

Fintech revolution in transition countries – remittances and mobile money

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Abstract Transition countries experienced massive emigration after the fall of the Soviet Union. Many of them currently rely on remittances from abroad. The number of Remittances Services Providers is constantly growing, some studies speak about the “uberisation” of the remittances market. The paper focuses on six case countries: Armenia, Georgia, Moldova, Kyrgyzstan, Tajikistan and Ukraine. It assesses the potential and current penetration of mobile money services on their remittance market. The paper finds the remittance market in the case countries to be highly competitive in terms of costs and variety of RSPs. Telco operators from the case countries have expanded their services towards certain bank-like and mobile money-like services, but the only true mobile money service so far is present in Armenia. Current portfolios of services offered by telco operators suggests that remittances inflows from Russia are important for future development of mobile money. The remittance market is thus important for mobile money development, but low costs are not the only enabling factor for these services. Other important aspects are convenience, accessibility, speed, transparency of rates, etc. Further development of mobile money in the case countries is highly probable, but it will most likely not be so intense as in other Asian and African countries.

Keywords: remittances, migration, transition countries, mobile money

JEL Classification: F22; F24

Introduction

Remittance services have developed considerably during the last decades. Transfer costs are constantly dropping, new types of Remittance Services Providers (RSPs) entered the market. One of the latest types of RSP are Mobile Money Providers (MPPs) and already had a considerable impact in many countries. This paper focuses on six former Soviet Union countries. They were selected based on their high share

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of incoming personal remittances on GDP (over 10%). After 1990 these countries repeatedly experienced economic downturns and massive emigration flows. This resulted in a considerable dependency on remittances: 13,3 % share of remittances on GDP in Armenia, 11,8% in Georgia, 32,9% in Kyrgyzstan, 20,2% in Moldova, 31,6% in Tajikistan and 10,84% in Ukraine (WB, 2018a). Despite product innovations in financial services are often connected with failures (Avlonitis et al., 2003, Bos et al., 2013), these countries are potentially attractive markets for RSPs. While mobile money had considerable success in some countries (12 MMPs currently operating in India, 18 in Nigeria, 8 in Indonesia), it did not become very popular in the case countries. Russia, the main source of remittances to the case countries, with considerable internal remittances flows has only 3 MMPs (GSMA 2019).

Mobile money transfers are linked to cheaper transaction costs. Both theory and evidence show that remitters are sensitive to changes in transaction fees, e.g. Gibson et al. (2006), Freund and Spatafora (2008), or recently Kakhkharov et al. (2016). This paper assesses the costs of remitting in the case countries and investigates whether mobile money can be competitive in terms of transaction costs. The remittance market is analyzed in detail, focusing on the following characteristics: size and number of potential customers, direct and indirect competitors, possible partners and relevant patterns on the remittance market. To identify current trends, the portfolio of the telco companies in the case countries is analyzed. Their services are divided into specific categories (national and international bank-like, mobile money-like and mobile money services). The detail analysis of potential new payment platforms enabling international retail payments corresponds to the conclusions of Ketkar and Ratha (2008) that innovative financing mechanisms essential for poor countries to increase employment, growth, and reduce poverty, including synergetic effects inducing endogenously driven growth (Adenutsi, 2011). Financial innovations can also be an important determinant in microeconomic decision making as migrants require better control over the uses of their remittances (Yang 2011). The current paper focusing on payment services offered by telecommunication companies extends, thus, still rare evidence of fintech revolution (Gomber et al., 2018).

The paper is organized as follows. The first part of the paper is a survey of existing literature on links between fees, remittance flows and financial environment in the case countries. The second part of the paper offers background on mobile money and summarizes existing literature on mobile money in the case countries. The third part of the paper focuses on remittance-related factors as possible enablers of mobile money services in the case countries.

