**Uganda: Payment System Development**

## Ex-post Evaluation Report

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| **OECD sector** | 24030/Formal sector financial intermediaries | |
| **BMZ project ID** | BMZ no. 2000 66 449 (sample 2008) | |
| **Project executing agency** | Bank of Uganda | |
| **Consultant** | IMC | |
| **Year of ex-post evaluation report** | **2008** | |
| | **Project appraisal (planned)** | **Ex-post evaluation (actual)** |
| **Start of implementation** | 2nd quarter 2001 | 1st quarter 2002 |
| **Period of implementation** | 24 months | 38 months |
| **Investment cost** | EUR 1.15 million | EUR 3 million |
| **Counterpart contribution** | EUR 0.13 million | EUR 1.98 million |
| **Financing, of which FC funds** | EUR 1.02 million | EUR 1.02 million |
| **Other institutions/donors involved** | GTZ | GTZ |
| **Performance rating** | 3 | |
| **• Relevance** | 3 | |
| **• Effectiveness** | 2 | |
| **• Efficiency** | 3 | |
| **• Overarching developmental impact** | 3 | |
| **• Sustainability** | 2 | |

## Brief Description, Overall Objective and Project Objectives with Indicators

In its original design, the project, Payment System Development (BMZ no. 2000 66 449, sample 2008) was aimed at improving the underdeveloped payment transaction system in Uganda by converting the manual check clearing office at the Bank of Uganda (BoU) into a legally independent automated interbank clearing house (electronic clearing system) largely independent of the central bank. Due to legal difficulties in founding the clearing house, agreement was reached in 2003 on the alternative use of FC funds to set up a real time gross settlement system (RTGS). Financial sector development is a priority of German Development Cooperation in Uganda. GTZ implements a broad programme in this sector, into which the relatively small FC project fits.

The project measure was aimed at modernising Uganda’s payment system and improving transaction conditions for enterprises operating there and for private bank clients, with a view to enhancing the climate for economic and employment growth. The objective of the project was to improve the effectiveness and efficiency of the Ugandan payment system with a view to making a substantial contribution to developing an efficient networked financial system in Uganda (overall objective). To be able to assess project objective achievement, the following indicators were applied:

Clearing time for remittances over USD 1,000 has been reduced to ‘zero’.

Overall objective achievement was to be measured by the following indicator:

The money supply held outside the banking sector continues to decrease relative to M1 money supply.

**Project Design/Major Deviations from the Original Planning and their Main Causes**

The Ugandan economy depends heavily on farming and is therefore subject to seasonal risks and external developments in world market prices for agricultural products. The project was designed at the beginning of 2001 during a prolonged phase of ongoing economic growth, attended by monetary stability and a modest decline in the high percentage of the poor. At that time, the Human Development Index (HDI) rating came to 0.435, at rank 141. By 2007/2008, this figure improved in absolute terms to 0.505, but the ranking was relegated to 154. Mounting trade and current account deficits, widespread corruption, heavy foreign indebtedness, insufficient tax revenue and the underdeveloped financial sector, however, have now come to pose serious risks to future growth prospects. A major perspective for the future development of Uganda then as now is greater economic and political convergence with Kenya and Tanzania.

Initial reform steps had been taken in the highly underdeveloped financial sector at the beginning of the 1990s. These comprised liberalising the foreign exchange market, strengthening banking supervision by the central bank, the Bank of Uganda (BoU) and adopting new banking legislation. The Ugandan Stock Exchange was also established, but its trading and new issue business was limited due to the large government stake in enterprises. There were a large number of banks, but their services did not extend to rural areas. Their business performance and finances were also impaired by the large amount of non-performing loans.

The financial and banking sector has made progress since then. Most of the formal financial sector is made up of efficient financial and microfinance institutions and is regulated by comparatively effective legislation and supervision by African standards. Last year, four new banks were granted access to the market, which enhanced competition. The loans issued to the private sector have increased by 20% in each of the last 3 years. The share of non-performing loans in the same period remained less than 3% of total lending, except for 2007. At the same time, GDP grew at an annual rate of 6-10%.

