



Report and Recommendation of the President to the Board of Directors

Project Number: 46312
November 2013

Proposed Loan Mongolia: Payment System Modernization Project

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 21 October 2013)

Currency unit – togrog (MNT)

MNT1.00 = \$0.00059

\$1.00 = MNT1,698.50

ABBREVIATIONS

ADB	–	Asian Development Bank
BOM	–	Bank of Mongolia
FTS	–	financial transfer switch
LIBOR	–	London interbank offered rate
LVPS	–	low-value payments system
NETC	–	National Electronic Transaction Center
PIU	–	project implementation unit
RTGS	–	real-time gross settlement

NOTE

In this report, "\$" refers to US dollars.

Vice-President	S. Groff, Operations 2
Director General	A. Konishi, East Asia Department (EARD)
Team leader	Y. Qian, Director, Public Management, Financial Sector, and Regional Cooperation Division, EARD
Team members	B. Konyshbayev, Senior Counsel, Office of the General Counsel S. Lee, Financial Sector Specialist, EARD
Peer reviewers	A. Lkhagvasuren, Economics Officer, Mongolia Resident Mission S. Kawai, Senior Financial Sector Specialist (Banking), Office of Regional Economic Integration S. Tukuafu, Principal Financial Sector Specialist, Southeast Asia Department

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PROJECT AT A GLANCE

1. Project Name: Payment System Modernization Project		2. Project Number: 46312-001	
3. Country: Mongolia		4. Department/Division: East Asia Department/Public Mgt, Financial Sector, and Regional Cooperation Division	
5. Sector Classification:			
	Sectors	Primary	Subsectors
	Finance	✓	Banking systems
6. Thematic Classification:			
	Themes	Primary	Subthemes
	Economic growth	✓	Promoting economic efficiency and enabling business environment
	Governance		Economic and financial governance
	Capacity development		Institutional development
6a. Climate Change Impact No Climate Change Indicator available.		6b. Gender Mainstreaming	
		Gender equity theme (GEN)	
		Effective gender mainstreaming (EGM)	
		Some gender elements (SGE)	
		No gender elements (NGE)	
		✓	
7. Targeting Classification:		8. Location Impact:	
General Intervention	Targeted Intervention		
	Geographic dimensions of inclusive growth	Millennium development goals	Income poverty at household level
✓			
9. Project Risk Categorization: Low			
10. Safeguards Categorization:			
		Environment	C
		Involuntary resettlement	C
		Indigenous peoples	C
11. ADB Financing:			
	Sovereign/Nonsovereign	Modality	Source
	Sovereign	Project loan	Ordinary capital
	Total		20.0
			20.0
12. Cofinancing: No Cofinancing available.			
13. Counterpart Financing:			
	Source	Amount (\$ Million)	
	Government	2.5	
	Total	2.5	
14. Aid Effectiveness: No Aid Effectiveness available.			

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to Mongolia for the Payment System Modernization Project.¹

2. The proposed project will deliver four outputs to modernize the payment system in Mongolia. It will (i) strengthen interbank payment system infrastructure, (ii) upgrade retail payments infrastructure and support systems, (iii) provide technical support and external services, and (iv) establish the legal and regulatory framework.

II. THE PROJECT

A. Rationale

3. The financial system in Mongolia comprises 14 commercial banks – one state-owned while the rest are privately owned. Banks control more than 96% of the financial sector's overall assets, with the remainder shared by nonbank financial institutions.² The top five banks account for 87% of total banking assets. Loans are the primary source of banking revenues and represent 50% of total assets. Approximately 65% of lending goes to the trade, construction, real estate, mining, and manufacturing sectors. About 80% of the loans are extended to borrowers in Ulaanbaatar, the capital and main urban center, and 90% small and medium-sized enterprises do not have adequate access to finance. Part of the reason why Mongolia's financial sector is highly concentrated in urban centers, and unable to serve the rural population and small and medium-sized enterprises, is due to its antiquated payment system. The rugged terrain and limited availability of transport make it costly for financial institutions to extend and maintain their mainly cash-based services in remote and sparsely populated rural areas. As a result, Mongolia suffers from urban-rural disparities and is one of the countries where inequality has increased over time.