Remittances and transaction costs: state of current research

Current state of research provides strong evidence that lowering transaction fees leads to rise in remittances and preference of legal transfer channels. There is also strong evidence that remittances positively influence financial environment in recipient countries. From this perspective, introduction of mobile money could have a beneficial effect not only on

direct users, but also on the whole country. Studies assessing the impact of transfer fees on remittances obtain similar results. Gibson et al. (2006) found the costs elasticity of remittances for the New Zealand-Tonga corridor to be 22%. Freund and Spatafora (2008) obtained similar results, a decrease of one percentage point in transaction costs raised recorded remittances by 14-23%. They found remittances to be negatively correlated with transaction costs and positively correlated with the stock of migrants. They also found that in regions with developed financial systems transfer costs were lower and exchange rates were less volatile. Aycinena et al. (2010) led a field experiment on migrants from El Salvador in Washington D.C. Lowering transaction fees implied an increase in frequency of transactions. Similar results were obtained by more recent studies (Ahmed and Martinez-Zarzoso, 2016). Siegel and Lucke (2009) held a study on Moldovan migrants. They found that the most important factor influencing the choice of remittance channel (official vs unofficial) was transfer costs rather than speed, convenience or security. Illegal migrants prefer informal channels. Kakhkharov et al. (2016) studied the relationship between transaction costs and recorded remittances in 14 post-Soviet economies. They found that remittances grow when transfers costs decrease, lower transaction costs help switching transactions from informal to formal channels.

Beck and Martinez Peria (2011) looked for factors explaining transaction costs. They found remittance prices to be positively associated with the number of migrants and negatively related to the level of income and share of rural population both in the receiving and sending countries. Corridors with more accessibility of financial services have lower costs. The authors found no robust impact of geographic distance, bilateral trade and common language on remittances.

Some studies assess the impact of remittances on the financial environment in receiving countries and find positive evidence. Remittances have a positive influence on bank credit, savings and account ownership (Aggarwal et al. 2011, Anzoategui et al. 2014). Remittance recipients are potential customers for banks, as they receive funds that they need to store, thus they create demand for financial services. Remittance recipients are regarded as less risky, as they have an extra source of income. On the other hands, savings from remittances can substitute credit from formal financial institutions (Ambrosius, 2016). Posso (2015) finds that presence of microfinance financial institutions (MFI) attracts remittances. Typical customers of MFI are closer to remittance receivers than customers of banks, so MFI are more likely to offer financial services to remittance recipients (Ambrosius et al., 2014).

Brown et al. (2013) called the positive impact of remittances on financial environment 'induced financial literacy hypothesis'. At the micro level, they analyzed the relation between remittances and financial literacy of households in Azerbaijan and Kyrgyzstan. They found a weak positive evidence in Kyrgyzstan and no evidence in Azerbaijan. They explained the results by general conscious decision of local population not to use formal financial services and preference of informal remittances.

Remittances are also a form of insurance, because they are often used for health and emergencies (WB, 2014a, see also Matin et al., 2002). Gerber and Torosyan (2013) conclude that remittances contribute to social capital formation in Georgia. 8,5% of

households with no member abroad receive remittances from other households, while these households are not necessarily relatives. They explain that weak social security provision in Georgia leads to social capital formation by remittances.

Table 1 summarizes relevant papers on costs of remitting to the case countries and implications of remittances for various aspects of the receiving economies. There is evidence of positive impact of remittances on human capital. Positive effect on investment would be enhanced by a better entrepreneurship environment in the recipient country. Some studies find positive remittances to have consumption-smoothing role.

Table 1. Summary of other relevant papers on the impact of remittances on the case countries

Authors	Country	Conclusions
Uzagalieva and Menezes, 2009	Georgia	Remittances have a considerable macroeconomic impact, not all residents are affected equally. In terms of consumption patterns, wealthier persons gain more from remittances than poor individuals.
Grigorian and Melkonyan, 2011	Armenia	Remittance-receiving households work fewer hours and spend less on education of their children.
Buckley and Hofmann, 2012	Tajikistan	Remittance receiving households are not economically wealthier, more stable or entrepreneurial compared to the other households. Tajikistan does not offer viable investment opportunities for remittance recipients, so households do not use remittances effectively.
Gerber and Torosyan, 2013	Georgia	Remittances have a positive impact on the local services sector, retailers and producers; improve human capital by increased spending on education and medical care. Migrant remittances do not create disincentives to work in Georgia.
Matano and Ramos, 2018	Moldova	Remittances increase the probability of pursuing higher education by 5,4 percentage points.
Blouchoutzi and Nikas, 2014	Moldova	Positive impact of remittances on private consumption expenditure, imports and private investment expenditure in Moldova. Targeted policies for better use of use of incoming remittances must be developed.
Ito, 2017	Moldova	Remittances lead to appreciation of real exchange rate and decrease competitiveness of exports. It is necessary to implement policies that minimize the crowding-out effect of remittances. The focus should be importing capital goods, which increase the production capacity of the country.