Still today, however, less than 10% of the population have access to financial services. The rural population is particularly deprived since most commercial banks are concentrated in urban areas, which is why cash is still the main means of payment in rural regions. Approximately 1,000 microfinance institutions are unregulated and unsupervised with largely intransparent and inefficient operations. Loans to the agricultural sector, which is so important for Uganda, only account for about 8% of total lending. The rate of saving is also comparatively small and the unregulated banking sector uses inefficient credit technologies and incurs high transaction costs. Altogether, the Ugandan financial sector still lacks depth as compared with the other East African states.

The project's main approach was to address the deficits ascertained at appraisal in the administration of non-cash manual payment transactions, which took over one week to clear cheques. Rural development in particular is hampered by the lack of reliable non-cash modes of payment. This is why the original design envisaged converting the cheque clearing office of the central bank into an independent clearing institution and automating cheque clearance through the introduction of appropriate software. The introduction of other non-cash modes of payment was also planned. The statutes of the BoU permitted it to outsource the settlement of non-cash payments and found an independent enterprise for this purpose, provided this was non-profit. A new legal review in 2002, however, revealed that cheque clearance must be performed as a sovereign task of the BoU so that central bank legislation would have had to be amended beforehand. For this reason agreement was reached on meeting payments requirements in a phased arrangement. Finally in 2003, new calculations by BoU showed that the anticipated fee revenue would not suffice to cover the costs of an independent clearing house even in the medium term. With an alternative allocation of funds, the introduction of a RTGS system was proposed and approved.

Since due to the charges entailed, a RTGS system is only worthwhile for payments above USD 1,000, this project amendment also constricted the target group. The development of rural areas as originally intended was therefore only possible to a limited extent. Nevertheless, setting up a RTGS system is an important constituent in developing a modern payment system and contributes to the consolidation, networking and efficiency of the financial system. The project enabled the electronic and secure processing of large payments in the first place. To have an effect on rural areas, though, other components are needed.

The RTGS system is a payment transaction system that completely eliminates time delays in payment orders through the direct electronic networking of the participant banks with the central bank. Communications are handled by the Society for Worldwide Interbank Financial Communication (SWIFT), which provides its member financial institutions with secure and very reliable global information exchange. The RTGS system, which started operation in February 2005, is institutionally attached to the BoU. The project included the following components:

- Financing for the requisite hardware and software
- Financing for the consulting inputs needed to set up the system
- Training activities for central bank personnel

The BoU performs four important tasks in this connection. It is the system carrier, i.e. it procured the requisite components, operates and manages the system and upgrades it where necessary. Besides this, it is a direct participant in the system, by initiating payments, and helper, by arranging for payments by banks that cannot do this from their offices. In addition, it supervises the whole system from the origin of payment to the intermediate institutions, the state and effectiveness of the technical and legal infrastructure to payee account crediting. It regularly checks the procedures and the efficiency of the system and associated risk management.

Three divisions in the BoU are responsible for handling transactions under the RTGS system. One division also takes care of technical support and another of system administration. The latter also undertakes supervisory tasks, while its own activities and system security and efficiency are monitored by yet another (Quality Insurance/Payment System Oversight). Most of the personnel in these divisions hold a degree (Bachelor or Master), have been employed there for one to three years and take part in in-house and external training. The BoU regularly collects basic data on payment transactions such as volume and amounts, downtimes in the RTGS and SWIFT systems, types of payment (e.g. customer to customer, interbank or money-market payments), customer complaints and the time taken for the money to be credited to the payee account. This data is evaluated as the basis for monitoring reports that can contain proposed measures or requests for corrections to the system. Each quarter, all divisions in the BoU must analyse their processes, identify risks and propose measures for dealing with them. The BoU has taken broad precautionary measures to cope with operational, human and legal risks as well as liquidity, default and supply risks.