4. An efficient payment system that has an appropriate interbank and retail payment infrastructure in place is critical to the functioning of the financial markets. Reducing the cost of financial service delivery through branchless banking, and use of noncash payment methods through mobile phones, enhance access to finance by the poor. It is also recognized that a disruption in the operation of the payment system can precipitate a systemic crisis in the financial system itself. Challenges for Mongolia's payment system include the need to improve accessibility to the rural and poor population; lower the cost of processing; resolve fragmented services through upgrading and standardization; address security risks; and update the legal and regulatory framework.

5. **Current payment system.** The current payment system was built with support from the World Bank under its Financial Capacity Development Project, completed in 2009. The project helped establish the switch clearing center, now known as the National Electronic Transaction Center (NETC), and the real-time gross settlement³ (RTGS) system. The RTGS (also known as the core banking system or general ledger system) forms the backbone of the interbank

¹ The design and monitoring framework is in Appendix 1.

² This includes 212 microfinance companies, 148 savings and credit cooperatives, 18 insurance companies, and 95 securities and/or brokerage firms in 2012.

³ The RTGS supports high-value transactions of MNT1 million or more in real time.

payments or wholesale banking infrastructure along with the central bank accounting system⁴ and the central bank bills system.⁵

6. The NETC administers the financial transfer switch (FTS) that is based on the Bevertec ESP-Link/FTS software. This forms the core of the retail payment infrastructure. However, the low-value payments system (LVPS)⁶ uses the FTS to clear transactions on a net settlement basis.⁷ The LVPS was developed in-house by the Bank of Mongolia (BOM), the country's central bank. The FTS covers electronic fund transfers at point-of-sale or ATM switching. The NETC also launched an interbank payment card switch to promote noncash economic activities by providing integrated interbank payment card processing. Prior to this, three commercial banks were providing card services through their own networks. Because their point-of-sale terminals were not compatible, merchants were required to install three different point-of-sale terminals if they wanted to accept all three cards. To solve this lack of interoperability, the NETC undertook a joint project with the banks to consolidate the private bank networks and provide a single system for processing all card transactions.

7. **Challenges.** The modernization of the payments system component was rated satisfactory in the Project Completion Report of the World Bank's Financial Capacity Development Project. It was clear to BOM that even before completion of the project in 2009, the payment system would need further development to overcome technical limitations, and address market requirements and policy issues as they evolved.⁸ The system will need to meet worldwide industry standards for availability, i.e., it must be available 99.98% of the time on an annual basis, and the system components used must meet planned objectives, including financial inclusion. The impetus for modernizing the current payment system is derived from the following:

- (i) **Evolving market needs.** Payment transactions are rising rapidly. Card payments have more than doubled since 2009.
- (ii) **High cost of processing.** The per-transaction processing cost of the existing system was estimated at about MNT233 in 2010, compared with the equivalent of about MNT12 in the Republic of Korea.
- (iii) **Difficulty of access for the country's rural population, including many of the poor.** While Mongolia has one of the highest bank branch penetration rates in the world based on population (with 54 branches per 100,000 adults), branch penetration in geographical terms, given its more than 1.56 million square kilometers of land area, is one of the lowest. Advances in communications technology, and the high current and projected levels of communications connectivity in the country, presents Mongolia with the opportunity to provide remote areas access with high-tech access to financial services.
- (iv) **Limitations of current software.** Neither the central bank accounting system nor the central bank bills system allows for collateral management, or the pledging of such securities as government issues, to collateralize transactions by banks within the payments system. This exposes banks to avoidable settlement risks. With the exception of the US dollar and the Chinese yuan, the central bank

⁴ A simple system developed in-house for exchanging of US dollars and Chinese yuan for togrogs.

⁵ A book entry system for the trading and auctioning of central bank bills and treasury bills and bonds.

⁶ The LVPS covers transactions of less than MNT1 million.

⁷ At the end of each business day, the NETC calculates the net position and sends the final settlement data to the RTGS.

⁸ Before the close of the World Bank project, a payment systems consultant worked closely with the BOM to identify technical limitations and policy issues that need to be further addressed.

accounting system does not register trades or the transfer of reserves between member banks made in foreign currencies. The LVPS, being an in-house product, does not provide for direct debits. The general ledger system is also outdated and needs to be replaced.

