilizers (although they are formally traded on an exchange), and subsidises the full cost of electricity for pumping water into the irrigation system. The volume of these facilities covers 100% of the expected (at the pre-set state purchase price) harvest. The recent set of rules is here.

Less visible options to exert control also exist. For example, in sectors where there is already enough export potential. In 2017, UzAgroExport (UAE, a government-owned vehicle for coordinating the export of food commodities) lost its legal monopoly, and independents have obtained the right to sell outside the country at prices below UAE's published ones. Previously, any effort to do this would have run into a Customs refusal to clear the shipment for release, and products have just been allowed to rot before being thrown away. Yet another complication remains, with the independents – unlike firms selling via UAE – still required to a receive 100% prepayment for their export contracts to receive the green light at the border. The government intends to change this soon, but as of now it just shows how much of 'hidden' regulatory channels are still in place.

and until some bank charges and commissions remain regulated, and until competition between banks remains limited, the black market exists, - although, of course, much smaller volume-wise and with rates much closer to the 'bank' rates than before.

Uzbekistan Before: the Rise and Fall of Import Substitution

When I met my future wife in 2004, she drove a grey UzDaewoo Nexia. I had the same model, but in green colour. The popularity of Nexia (a remodelled Opel Kadett) was at that moment high in the CIS, because of the attractive price-quality ratio in the mass market segment. Together with Matiz (a later class A addition), they have managed to remain among top five mass market producers in Russia for over 15 years, despite intensifying competition. The place of manufacture was Asaka, a small township close to Andijan in Fergana Valley, at a greenfield facility built by Daewoo in 1993-1996.

This is how, thanks to the decision by President Islam Karimov after one of his first visits abroad, to South Korea in 1992, Uzbekistan came to be the second-largest car producer in the CIS. It was against all odds: in the heart of Eurasia, away from good communication routes, a double land-locked country completely lacking a set of modern automotive manufacturing skills, or a production base for metals, plastics, wires or electronics. And yet of all post-USSR countries, it was precisely Uzbekistan, where the idea of import substitution, actively and directly pursued by the state, eventually became not only the motto, but also the real guiding principle for economic policy. Rather than a 'mild' version of it when the key channel is structuring incentives for the private sector, here the involvement of the government has been ubiquitous.

If one skims through Islam Karimov's books – he was a prolific writer – the only recurring theme is his view of the need to fill the yawning gaps left by the Soviet system. Here, 'gaps' must be understood technologically, in the sense of production chains, as a quasi-colonial legacy: a distant central planner, who assumed the federation would hold together forever and thus that supplies would be guaranteed, super-imposed on the country, as part of the inter-republican division of labour, the specialisation in a select few raw materials. Uzbekistan was indeed disadvantaged in this regard, with basic things – when the natural resource endowment was very conducive – imported from other republics. As noted above, cotton was the prime example, with the textile industry underdeveloped up until the collapse.

The choice of the car manufacturing in this regard had served a double purpose. Firstly, it was symbolic and legitimizing: by keeping the automobile a rare luxury good[10] and simultaneously publicising the achievements the national manufacturer, it maintained an impression that welfare was being benevolently dispensed by the state. Secondly, import substitution efforts had significant technocratic value via a gradual and slow process of localisation of the component base: the automotive industry is known for the large value-chains it requires in terms of necessary supplies.

Achievements along this route have been unquestionable: the structure of foreign trade over the 20-year period after independence has changed drastically (Figures 47-48). Vulnerabilities inherited from Soviet times have been addressed[11]. Yet in parallel with its statistical achievements, questions have started to mount with regard to the efficiency of what is being done, and the micro-level link between incentives and performance.

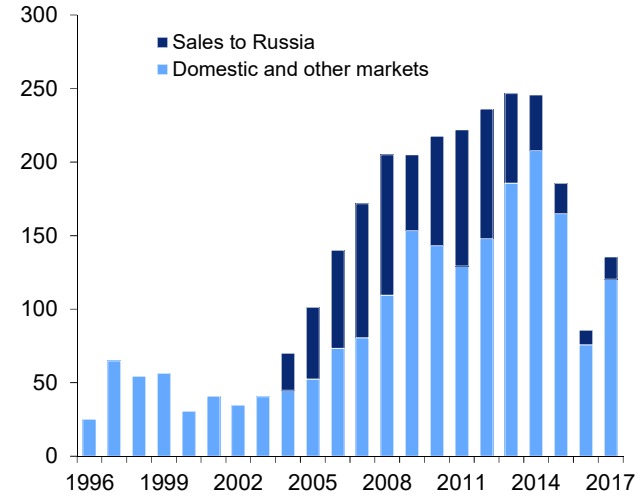
Whether higher or lower localisation makes sense cannot be judged without knowing what is behind the figure. As a KPI, localisation might or might not be synchronised with 'how a market-managed company would have behaved'.