The BoU also bears a large part of the costs of the system, including for ongoing maintenance and investments in hardware and software for the pending upgrade. The total costs of the project are estimated at EUR 3 million, of which EUR 1.02 million have already been allocated as a budget grant. More exact data on the full costs of the system is not available. Assuming, however, 200,000 transactions a year and a useful life of 5 years for the hardware and software procured, fixed costs alone amount to roughly EUR 3 per transaction. Added to this are operating costs, such as electricity and SWIFT charges. Rather than charging the participant banks on the basis of full costs, including all depreciation costs, the BoU thus only demands an average of less than USD 1 per transaction. These consistently low charges since the introduction of RTGS are aimed at eliciting system acceptance among banks. The banks themselves currently charge their customers between USD 2 and USD 10 per transaction, which is negligible in large volumes of transactions above USD 1,000 as envisaged for RTGS.

Altogether, the payment system has developed well in the last few years in Uganda. In 2002, the BoU replaced manual cheque clearance with an electronic clearing house (at least in part), which automates and simplifies payment settlements. The reason for installing a clearing house despite the previous problems with financing an independent electronic clearance could not be explained by the stakeholders. In payment transactions, electronic payment systems were also set up for wholesale and retail trade, although very little use is still made of cards for point-of-sale (POS) payment. Smaller payments, for school fees, wages, energy and water costs, for example, can be made either by cheque or electronic funds transfer (EFT - which includes remittances, direct debit authorisations and card payments). These two modes of payment currently make up 96.3% of all electronic transactions, but they amount to only 21.2% in value terms. The remainder of electronic payments is dealt with via the RTGS system.

In electronic clearing, payment balances are debited/credited and settled at the end of each day. With the introduction of the RTGS system, this time delay for large and time-critical transfers was eliminated, creating a secure payments infrastructure, which is also important for foreign investments. The RTGS system has thus become an important pillar of the Ugandan economy. Despite visible improvements in non-cash payment transactions in Uganda, 85% of all financial transactions still take place in cash (above all smaller amounts outside the central regions). This places a heavy constraint on rural development as was originally intended.

After initial reticence, 17 banks are now engaged in the RTGS system, with additional banks scheduled to join in the coming months. The commercial banks have now come to take part in the RTGS system, since all obligations in electronic payment transactions (cheques, EFT and card payments) are cleared through the RTGS system. Moreover, all payments over USD 12,000 must be cleared through the RTGS system, obliging commercial banks in particular to take part. The Ugandan Government also makes sole use of electronic modes of payment such as RTGS and EFT as of July 2007. As the system is due to be upgraded for web-based operation in 2009, the resultant lower market access costs are also expected to attract non-banks, such as microfinance deposit-taking institutions. All current participant banks are based in the capital Kampala. Those banks with a network of branch offices in the rest of the country can, however, handle requests for RTGS payments from the branch offices quickly online. The participant banks must provide the technical infrastructure and manage the incoming and outgoing transfers. New participant banks receive training from the BoU and banks that have already been members for some time can also take part in refresher courses and instruction on system upgrades.

The customers are informed about the RTGS system through the BoU homepage and the press. There is keen demand for secure and efficient modes of payment in the Kampala region in particular, which makes up the economic and financial centre of the country. For example, RTGS enables enterprises to order materials faster and more closely in line with needs, which makes for distinct cost savings. Moreover, payment transactions are more secure, as evident from the drastic drop in cheque fraud. This is why all scales of enterprise use the system, although cash is still the predominant means of payment outside the central regions.

**Key Results of the Impact Analysis and Performance Rating**

An initial problem or inaccuracy here is the wording of the indicator for measuring the project objective achievement, that is, reducing clearance time for transfers over USD 1,000 to ‘zero’. The project objective indicator merely measures a defining feature of a RTGS system (zero clearance time). Important for users, however, is not clearance time, but the whole time that elapses from making the payment order to crediting the payee account. Moreover, there are no indicators for measuring the effectiveness of the system, e.g. access for the intended users (number and locations of participant banks) and use (number and volume of transactions).