- (v) **Incompatible and competing payment platforms.** Financial solutions providers and mobile network operators have set up their own mobile payments systems. A number of banks have also implemented proprietary closed-loop mobile financial services systems. This will lead to a fragmentation in the services within the payments system that could prove costly and constrain future expansion and development. It is critical that a common platform is set up that ensures interoperability between competing systems.
- (vi) **System-wide financial risk posed by payment system weaknesses.** BOM has recognized that a disruption in the operation of the payment system could precipitate a systemic crisis in the overall financial system.
- (vii) **Lack of standardization.** New products and services are being introduced and proposed. However, for better control and ease of use, these service systems need to be standardized, so that financial organizations and companies avoid duplication of investments and unnecessary expenses.
- (viii) **Outdated legal and regulatory framework.** The framework needs to be updated to cover the new and planned operations, protect consumers, and strengthen the oversight capabilities of the BOM. This includes the need for banks and other payments system participants to implement rules designed to combat money laundering and the financing of terrorism through such steps as 'know-your-customer' procedures and other customer due diligence. This is particularly important in light of the expected increase on the use of noncash fund transfers in the country.
- (ix) **Inadequate coordination.** In addition to BOM, the Financial Regulatory Commission, which oversees the operation of nonbank financial institutions, and the Information Communications Technology and Post Authority, which implements an e-signature law and related laws and regulations governing e-commerce, are also involved in managing the various facets of the payment and settlement operations. Inefficiencies may occur if there is no clear delineation of roles among relevant authorities.

8. **Government objective.** The project is in response to a request by the Government of Mongolia to support its aim of modernizing the country's payment system. The government's goal is to provide cost-effective, up-to-date payment infrastructure and schemes that will meet the current and future needs of the government, business, and individual consumers. The government also wants to provide citizens located in remote and inaccessible areas access to secure, reliable, efficient financial services, regardless of their geographic location or income level. Providing an effective payment system that facilitates fund transfers and access to liquidity is a core requirement for the development of Mongolia's financial market.⁹

9. **Consistency with government and ADB strategy.** The project is consistent with the government's national development strategy, which is based on the Millennium Development Goals, and calls for the strengthening of the financial and banking systems and services. The

⁹ The modernized payment system in Mongolia will conform to the core principles for systemically important payments system developed by the Bank for International Settlements (Principles for Financial Market Infrastructures) by the Committee on Payment and Settlement Systems and the Technical Committee of the International Organization of Securities Commissions, in April 2012.

government has made the development of the payment system a priority for 2013. The project is consistent with the Asian Development Bank's (ADB) country partnership strategy for Mongolia 2012–2016,¹⁰ which seeks to promote financial inclusiveness and sustainable growth; address infrastructure gaps, especially those limiting connectivity; support innovation; and provide access to finance and basic services. The project pursues financial sector development, one of ADB's core areas of operation under Strategy 2020.¹¹ The project will build on ADB's experience and lessons from its previous operations in Mongolia's financial markets, including areas in microfinance and micro-insurance, mobile and branchless banking, financial market infrastructure, capital market, and regulatory and supervisory framework.

B. Impact and Outcome

10. The impact of the project will be modern payment services that are available throughout Mongolia and easily accessible even by citizens who live in distant rural areas or abroad, or are not clients of a bank.¹²

11. The outcome will be establishment of a national full-service payments system that is efficient and affordable by poor individual.

C. Outputs

12. Based on an analysis of the available technologies and the current payments infrastructure needs in Mongolia, particularly those related to deficiencies and the objectives of the BOM, the project outputs will build on the existing systems. They will be achieved through the use of packaged application software that can be installed on common platforms, are user-friendly for implementation, operationally stable, and based on widely accepted technologies that conform to international standards. The project will retain the existing RTGS and FTS but expand their capabilities. The outputs will comprise the following:

- (i) **Interbank payment system infrastructure strengthened.** This system is the backbone of the wholesale banking structure and the conduit for the clearing and settlement of all interbank and payment service provider transactions. The strengthening provided by the project will bring the system into compliance with the core principles of the Bank for International Settlements.
- (ii) **Retail payments infrastructure and support systems upgraded.** The upgrade will make it possible to increase system transparency, reduce the use of cash in the retail system, and significantly increase financial inclusion. It will support safe and secure electronic payments, providing security, authorization, non-repudiation and authentication functions for internet, and mobile network banking transactions. It will also provide high availability and disaster recovery to ensure the resilience and integrity of electronic payments.

¹⁰ ADB. 2012. *Country Partnership Strategy: Mongolia, 2012–2016*. Manila.

¹¹ ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila.