[10] Customers had to wait for their cars for extended periods of time. The 'luxury' of selecting options, or picking the colour – or indeed jumping the queue – bred corruption and still generate a long tail of criminal investigations at dealerships (now government-owned, just like the automaker itself). Despite the fact the manufacturer was (and is) exempt from VAT, UzDaewoo cars were notoriously more expensive at home than in other CIS markets, where they have been fully taxable. For customers, the banking system was not offering car loans, but rather 'car deposits' – you had to accumulate full amount and keep in a bank for a specific period in order to buy a car. In those years where it was deemed that the balance of payments needed support - customers were required to pay exclusively in cash FX (no one asked where the cash came from, despite the fact that banks would not sell it to you, and there was (and still remains) criminal liability for buying it on the black market).

[11] There are different numbers available on the degree of success of import substitution and localisation. The Presidential Decree of December 2016 speaks of 'over 20%' of industrial production having already been localised. At the same time, UzStat's FY16 report, as well as its IP-dedicated commentary, look unambiguous – UZS 6,146bn of 'localised IP' is merely 5.5% of the total nominal IP of UZS 111,267bn. The automotive industry, clearly the leader in this drive, has reportedly exceeded 50% by 2015.

Where observers carefully treat their data and the level of prejudice is tolerable, the conclusion from contemporary policy research (see the April 2013 WEO for a summary) seems to be that as a driver of economic change, import substitution quickly runs out of steam. In our view, this applies to Uzbekistan completely.

Figure 45: UzDaewoo output, thousand units

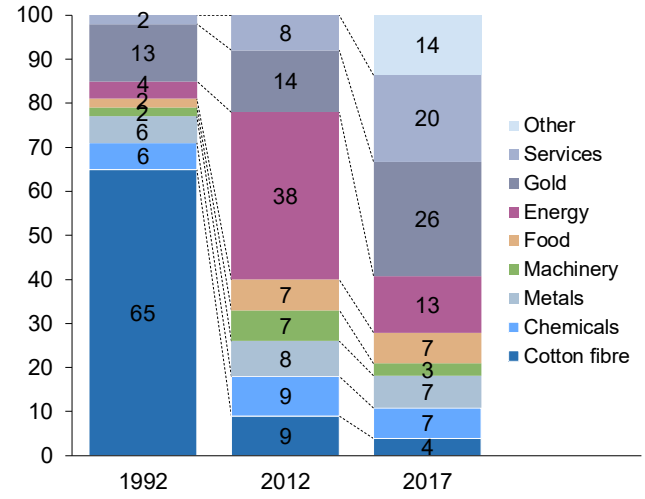


Source: UzDaewoo

Figure 46: Nexia, the symbol of a new industry

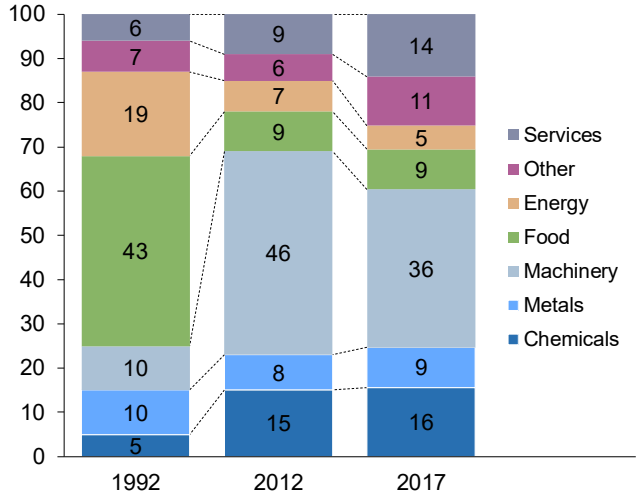
Source: UzDaewoo

Figure 47: Export structure, 1992-2017



Source: World Bank

Figure 48: Import structure, 1992-2017



Source: World Bank

Looking at the localisation programmes annually approved by the government (for example, compare the first, in 2000, with one of the last, in 2016), their growing level of granularity, and the precision with which the products are described, leaves no doubt in our minds that this is a replay of what communist economies called 'planning from the achieved level'. In practical terms, this is when enterprise management, knowing what is doable and achievable, includes only this as their target for the next year, and their superiors are not incentivised to contradict.

Alisher Usmanov, one of the most prominent Uzbek-born entrepreneurs, called this system 'The kingdom of crooked mirrors' in a recent interview to Forbes. Seeing this system evolve is, and will be, fascinating.