The financed measures achieved the objective of reducing clearance time for payments. The recommended time for a RTGS payment to be credited to the payee account is 2 hours. Due to technical deficits at the commercial banks, it can, however, take considerably longer. At the moment, however, the BoU requires the banks to take appropriate technical measures to reduce handling time in the future and a penalty is also planned for non-compliance.

The overall objective of making a contribution to building an efficient networked financial system in Uganda, has been achieved, but to a limited extent only. Compared with M1 money supply, money held outside the banking sector has declined since the RTGS system started operating from 80% to 77%, which indicates that the large majority of the population still lacks access to financial services. This will be addressed by other measures in the future under the financial sector programme.

Environmental protection and resource conservation did not figure in project design. System use was not aimed at gender equality. Participation/Good government were not explicit project objectives. The measure has, however, helped build up the relevant institutional infrastructure at the central bank as well as extensive risk management. It impressed the importance of secure and modern payments facilities on the Government, which now makes all its payments electronically.

Taking account of the additional indicators cited above, the developmental efficacy of the project, Payment System Development, is assessed as follows:

a) Relevance

The project appraisal found that the Ugandan payment system, with its lengthy cheque clearance times and uncertainties, was in need of development. To modernise payment transactions in particular and the financial system in general, it was finally decided to introduce and implement the RTGS. For the first time, the project enabled secure, non-cash transactions of large and time-critical amounts. It thus helped to modernise the Ugandan payment system and develop and strengthen the financial system along with the economy as a whole.

After amendment, the project design can be considered as appropriate to the framework and adequate for solving the problem with a view to financial sector development. The rewording of the results chain is plausible. The introduction of the RTGS system did not, however, succeed in reducing poverty through improved access to financial services for the rural population, as originally intended. In hindsight, it is no longer possible to ascertain why the original design proved impracticable. The needs and/or the available capacity in the financial system and the legal situation may have been wrongly assessed. The impact analysis does not seem to be worded in adequate detail, which is why the anticipated results, especially in poverty reduction, were presumably overoptimistic.

The measure conforms with the priorities of the Ugandan Government, which attaches special significance to developing the financial sector for poverty reduction. Among others, the Poverty Eradication Action Plan (PEAP) and the Poverty Reduction Strategy Papers (PRSP) set out a comprehensive policy framework for this. The measure also fits in with the BMZ strategy as the financial sector constitutes a priority of German Development Cooperation with Uganda and as it is a component of the related strategy. The overall programme also comprises sector policy and strategic advice, organisational development and personnel capacity-building in the financial sector implemented by German TC. This strengthens the framework and the institutions in the financial sector, enabling the banks to operate more efficiently, which is also supported by measures financed by Germany, such as the RTGS system. Coordination and cooperation among the various donors in the priority area functions very well. Donors consult in several bodies (e.g. Private Sector Donor Group, Microfinance Forum and the PMA Sub-Committee).

Overall, the measure thus contributes to the stability and efficiency of the financial sector, but it only makes an indirect contribution to poverty reduction via all the development cooperation measures in the country. We therefore assess general relevance as satisfactors (rating 3).

b) Effectiveness

The project objective of reducing payment clearing time was achieved. The financial system overall was strengthened by the introduction of the RTGS system. Large and urgent payments can now be made safely and the systemic risk in the banking sector has been reduced. Systemic risk arises when banks become insolvent in the period between the electronic payment order and clearance. At first, the participant banks were hesitant to take part as they had profited from the long clearance times. Now, however, they can earn revenue from fees. As clients increasingly demand modern modes of payment, the banks can attract and retain them by providing this service.