Atabaev et al., 2014	Kyrgyzstan	Remittances have positive effects on output and imports in the short run, because the country is dependent on imports and remittances have a consumption smoothing character. Remittances would have an impact on the economy in the long run if they would be invested in long-term projects and if consumption preferences would change in favor of local products.
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Source: Author's own compilation

There is strong evidence that lower transaction costs increase remittances. Also, remittances impact the financial and economic environment in the recipient country. From this perspective, mobile money could fuel development in the case countries. Positive effects on development should be stronger in countries where remittances are used for investments and savings and lower in countries where remittances have a consumption smoothing role.

Mobile money: state of current research

Mobile money services are electronic financial services processed via a mobile phone. There are three main types: mobile banking, mobile payments and mobile money transfers (IOM, 2014). Mobile banking services are linked to a regular bank account. Mobile payments enable cashless payments and are usually linked to an electronic wallet, which can be connected to a mobile phone account, bank account, etc. Mobile money transfers are not linked to a bank account (Welton, 2009).

Remittances to the case countries are used mainly for consumption (Buckley and Hofman, 2012, Prohntichi and Lupusor, 2013, Atabaev et al. 2014). It is therefore necessary to have a network of agents who collect and hand out cash from the mobile system is necessary. These can be small retail shops, the telco company's own shops network, gas stations, etc. There are also various models of cooperation between mobile money operators and financial institutions. One transaction can involve several types of RSPs (see ABD, 2014)

The first successful mobile money transfer service was M-PESA. It was launched in 2007 in Kenya, by Safaricom, and was originally designed to microfinance through loans. It turned out that recipients of the loans usually sent the money to people located in other regions. The loans system was re-designed, focusing on money transfers. Remittances were the most important factor leading to the introduction of mobile money services. Mobile money has rapidly expanded to other countries in Africa and Asia. In 2015, mobile payments and transfers were already available in 85% of countries where the number of people with an account at a financial institution was below 20% (GSMA, 2016a).¹ Feasibility of mobile money services depends on many factors. It is necessary to have potential customers and mobile capabilities. Rich countries have enough mobile

¹ For brevity reasons many authors use the term 'mobile money' for mobile money payments and transfers. This paper will use 'mobile money' for mobile money transfers.

capacities, but few potential customers. In poor countries, ownership of mobile phones is common, while access to traditional financial institutions limited, thus there are more potential customers. On the other hand, not all mobile subscribers are potential users of mobile money. Basic mobile transfer services are SMS-based, but more complex services require internet connection. In the CIS countries the mobile phone penetration is high (80%), but mobile internet penetration is quite low (52%, only 7 percentage points above the global average). The penetration of unique mobile subscribers in the CIS countries is near to saturation and it is expected to grow only by 2 percentage points by 2025, while mobile internet penetration is expected to grow from 52% to 72% (GSMA, 2018).

Mobile money services are a relatively recent topic, there is a limited number of research papers focusing on the case countries. Existing studies on mobile money and remittances in transition countries are summarized in Table 2.