¹² A study conducted by Moody's Analytics in 51 countries from 2004 to 2009 showed that electronic card usage spurs economic growth. It does this by improving efficiencies in commerce that contribute to increased consumption, production, and job creation, which expands personal incomes and generates further growth. The study estimated that global gross domestic product grew by 0.2% per year, more than it would have otherwise due to electronic card usage. M. Zandi and V. Signh. 2010. *The Impact of Electronic Payments on Economic Growth*, *Moody's Analytics*.

- (iii) **Technical support and external services provided.** The project will support capacity development and help the project implementation unit (PIU) to be set up in the BOM implement the project efficiently. It will also ensure that the new services will be utilized by building capacity and raising awareness of the system participants.¹³
- (iv) **Legal and regulatory framework established.** The framework will allow system participants to expand services. It will enable interoperability among banks, branchless banking, and secure mobile financial services; ensure consumer protection; police against money laundering and the financing of terrorism; and prevent systemic failure to settle.

D. Investment and Financing Plans

13. The project is estimated to cost \$22.5 million (Table 1).

Table 1: Project Investment Plan
(\$ million)

Item	Amount
A. Investment Costs^a	
1. Payment and settlement system development	17.42
2. Awareness and capacity development material	0.98
Subtotal (A)	18.40
B. Recurrent Costs^b	
1. Project implementation support	0.44
2. Legal framework components required to support the proposed interoperable national payment system infrastructure	0.32
3. Consultancy requirement functional specification, requirements definition, and development of invitations to bid	0.44
Subtotal (B)	1.20
Total Base Cost	19.60
C. Taxes and Duties^c	1.92
D. Contingencies^d	
1. Physical	0.20
2. Price	0.20
Subtotal (D)	0.40
E. Financing Charges during implementation^e	0.58
Total (A+B+C+D+E)	22.50

^a In mid-2012 prices.

^b Recurrent costs are included in the project investment plan because technical support and maintenance components are built into the contracts for installment and operation of information technology equipment.

^c Taxes and duties of 8.5% to be financed in the form of tax exemption by the Government of Mongolia.

^d Physical contingencies computed at 1% for field research and development, training, surveys, and studies. Price contingencies, computed at 1% on foreign exchange costs and 1% on local currency costs, include provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

^e Includes interest and commitment charges. Interest during implementation has been computed at the 5-year US dollar fixed swap rate plus an effective contractual spread of 0.40%. Commitment

charges for an ADB loan are 0.15% per year to be charged on the undisbursed loan amount.

Source: Asian Development Bank estimates.

¹³ Additional work will also be provided through ADB. 2009. Technical Assistance to Mongolia for *Policy and Institutional Support for Banking Sector Systemic Risk Management*, Manila (TA 7397); ADB. 2009. Technical Assistance to Mongolia for *Transformational Mobile Banking Services* (TA 7479).

14. The government has requested a loan of \$20 million from ADB's ordinary capital resources to help finance the project. The loan will have a 20-year term, including a grace period of 5 years, an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility, a commitment charge of 0.15% per year, and such other terms and conditions set forth in the draft loan agreement. Based on this and the government's choice of repayment option and dates, the average loan maturity is 12.75 years. There will be no maturity premium. The government has provided ADB with (i) the reasons for its decision to borrow under ADB's LIBOR-based lending facility based on these terms and conditions, and (ii) an undertaking that these choices were its own independent decision and not made in reliance on any communication or advice from ADB. The loan will fund 89% of the project cost. The government will defray 11% of the cost, consisting of financing charges during implementation and taxes and duties. The financing plan is in Table 2.

Table 2: Financing Plan

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank		
Ordinary capital resources (loan)	20.00	89
Government of Mongolia	2.50	11
Total	22.50	100

Sources: Asian Development Bank and the Bank of Mongolia.

E. Implementation Arrangements

15. The BOM will be the executing agency and the Payment System and Accounting Department of the BOM will implement the project. The executing agency will be assisted by project implementation consultants for project management, implementation, and institutional capacity building. The BOM has formed a steering committee headed by its deputy governor to oversee the project implementation process and performance, provide policy guidance, and coordinate with other government ministries and agencies concerned. The committee will also coordinate with stakeholders, including the participating banks and mobile network operators. The steering committee will be composed of all the department heads at the BOM involved in the payments system. Representatives of other key stakeholders may also be appointed as members.