The system is very popular with users, especially companies and private individuals in the economically prosperous central regions of Uganda, and has now come to be adopted as standard procedure for large amounts, so that 90% of the relevant transfer volume is handled with this system. It enables the firms to plan their liquidity better and reduce stock levels so as to save costs and allocate capital more quickly for productive purposes. The wealthy, urban population now has also improved access to modern modes of payment. The volume of payments cleared by RTGS in the first month of operation in February 2005, UGX 1,189 billion, increased by 319% to UGX 4,985 billion. In the same period, the number of monthly transactions rose from 3,036 to 20,056, an increase of 560%. Since most commercial banks operate in Kampala, however, access is limited for the rural population, both geographically and due to the high minimum sums for transactions.

As the executive agency of the measure, the BoU is relatively autonomous and is held in high regard for its successful monetary policy. It has created appropriate capacities and structures to clear and administer payment transactions  and manage the risks entailed. The BoU has demonstrated keen interest in running and developing the system on its own.

Altogether, effectiveness is assessed as good (rating 2).

c) Efficiency

The software financed by the measure was procured in a closed tender, since the three East African countries Uganda, Tanzania and Kenya wanted to install a cross-border RTGS system and compatibility had to be assured. At total costs of about EUR 3 million, fixed costs alone amount to roughly 3 EUR per transaction. Added to this are operating costs, such as electricity and SWIFT charges. A large part of the cost of the system is therefore borne by the BoU. This makes sense for a transitional phase as the low charges for the banks act as an incentive to take part in the system, even at very moderate fees. The more banks that take part, the larger the fee revenue for the BoU, even at very moderate charges. In the long term, though, the system should also recover costs for the BoU as well. The transaction fees of up to USD 10 demanded by the banks of their customers would therefore seem reasonable, but also indicate that the BoU could charge a larger contribution from the participant banks. Even though the project under review is comparatively small, it financed an important component of a payment system. It therefore addressed the right segment, especially as it can be expected to have trigger-down effects for the whole payment system and introduce technological advances in the banks. Productive and allocative efficiency are therefore sufficient.

Problems with the implementation of the originally planned project caused considerable delays. After conceptual alterations, however, the system could be implemented without delay.

We therefore assess efficiency as satisfactory (rating 3).

(d) Overarching developmental impact

Altogether, the effects of the RTGS system on modernising, networking and stabilising the financial sector merit a favourable assessment. There has been a distinct reduction of risks in transactions, target group needs (large enterprises, rich private individuals) are met and the participant banks have introduced technologies or modernised their technical infrastructure. This has also resulted in additional capacity impacts on the financial sector. Several components have now been introduced into payment transactions that now cater for poverty reduction through improved access to financial services for the rural population. Especially in POS payments, for example, joint efforts are being made with microfinance institutions with the aim of better involving the rural population.

The RTGS system has also had beneficial effects on the Ugandan economy. Thanks to the direct effects on liquidity management and productivity in companies it has come to be a major pillar of national economic development and has made a major contribution to improving the climate for local and foreign private investments.

RTGS' share in the total volume of electronic transfers is relatively small, though. In terms of value, only a few large payments are cleared altogether (some 1,000 of 6,000 to 8,000 a day). Cash reserves have only diminished insignificantly by 3 percentage points since the introduction of the RTGS system. There has hardly been any effect on rural areas or micro enterprises as originally intended. A possible risk is posed by the danger of a widening gap between large-scale and small enterprises or rich and poor sections of the population. This will, however, be offset by the added components now underway.

Altogether, the overarching developmental impact is gauged as satisfactory (rating: 3).

e) Sustainability

Overall, the RTGS system is robust and reliable in its operation. It has established itself well and bank participation in the system is now driven by customer demand. No serious complaints are made by users and RTGS is broadly accepted as a standard system for large payments.

The upgrade for a web-based system for 2009 is currently in preparation, which will also reduce market access costs. There is a plan to dovetail with the RTGS in the two other East African countries Tanzania and Kenya so that payments will be possible in these foreign currencies. Moreover, progress is being made in linking up with the Ugandan Stock Exchange to make trading in securities more attractive through a so-called (simultaneous) delivery vs. payment (DVP) system.