Table 2. Summary of existing literature on mobile money in transition countries

Authors	Research area	Conclusions
Welton, 2009	Feasibility study on the use of mobile phones for facilitating international remittances to Georgia.	Recommendations to connecting international remittances to mobile banking services; the author concludes that potential MMPs should cooperate with banks and MPOs in order to (1) offer a denser network of agents and (2) avoid existing cash-out problems due to lack of cash. The legal hurdles for setting a mobile phone-based banking are low.
Parikh et al., 2013	Country report with mobile money services in-country findings for Romania, Georgia, Ukraine, Turkey, Russia, Kazakhstan, Kyrgyzstan	Authors point out the obstacles and opportunities in each country. They focus on mobile money overall (all three types: mobile banking, mobile money transfers and mobile payments). Medium opportunity for mobile money transfer services in Georgia, Ukraine, and Kyrgyzstan, high for Russia and low for Moldova is found.
ADB, 2014	Armenia, Azerbaijan, Kyrgyzstan, Pakistan, Tajikistan, Uzbekistan	The report investigates how mobile money can improve financial access and deepen financial inclusion. It views mobile money in a broad sense (mobile banking, mobile money transfers and mobile payments).
ICMPD, 2018	Armenia	The study assessed feasibility of money transfer systems from abroad in Armenia.

Source: Author's own compilation

To the author's knowledge, there are no other relevant studies focusing on the case countries. The subject is relatively well covered for Armenia. The other countries are

covered sporadically or not at all.

Figure 1. Migrant life cycle stages and financial needs

1: Initial settlement	Survival Debt run-up
2: Legalization	Remittances Latent dormant demand of consumers credit and micro credit
3: Stable settlement	Remittances Savings products Payment services Loans for: consumption, start-up of economic activities, mortgages Non-life insurance “basic damages”
4: Consolidation	Remittances (?) More sophisticated financial needs, including: investments and asset management, life and non-life insurances, pension schemes, loans, mortgages

Source: Adapted from Anderloni and Vandone, 2006

Figure 1 is a systematization of financial needs through the migrant life cycle. It is constructed based on the assumption that migration is legal. After the initial settlement, migrants usually remit during all remaining stages, with probably less motivation to remit during the last stage, when migrants are more integrated and their connections to the home countries loosen. During the fourth stage migrants remit ‘because they want’, not ‘because they must’, convenience of the transfer process is thus very important to them. Mobile money could significantly boost remittances during this final stage.

Remittance markets and mobile money in the case countries

WB surveys 15 remittance costs corridors to the case countries. Table 3 shows the most important remittance source countries for the case countries. The Remittances Prices Worldwide (RPW) database is not comprehensive, as it fails to capture intra-CIS remittance corridors, even though they are important. In Moldova 15% and in Georgia 8% of remittances originate from Ukraine. Remittances are highly concentrated geographically. Over half of remittances come from Russia, except for Moldova. The RPW database also monitors several mobile money corridors (32 mobile money corridors in total, to 21 countries from Africa and Asia), but none to the case countries.

Table 3. Main sources of remittances (2017, % of total remittances)

Armenia		Georgia		Kyrgyzstan	
Russia	64%	Russia	59%	Russia	77%
United States	14%	Ukraine	8%	Germany	11%
Ukraine	5%	Greece	5%	Ukraine	3%
Other (France, Germany, Uzbekistan, Spain, Kazakhstan, Greece, Belgium, Belarus, Czech republic)	17%	Armenia	4%	Other	9%
		Uzbekistan	3%	(Uzbekistan, Tajikistan, Kazakhstan, Belarus, United States) Turkey)	
		Germany	3%		
		Cyprus	3%		
		Other (United States, Spain, Israel, Turkey, Italy, Belarus, France, Azerbaijan, Moldova, Austria)	15%		

Moldova		Tajikistan		Ukraine	
Russia	32%	Russia	76%	Russia	51%
Italy	20%	Kazakhstan	6%	United States	8%
Ukraine	15%	Ukraine	4%	Germany	5%
United States	6%	Germany	4%	Kazakhstan	4%
Romania	6%	Other (Uzbekistan, Belarus, United States, Azerbaijan)	10%	Italy	4%
Germany	4%			Poland	4%
Other (Portugal, Spain, Uzbekistan, Israel, Czech republic, Kazakhstan, Canada, Belarus, France, Greece, Turkey)	17%			Belarus	4%
				Uzbekistan	3%
				Israel	3%
				Czech Republic	3%
				Other (Spain, Canada, Portugal, Moldova, Latvia, Azerbaijan, Hungary)	12%

Note: Highlighted in grey – corridors covered by the RPW Database

Source: WB 2018a, WB 2018b, own calculations

The geographical compactness stands not only for incoming remittances, but also for the number of remitters. Over half of emigrants from Armenia, Georgia, Ukraine and 75% from Kyrgyzstan and Tajikistan head to Russia. Moldova is a specific case

with only 1/3 of immigrants in Russia (WB, 2018b). The proximity of the EU and language similarities with Italy and Spain make these countries a frequent destination for Moldovan emigrants.