16. The steering committee will be assisted by an advisory committee from the National Council of Payment and Settlement System, composed mainly of representatives from BOM, the commercial banks, the Financial Regulatory Commission, the Information Communications Technology and Post Authority, the Ministry of Finance, the Mongolian Securities Clearing House and Central Depository, and mobile network operators. To manage the project and coordinate with consultants and external service providers in the procurement of goods and works, a PIU has been organized by the BOM. The PIU will be headed by a project director and will comprise of full-time core staff, including a project office coordinator, three project managers, a payment systems specialist, an information technology specialist, and a mobile payment systems specialist. The PIU project manager will report to the project director (director of NETC), who will guide and supervise the work of the PIU. The project director will report to the steering committee. BOM will set up a bid evaluation committee to prepare the bid evaluation criteria, rate proposals received, and make decisions for awarding contracts for project components. The bid evaluation committee will be composed of representatives from the BOM, other government ministries as needed, various stakeholders, as well as technical experts and third party experts.

17. All procurement of goods and works to be financed by the ADB loan will be undertaken in accordance with ADB's Procurement Guidelines (2013, as amended from time to time) and the Public Procurement Law of Mongolia (2004). All consultants engaged under the ADB loan will be recruited in accordance with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time). The project administration manual defines the road map and milestones, activity timetable, and personnel requirements, including project performance monitoring, review, and evaluation, as well as reporting requirements. The implementation arrangements are summarized in Table 3 and described in detail in the project administration manual.¹⁴

Table 3: Implementation Arrangements

Aspects	Arrangements		
Implementation period	Jan 2014–Jan 2017		
Estimated completion date	31 January 2017 (estimated loan closing date: 30 June 2017)		
Management			
(i) Oversight body	Steering committee of the payment project Deputy Governor of the BOM (chair) Representatives of National Payment Council (members)		
(ii) Executing agency	BOM		
(iii) Implementation unit	PIU under the BOM, 12 staff		
Procurement		Contracts	\$ ('000)
	International competitive bidding	13	14,510
	National competitive bidding	1	980
	Direct contracting	2	1,342
	Shopping	1	1,568
Consulting Services		person-days	\$ (000)
	QCBS	300	1,200
Disbursement	The loan proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2012, as amended from time to time) and detailed arrangements agreed upon between the government and ADB.		

BOM = Bank of Mongolia, PIU = project implementation unit, QCBS = quality- and cost-based selection.

Source: Asian Development Bank.

III. DUE DILIGENCE

A. Technical

18. Technical consultants assessed the technical viability of the project and concluded that the project is feasible due to the following factors: (i) the BOM has carried out projects of similar complexity and has the required skills in-house; (ii) the technology used to support the new payment systems components is already being used in Mongolia, i.e., the mobile network operators and banks have the experience required to support the implementation of the mobile financial services required; (iii) the participant banks are already connected to the RTGS, the LVPS, and the BOM FTS, i.e., the integration experience is available; and (iv) the largest uncertainty under the project is achievement of the mandated interoperability. Moreover, the National Council of Payment and Settlement System has already included payment system interoperability in its road map for payment system development. Consequently, the implementation of the interoperable mobile payment system will be assured.

¹⁴ Project Administration Manual (accessible from the list of linked documents in Appendix 2).

B. Economic and Financial

19. The project is economically and financially viable, with an estimated economic rate of return of 26.1% and an estimated financial internal rate of return of 15.6%. Poor access to finance and high costs of financing are the most critical constraints to enterprise development. The project is addressing both constraints by linking distant rural areas to the payments system and sources of finance through the use of more advanced technology. The project will also reduce banking costs as banks shift from the bricks-and-mortar branch banking to electronic transfers. The system modernization will improve the efficiency of doing business through e-commerce. The move to less dependence on cash will reduce risk for the population and cost of printing, carrying, and storing currency. The project will allow the government to make salary and social welfare payments more efficiently, minimizing administration costs. Benefits not directly quantifiable will include improved liquidity in the financial system as funds flow more efficiently and the greater financial stability provided by more secure and reliable payment mechanisms.