The BoU is still prepared to bear a large part of the costs. It expects an increase in use over the next few years so that 95% of all large payments will be made via RTGS. It also anticipates that the number of participant banks will increase, thus reducing transaction costs. This calls for ongoing growth in the real and financial sector, though.

Sustainability is therefore rated as good (rating 2).

Taking all the above impacts and risks together, we assess developmental performance as satisfactory (rating 3).

**General Conclusions and Recommendations**

Setting up a comprehensive payment system for a whole country heavily depends on the available capacity in the financial system. The following points are important for *project design*:

a) The payment system cannot be analysed separately from the structure of the banking sector (formal vs. non-formal banks, geographical scope) and the technological capabilities of the banks.

b) The legal framework needs to be scrutinised for the institutional setup.

c) Other areas, such as power supply and infrastructure, may also have to be considered.

d) The needs of prospective users must be analysed closely to ascertain what kind of payment system is appropriate and adequately addresses the problem.

e) Payment systems should not be planned separately for one country. Account must at least be taken of subsequent cross-border integration.

In future payment transaction projects, an exact analysis should first be made of which components can be integrated into the available infrastructure and in which timeframe. Setting up a comprehensive payment system as originally intended for Uganda is evidently impossible in such a short period as 2 years, at least under the specific financial/banking sector conditions prevailing in Uganda. A sequential procedure should therefore be regularly monitored to avoid losing time unnecessarily through conceptual changes, as happened here.

**Notes on the methods used to evaluate project success (project rating)**

Projects are evaluated on a six-point scale, the criteria being relevance, effectiveness (outcome), "overarching developmental impact" and efficiency. The ratings are also used to arrive at a final assessment of a project's overall developmental efficacy. The scale is as follows:

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| 1 | Very good rating that clearly exceeds expectations |
| 2 | Good rating fully in line with expectations and without any significant shortcomings |
| 3 | Satisfactory rating – project falls short of expectations but the positive results dominate |
| 4 | Unsatisfactory rating – significantly below expectations, with negative results dominating despite discernible positive results |
| 5 | Clearly inadequate rating – despite some positive partial results the negative results clearly dominate |
| 6 | The project has no positive results or the situation has actually deteriorated |

A rating of 1 to 3 is a positive assessment and indicates a successful project while a rating of 4 to 6 is a negative assessment and indicates a project which has no sufficiently positive results.

**Sustainability is evaluated according to the following four-point scale:**

Sustainability level 1 (very good sustainability)

The developmental efficacy of the project (positive to date) is very likely to continue undiminished or even increase.

Sustainability level 2 (good sustainability)

The developmental efficacy of the project (positive to date) is very likely to decline only minimally but remain positive overall. (This is what can normally be expected.)

Sustainability level 3 (satisfactory sustainability)

The developmental efficacy of the project (positive to date) is very likely to decline significantly but remain positive overall. This rating is also assigned if the sustainability of a project is considered inadequate up to the time of the ex post evaluation but is very likely to evolve positively so that the project will ultimately achieve positive developmental efficacy.

Sustainability level 4 (inadequate sustainability)

The developmental efficacy of the project is inadequate up to the time of the ex post evaluation and an improvement is very unlikely. This rating is also assigned if the sustainability that has been positively evaluated to date is very likely to deteriorate severely and no longer meet the level 3 criteria.

The overall rating on the six-point scale is compiled from a weighting of all five individual criteria as appropriate to the project in question. A rating of 1 to 3 indicates a "successful" project while a rating of 4 to 6 indicates an "unsuccessful" project. In using (with a project-specific weighting) the five key factors to form a overall rating, it should be noted that a project can generally only be considered developmentally "successful" if the achievement of the project objective ("effectiveness"), the impact on the overall objective ("overarching developmental impact") and the sustainability are considered at least "satisfactory" (rating 3).