Remittances sent to the case countries represent 3% of worldwide remittances, amounting \$17,6 billion in 2017 (WB, 2018b). The average amount remitted annually to the case countries in 2017 was \$537 per emigrant. The highest level was in Ukraine (\$722), the lowest in Georgia (\$183). If reduced to remittances from Russia, the highest ones were to Tajikistan (\$373), Moldova (\$543) and Ukraine (\$761) (WB, 2018b). Assuming emigrants remit four times per year, the remitted amount per transaction is around \$135. This is relevant for MMPs, as mobile money is highly competitive especially for small transfers (GSMA, 2016b).

Geographic concentration of both remittances and remitters are a possible incentive for mobile services in various indirect ways. According to Welton (2009), the country's small size is an advantage when implementing mobile money, as it is easier to reach a critical (minimum) level of acceptance of mobile services. The absence of geographical dispersion can be an opportunity for MMPs, as they could focus on a limited number of markets and reduce the entry costs (legal compliance, costs for attracting new customers, language barriers, etc.). The number of RSPs in the case countries is relatively high, with Money Transfer Operators (MTOs) predominating the market (Table 4). The average transaction costs of sending remittances range from 1,34% to Armenia to 6,8% to Ukraine (WB, 2018a). Compared to the global average, it is relatively cheap to remit to the case countries. Lower transaction costs can be caused by better financial literacy of migrants from these countries (compare to evidence of Karunarathna and Gibson, 2014). More importantly, transfers from Russia, which is the dominating source country, are highly competitive with an average fee of 1,2%. A possible explanation are migrant networks (see also Beck and Martinez Peria, 2011). Another explanation is the geographical proximity of sending and receiving countries, enabling a circulatory pattern of migration. Many migrants work in Russia illegally, using the possibility to enter the territory without a visa for a maximum period of 90 days within a period of 180 days. They are not allowed to enter the job market without a work permit, but the knowledge of the Russian language, large communities of nationals in the host country, high demand for low-skilled workforce make illegal employment easy. The geographical proximity allows migrants to travel home often, so they can carry cash on them and to rely less on official RSPs. According to Sintov et al. (2010) one quarter of Moldovans working in Russia use to carry cash on them when travelling home. In Armenia the estimate was 17% in 2008 (ICMPD, 2018). If MMPs are to succeed, the key is probably not only to offer competitive fees, but also provide increased convenience (improved accessibility, speed, better exchange rates, no need to go to a branch and to respect the opening hours, which might be problematic for migrants with fulltime jobs, etc.).

Table 4. Characteristics of remittance corridors: RSPs and costs for sending \$200

From:	Czech Republic		Germany		Italy		Russia		United States	
To:	Num- ber of RSPs	Total fee (%)	Num- ber of RSPs	Total fee (%)	Num- ber of RSPs	Total fee (%)	Num- ber of RSPs	Total fee (%)	Num- ber of RSPs	Total fee (%)
Armenia										
Bank									1	6,4
MTO							3	1,1	4	6,2
Georgia										
MTO							6	1,2		
Kyrgyzstan										
MTO			8	8,8			7	1,3		
Post office			1	6,1						
Moldova										
Bank			3	21,4	3	5,4				
Bank / MTO			1	14,2						
MTO			10	6,1	13	6,2	6	1,3		
Post office			2	3,6	1	10				
Tajikistan										
MTO			7	6,9			6	1,3		
Post office			1	6,1						
Ukraine										
Bank	5	12,1			3	7,6			1	4,5
MTO	6	9,1	8	6,4	12	5,1	2	1,2	6	6,4
Post office			1	6,1						

Source: WB 2018a, own calculations

Table 5 provides a deeper insight on the remittance market in the case countries. In terms of number of bank branches per 100.000 adults, the highest accessibility is in Armenia, Georgia and Moldova. These countries also have the highest share of urban population, which is important, as branches are often located in cities. On the other hand, this can be misleading. Countries like Armenia, Georgia differ geographically from Moldova or Ukraine. Similar distances in km vary in terms of real accessibility.