C. Governance

20. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government and the BOM. Mongolia passed an Anti-Corruption Law in 2006. In January 2007, the government created the Independent Authority Against Corruption that reports to parliament. In August 2007, the Criminal Procedures Code was amended and the Independent Authority Against Corruption was added to the list of state bodies authorized to conduct investigations. The role of the public council within the Independent Authority Against Corruption, which is intended to ensure effective participation of civil society in the process, has been strengthened under the current government. The BOM has implemented World Bank projects in the past and arrangements for the internal funds flow have been found to be satisfactory. The BOM has capable staff, adequate internal controls, and a reliable and secure financial reporting system. Consistent with its commitment to good governance, accountability, and transparency, the BOM will institute, maintain, and comply with internal procedures and controls consistent with international best practices to prevent corruption, money laundering, or the financing of terrorism.

D. Poverty and Social

21. An estimated one-third of Mongolia's people live below the poverty line. A poverty assessment by ADB pointed to limited access to finance as one of the factors contributing to poverty. Mongolia suffers from urban-rural disparities, and income inequality has been growing. The costs of providing a traditional banking presence and financial intermediation through branches in the remote sparsely populated rural areas where many of the poor live have been prohibitive. The use of mobile phone payments and other forms of electronic noncash payments can deliver financial services, including microfinance, to the poor through branchless banking and reduce the cost of transferring funds and other financial transactions. A more efficient payment system can reduce the high cost of doing business and conducting commerce in Mongolia. A national payments system can help assimilate the country's informal market into the formal market, since identity and authentication mechanisms will be necessary under the new system.

22. Many of the poor are rural women. The proportion of the country's households that are headed by women rose from about 17.0% during 2004–2006 to about 28.5% in 2008, according to World Bank data. Any positive impact on the poor by the project would therefore likely benefit

women. Women face no legal barriers to accessing loans. More than 50% of borrowers at XAC Bank are women. Consequently, women are likely to benefit along with men from an expansion of and better access to microfinance in the rural areas. The project is deemed to have a positive gender impact but has no specific gender elements in its design.

E. Safeguards

23. The project is classified as category C for involuntary resettlement under ADB's Safeguard Policy Statement (2009). It will likely not involve involuntary land acquisition or restriction of access to lands that will result in the physical and/or economic displacement of people. The project is classified as category C for indigenous peoples under the Safeguard Policy Statement. The project activities are unlikely to result in any direct or indirect impacts on indigenous peoples. The project is classified as category C for environment. ADB has determined that the project will have minimal or no adverse environmental impacts.

F. Risks and Mitigating Measures

24. The key assumptions for successful project implementation are continued financial system stability and continued government support, especially from the BOM. The technical support and external services to be provided under the project are intended to help the BOM prepare the request for proposals, choose vendors, and set up the system and its components. The technologies being recommended are proven and the vendors are well-known and well-established. Major risks and mitigating measures are described in detail in the risk assessment and risk management plan.¹⁵

Table 4: Summary of Risks and Mitigating Measures

Risks	Mitigating Measures
Support from senior BOM management may not be continuous.	ADB has been keeping BOM management fully briefed to ensure that there is agreement on the project concepts, and that continuous support is provided.
Stakeholders, including MNOs and participating banks, may not support the project design and may not provide continuous support during implementation.	ADB has been keeping the NPC, the participating banks, and MNOs duly briefed to ensure that they buy into the project concepts, strategies, and support implementation arrangements.
Solutions provided for the system may not meet the project requirements.	PIU is to select the evaluation team carefully, to ensure that the project requirements are fully understood, to train evaluators, and to monitor the evaluation process closely.
Participating banks and MNOs may not be ready to participate in the project system.	BOM is inviting participating banks and MNOs in work groups at the onset to ensure that all stakeholders are fully aware of what is required in terms of integration and connectivity.
Difficulties are encountered in the integration of the fragmented electronic payment systems operated by individual banks.	BOM is tasked to ensure that the required interfaces use existing industry standards, and that all interfaces to existing participating systems and MNO services are CBS and MNO agnostic, i.e., the interfaces require little or no integration effort on the CBS and MNO sides of the interfaces.

¹⁵ Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

Risks	Mitigating Measures
Implementation cannot be carried out within the agreed timeline and quality standards.	The project provides detailed plans to engage professional project management experts to implement quality assurance measures, and ensure experienced staff is assigned to specific project tasks.
Capacities of BOM staff, market participants and users tasked to operate the payment system may be inadequate; the project may not build sufficient capacities of BOM staff and other participating systems to efficiently manage and operate the new payment system.	BOM is conducting the capacity building program early on, and raising public awareness. PIU has initiated the recruitment of consultants early in the project life cycle, and there are plans to fully engage the staff of BOM and system participants during project implementation. Thus, there is transferring knowledge of system operations through the learning by doing process.