Ukraine is a specific case. As a result of the financial sector transformation, the number of banks dropped significantly, from 163 in 2014 to 82 in 2018. Combined with the highest population in the dataset, this results in 0,45 branches per 100.000

adults. Nevertheless, according to the Global Findex Database, the share of adults with a bank account is amongst the highest in the dataset (WB, 2018a). Ukraine has relatively low rates of individuals using the internet (only 57 % in 2017), which is higher than Kyrgyzstan and Tajikistan, but lower than Armenia, Georgia and Moldova. This can also lower the real accessibility of bank accounts and payment channels, as it limits services as internet banking, online payments, etc.

Table 5. Competition on the remittance market

	Armenia	Georgia	Kyrgyzstan	Moldova	Tajikistan	Ukraine
<i>Population (millions)*</i>	2,9	3,7	6,2	3,5	8,9	44,8
<i>Share of urban population*</i>	63%	58%	36%	43%	27%	69%
Number of banks (total number)	17** (CBA, 2018)	15** (NBG, 2018)	25** (NBKR, 2018)	11** (BNM, 2018)	17** (NBT, 2018)	82** (NBU, 2018)
Number of commercial bank branches per 100,000 adults*	23	32	8	27	6,5** (Strokova and Ajwad, 2017)	0,45
Number of MTOs*	8	7	15	17	16	21
Post office offering national and international money transfers	Yes** (Haypost, 2018)	Yes** (Georgian Post; 2019)	Yes** (Kyrgyz-pochtasy, 2019)	Yes** (Posta Moldovei, 2019)	No** (Pochtai Tojik, 2019)	Yes** (Ukrpochta, 2019)
Total number of telco operators	3: Ucom MTS Beeline	3: MagtiCom Beeline Geocell	3: Beeline Megacom O!	3: Orange Moldcell Unité	4: Tcell Babi- lon-Mobile Beeline MegaFon	8: Kyivstar Vodafone Lifecell Intertelecom Trimob Peoplenet Yezzz Lycamobile

	Armenia	Georgia	Kyrgyzstan	Moldova	Tajikistan	Ukraine
Individuals using the internet (% of population in 2017)*	70 %	60 %	38 %	76 %	22 %	57 %

Source: Author's compilation, * WB,2018a, ** for clarity reasons, the source is indicated immediately after the cited information

Besides banks, international money transfer services are also provided by post offices, except Pochtai Tojik in Tajikistan (Table 5). For financially unskilled persons it could be less intimidating to go to a post office. The transfer system is usually provided by an MTO. For example, Posta Moldovei in Moldova has 12 partners, amongst which there are Western Union, Money Gram, Zolotaia korona, Contact, Sigue, Unistream, etc. (Posta Moldovei, 2019). This increases their competitiveness as clients can chose the most convenient service. On the other hand, not all post offices necessarily fulfill the personal and technological requirements in order to provide these services.

Table 6 provides detailed information on services offered by telco companies. They were divided into five categories: no bank-like services (only pure telco services like sms, calls); national bank-like services (limited credit transfer, credit in advance); international bank-like services (bank-like services provided internationally), mobile money-like services (financial services with a third party involved – bank card, e-wallet, etc., telco operators do not have their own e-wallet) and mobile money (telco operators have their own e-wallet with no third party necessarily involved). The current trend is to provide at least basic bank-like services, consisting of providing users credit in advance upon request (they get the credit and pay later, usually within 15-30 days). It is also common to allow for credit transfer from one user to another (usually small amounts, up to \$5). Only Unité in Moldova and Yezzz and Lycamobile in Ukraine do not provide this kind of services. Some companies intend to introduce financial services, for instance Orange Moldova has expressed such plans (TV8, 2018).