BOM = Bank of Mongolia, CBS = core banking system, MNO = mobile network operator, NPC = National Payment Council, PAM = Project Administrative Memorandum, PIU = project implementation unit.

Source: Asian Development Bank.

IV. ASSURANCES AND CONDITIONS

25. The government and the Bank of Mongolia have assured ADB that implementation of the project shall conform to all applicable ADB policies including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the project administration manual and loan documents.

26. The government and the Bank of Mongolia have agreed with ADB on certain covenants for the project, which are set forth in the loan agreement and project agreement. Disbursement for main equipment and consulting services is conditioned with the government and the Bank of Mongolia entering into a subsidiary loan agreement satisfactory to ADB.

V. RECOMMENDATION

27. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan of \$20,000,000 to Mongolia for the Payment System Modernization Project, from ADB's ordinary capital resources, with interest to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; for a term of 20 years, including a grace period of 5 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements presented to the Board.

Takehiko Nakao
President

5 November 2013

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p>Impact Modern payment services available throughout Mongolia and easily accessible even by citizens who live in distant rural areas or abroad or are not clients of a bank.</p>	<p>By 2022 (Baseline 2012) Number of active users of payment cards among rural residents (those outside Ulaanbaatar) and herders doubles (baseline: 90,000). No. of payments terminals in rural areas increases by at least 50% (baseline: 3,248). Use of agents other than banks, as extensions of payment system increases, especially in rural areas (baseline: none). Cost of using payments system declines by at least half (baseline: MNT233 in 2010). All financial institutions implement direct debits either through conventional bank accounts, employing direct debit mandates, or via the mobile direct debit subsystem, employing PIN-based direct debit mandates (baseline: none).</p>	<p>Statistical bulletin of the BOM Related bank charges BOM reports</p>	<p>Assumption Financial market stability and economic growth continue. Risks Major disruption in payments system operation caused by external factors such as natural disaster. A systemic crisis occurs in the financial sector that leads to erosion of public confidence in financial markets.</p>
<p>Outcome National full-service payments system established that is efficient and affordable by poor individual.</p>	<p>By 2019 (Baseline 2012) Interbank payment transactions increase by 15% per annum; (baseline = 7,137,800 transactions). Volume of payment card transactions increase by 15% per annum (baseline: 59.4 million transactions). New forms of payment services, including interoperable mobile payments, are introduced (baseline: none). No. of payments terminals increases by 10% per annum; (baseline: 10,825 terminals). Required laws and regulations are passed (baseline: none). Standardization is in place (baseline: none). Protection mechanisms, such as use</p>	<p>Statistical bulletin of the BOM Half-yearly report of BOM published on its website BOM reports</p>	<p>Assumption Government and BOM support for the development of the payment system continues. Risk Market participants lack the capacity to operate and maintain the new system.</p>

Design Summary	Performance Targets and Indicators with Baselines	Data Sources and Reporting Mechanisms	Assumptions and Risks
	<p>of IC-based chips, firewalls, anti-key logging, and authentication processes and procedures, established (baseline: none).</p> <p>Business continuity plan is in place (baseline: none).</p>		
<p>Outputs</p> <p>1. Interbank payment systems infrastructure strengthened.</p> <p>2. Retail payment systems infrastructure and support systems upgraded.</p> <p>3. External services and technical support provided.</p> <p>4. Legal and regulatory framework established.</p>	<p>By 2016 (Baseline 2012)</p> <p>All infrastructure components specified under the ADB loan are procured and installed and become operational.</p> <p>All infrastructure components specified under the ADB loan are procured and installed and become operational.</p> <p>All necessary support systems specified under the ADB loan are set up.</p> <p>Capacity-building support for payments system operation is completed and staff is fully trained.</p> <p>Laws and regulations required to underpin the operation of the modernized payments system are passed.</p>	<p>Documentation by the NETC</p> <p>Documentation by the NETC</p> <p>Documentation by the BOM and the NETC</p> <p>BOM regulations and directives and legislative acts</p>	<p>Assumption</p> <p>User banks smoothly adapt to new system.</p> <p>Risks</p> <p>Relevant agencies do not coordinate sufficiently in project implementation and monitoring.</p> <p>Delay in recruitment of consultants and low quality of service and available staff.</p> <p>User banks object to adopting the new payment system.</p> <p>Passage of necessary legislation is delayed.</p>
Activities with Milestones		Inputs	
<p>1. Interbank payment systems infrastructure strengthened by June 2016^a</p> <p>1.1 Establish a central securities depository for government securities (including reserve and portfolio management) by month 25.</p> <p>1.2 Set up a foreign exchange trading system by month 34.</p> <p>1.3 Establish a money market trading system by month 34.</p> <p>1.4 Update general ledger system by month 34.</p> <p>2. Retail payment systems infrastructure and support systems updated by June 2016</p> <p>2.1 Set up the automated clearing house (including direct credits and direct debits) by month 22.</p> <p>2.2 Establish national shared EFTPOS/ATM switch including card, merchant management, and hybrid and EMV card production system by month 19 (physical and electronic personalization).</p> <p>2.3 Set up internet payment gateway by month 28.</p> <p>2.4 Set up corporate gateway for submission and monitoring of payment messages by month 34.</p> <p>2.5 Set up merchant and agent gateway for submission and monitoring of payment messages by month 34.</p>		<p>Loan</p> <p>ADB: \$20.00 million</p> <p>Government: \$2.50 million</p>	

Activities with Milestones	Inputs
<p>2.6 Establish hybrid and EMV card production system (physical and electronic personalization) by month 34.</p> <p>2.7 Set up POS terminals and mobile NFC/RFID card readers for delivery channels, including agents and merchants, IVR, NFC, POS, internet, USSD, ATM, WAP by month 34.</p> <p>2.8 Establish an interoperable mobile payment system by month 34 (including subscriber and/or mobile number database and an interoperability account mapping service).</p> <p>2.9 Set up EMV center of excellence, including hybrid and EMV card personalization printer for pilot implementation of advanced hybrid smart card pilot project by month 34 (physical and electronic personalization).</p> <p>2.10 Establish retail banking delivery channels by month 34 (branch automation and banking delivery channels, including branches, merchants, IVR, NFC, POS, internet, USSD, ATM, WAP).</p> <p>2.11 Develop shared one-time password service by month 34.</p> <p>2.12 Achieve systems integration, public key infrastructure, high availability, disaster recovery, and business continuity by month 34.</p> <p>2.13 Complete smart ID and transport card preparation and electronic personalization software (Gemalto) by month 34.</p> <p>3. External services and technical assistance provided by June 2016</p> <p>3.1 Provide awareness and capacity development material by month 34.</p> <p>3.2 Complete PIU staffing support by month 34.</p> <p>4. Legal and regulatory framework established to underpin the operation of the modernized payments system by June 2016</p> <p>4.1 Establish mandated participant bank connection to the interbank payment systems infrastructure by month 19.</p> <p>4.2 Establish mandated interoperability for all card or mobile account issuers and operators, i.e., retail ecosystems infrastructure, by month 22.</p> <p>4.3 Draft national payments system regulation by month 22.</p> <p>4.4 Draft financial agency regulation by month 25.</p> <p>4.5 Draft financial consumer protection regulation by month 28.</p> <p>4.6 Draft regulations against money laundering and financing of terrorism by month 31.</p> <p>4.7 Draft failure-to-settle rules and survivors pay rules by month 34.</p>	

ADB = Asian Development Bank; BOM = Bank of Mongolia; EFTPOS = electronic fund transport at point of sale; EMV = Europay, MasterCard, and Visa; IC = integrated circuit; ID = identification; IVR = interactive voice recognition (telephony based menu system); NETC = National Electronic Transaction Center; NFC/RFID = near field communication/radio frequency identification technology; No. = number; PIU = project implementation unit; POS = point of sale; USSD = unstructured supplementary services data; WAP = wireless application protocol.

^a In 2009, BOM installed a modern real-time gross settlement system that is working satisfactorily and provides for Bank for International Settlements-complaint settlement between the Mongolian participant banks.

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

<http://adb.org/Documents/RRPs/?id=46312-001-3>

1. Loan Agreement
2. Project Agreement
3. Sector Assessment (Summary): Payment System
4. Project Administration Manual
5. Contribution to the ADB Results Framework
6. Development Coordination
7. Economic and Financial Analysis
8. Country Economic Indicators
9. Summary Poverty Reduction and Social Strategy
10. Risk Assessment and Risk Management Plan

Supplementary Document

11. Financial Sector Assessment