Table 6. Summary of telco operators and offered services

	Armenia	Georgia	Kyrgyzstan	Moldova	Tajikistan	Ukraine
Telco operators with no bank-like services				Unité		Yezzz Lycamobile

Telco operators providing national bank-like services	Ucom Beeline	Geocell Magticom Beeline	Megacom O!	Moldcell Orange	Beeline	Kyivstar Intertelecom Trimob
Telco operators offering international bank-like services			Beeline		Babilon-Mobile Tcell	
Telco operators offering mobile money-like services					MegaFon	Peoplenet Lifecell (Paycell) Vodafone
Telco operators offering mobile money services	MTS (Mobidram)					

Source: Author's compilation based on BabilonMobile 2019, Beeline Armenia, 2019, Beeline Georgia 2019, Beeline Kyrgyzstan 2019, Beeline Tajikistan 2019, Geocell 2019, Intertelecom 2019, Kyivstar 2019, Lycamobile 2019, MagtiCom 2019, MegaCom 2019, Megafon 2019, Mobidram, 2019, Moldcell, 2019, O! 2019, Orange, 2019, Paycell, 2019, Peoplenet 2019, Tcell 2019, Trimob 2019, Ucom 2019, Unite 2019, Vodafone 2019, Yezzz, 2019

Some telco operators are present on several national markets (Beeline in Russia, Armenia, Georgia and Kyrgyzstan and Tajikistan, MegaFon in Russia and Tajikistan, MTS in Russia and Armenia, etc.). They are in a good position to test new services on one market and eventually expand to other markets. Beeline Russia offers mobile money-like services (possibility to transfer money from the mobile account to a bank account or e-wallet), but it did not expand these services to the case countries (Beeline Russia, 2019). Beeline Kyrgyzstan allows for credit transfers (from 50 to 5.000 Rubles, eg. \$0,77-77)) from Beeline users in Russia and charges no fees.

Tight connections with Russia are visible on the Tajik telco market. Babilon-Mobile and Tcell allow for credit transfer from users of MTS, Megafon, Tele2 and Beeline in Russia (up to 15.000 Rubles, transfer fees range from 6,5% to 10,5% depending on the operator) (BabilonMobile, 2019, Tcell, 2019). Tcell also enables credit charge from Kiwi and PayFon24 e-wallets in Russia (Tcell, 2019).

Some telco operators provide mobile money-like services. MegaFon in Tajikistan offers connection of the mobile account with the e-wallet Atlasplay, where users can

top-up account balances, make utility payments, pay in eshops, etc. It also provides mobile payments, consisting of the possibility to use the mobile account as e-wallet and pay for services. Many of these services are free of charge, only the maximum amount of the transactions is limited (Megafon, 2019). Peoplenet in Ukraine offers m-banking for clients of Privatbank (Peoplenet, 2019). These services are not very comprehensive and are limited only to several partners, they however reflect the intentions to provide financial services and are likely to develop further in the future. These are not true mobile money services, as users cannot transfer higher amounts of money to other mobile users without the need to connect to a second party (e-wallet or other financial account), but they exceed basic bank-like services.

Two telco operators in Ukraine provide services very similar to mobile money. Paycell (offered by Lifecell) users can send money from their mobile account to a card (with a fee of 5,5%), pay for utilities, internet, TV, etc. Transactions are limited to 14.000 UAH per month and 62,000 UAH (cca. \$2.300) per year. In order to cash out money, the user must send the money to a card and be charged the 5,5% fee, which is quite expensive (Paycell, 2019). Vodafone offers 'Vodafone Pay', which enables payments and money transfers from the mobile account or from the bank card. Users can therefore use their mobile accounts as a e-wallet with very limited services (Vodafone, 2019). These models can be viewed as mobile, but the cash out element is missing. In order to cash out, users must appeal to third party services.

The only telco operator in the case countries that fulfills all attributes of mobile money is MTS in Armenia, offering MobiDram. MobiDram is an e-wallet enabling various operations: account refill, cash withdrawals, transfers, utility payments, microloans, etc. In order to cash out, users must send a withdrawal request (from their mobile or online), then with the withdrawal code and personal ID they can cash out at a MobiDram or Converse Bank branch. Amounts for cash out are limited to 2 million AMD per month (\$4.160) with a withdrawal fee of 0,5%. MobiDram e-wallet also allows for microloans. They are provided for a period of one year, charging a daily fee instead of an interest rate. The daily fee is 200 AMD for a 25.000 AMD loan, but it is limited to a maximum of 2.000 AMD per month). MobiDram has a wide range of partners, e-wallets (Qiwi, WebMoney, eMoney, etc.) and telco operators (from Russia, Georgia, Kyrgyzstan, Ukraine). The fee for an international transfer (from/to a partner e-wallet or telco operator) is 1%. These transactions are usually limited to 100.000 AMD (\$208). If international remittances are sent to a MobiDram wallet and the user wants to cash out, the resulting fee is 1,5%. This fee is higher than fees charged by MPOs for transfers from Russia, but the difference can be compensated by better exchange rates and higher comfort of transfer.

Telco companies from the case countries appear to follow the current trend of large telco companies moving beyond their traditional mobile and fixed business towards additional services, as fintech, e-commerce, advertising, security solutions, banking services, etc., in order to reduce customer turnover and motivate the customers not to change the provider (GSMA, 2018). Table 7 compares the fees of MTOs and services offered by telco operators in the case countries. The only relevant comparison can

be made in Armenia, even if the maximum amount per transaction is relatively low. If compared to sending MTO \$200 via an MPO, mobile money appears to be more expensive. If the recipient would not cash-out, the costs would be slightly lower than those charged by MTOs.

Table 7. Comparison of MTOs and MMPs

From:	Russia	
To:	Number of RSPs	Total fees
Armenia		
MTO (sending \$200)	3	1,1% (amounts limited to \$208/transaction)
Telco (MMP)	1	1,5 % (International transfer with cash-out)
Georgia		
MTO (sending \$200)	6	1,2 %
Kyrgyzstan		
MTO (sending \$200)	7	1,3 %
Telco (international bank-like services)	1	No fees, amounts limited to \$77
Moldova		
MTO (sending \$200)	6	1,3 %
Tajikistan		
MTO (sending \$200)	6	1,3 %
Telco operators offering international bank-like services	3	6,5 – 10,5 % for credit transfers, max. \$241
Telco operators offering mobile money-like services	1	Mainly no fees
Ukraine		
MTO (sending \$200)	2	1,2
Telco operators offering mobile money-like services	3	Cca. 5,5 %, amounts limited to \$2.300/year

For the remaining countries the comparison has limited interpretations. In general, bank-like and mobile money-like services appear to be relatively expensive, but not in all cases. Some telco operators charge no or very low fees (for instance MegaFon in Tajikistan).

Conclusions

Empirical evidence suggests that lowering transaction costs leads to increase in remittance flows. Furthermore, many remitters to the case countries use informal channels, mobile money might motivate them to switch to formal channels.

The remittance market in transition countries is highly competitive in terms of transfer costs. The Russian remittance corridor is the cheapest worldwide, sending money to the case countries is therefore relatively cheap. MobiDram is an example that MMPs can offer competitive prices even in a highly competitive remittance market, but other telco companies are still reluctant to launch their own mobile wallets. Some attempts are registered, but they are uncomprehensive, have low maximum amounts and are expensive. On the other hand, bank-like services are already standard, only a few telco operators do not provide them. Due to geographical compactness and ease to travel to Russia, the growth of MMPs will probably not be as intensive as in other Asian and African countries, but further development of financial services offered by telco companies is highly probable.

A key factor for the transition countries a whole is the geographical compactness. Population from former Soviet Countries speak Russian as a first or second language, they share certain cultural similarities, which can reduce entry costs to the industry. This is also reflected on the telco market, where some telco operators cover several countries in the region.

In addition to competitive costs, further aspects must be added for mobile money to succeed, like better convenience for the clients (network of agents, partner e-wallets and telco companies, diversify the geographical spread of partnerships). In terms of social and economic impact on the case countries, better convenience of transfers and higher amounts could lead to further positive effects on savings, investment, financial services, access to education and healthcare. This is however conditioned by the environment in the recipient countries. If the entrepreneurial activity is limited, financial sector underdeveloped, positive effects of remittances are low.

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