

1. Definition and Risk Characteristics of RMB-Denominated Bonds Issued in Mainland China by Foreign Entities

1.1 Definition and Characteristics

The RMB-denominated bonds (referred to as “RMB bonds” hereinafter) can be defined as bonds legally issued by qualified foreign entities in Mainland China, committing to pay the interests and repay the principal in RMB within a specified maturity period, which is also commonly known as the ‘panda bond’.

Based on the relevant rules formulated by the regulatory bodies and the existing RMB bonds, the RMB bonds issued by foreign entities share a number of common characteristics, which can be summarized as follows:

- 1) **Major regulatory authorities include the People’s Bank of China (PBoC), the Ministry of Finance (MoF), the National Development and Reform Commission (NDRC), and the China Securities Regulatory Commission (CSRC). Meanwhile, the National Association of Financial Market Institutional Investors (NAFMII) is served as a Self-Disciplinary Organization in the process of registration and issuance of RMB bonds.**
- 2) **According to the *Provisional Administrative Rules on International Development Institutions’ Issuance of RMB Bonds* (2010 Revision), foreign entities are required to receive a credit rating above AA assigned by at least one competent credit rating agency in Mainland China before the initial offering. The ratings of the RMB bonds issued so far are relatively high.**
- 3) **In terms of the types of RMB bonds, it includes but not limited to the following: long-term RMB bonds issued by international development institutions, long-term RMB bonds issued by sovereign government and foreign local government (municipal government), RMB-denominated private placement note, short-term commercial paper, and medium-term note issued by foreign non-financial corporate entities and RMB-denominated financial bonds issued by foreign financial institutions, etc.**
- 4) **The funds raised through RMB bonds should give priority to be invested in projects inside the territory, whilst they can also be allowed to convert into foreign currencies and transferred overseas.**
- 5) **RMB is the only currency that can be used to make interest payment and principle repayment of the RMB bonds. The RMB capital can be transferred from overseas or converted through foreign exchange.**

- 6) **The regulatory authorities are willing to encourage foreign entities to issue RMB bonds in mainland China by further relaxing restrictions on credit ratings of bond issuers and bonds, use of funds raised, etc.**

Under the background of accelerated RMB internationalization and gradual liberalization in the capital account, the investment value and attractiveness of RMB bonds for potential investors and issuers are expected to be significantly improved, especially after the inclusion of RMB into the special drawing right (SDR) basket of the International Monetary Fund (IMF). At the same time, according to ‘the Silk Road Economic Belt and the 21st-Century Maritime Silk Road initiative’ (B&R initiative), sovereign governments along the Belt and Road as well as highly rated enterprises and financial institutions are encouraged to issue RMB bonds in China. The panda bond market is expected to grow rapidly in the near future under these favorable exogenous factors.

1.2 Classification of the RMB Bond Issuer

Following the acceleration of the financial liberalization and the openness of the domestic bond market, the issuers of RMB bonds has been gradually expanding, which can be classified into sovereign government, foreign municipal government, international development institution, foreign financial institution, and foreign non-financial corporate entity.

1.2.1 Sovereign Government

The sovereign government is the highest authority and exercises supreme power to enforce its will on domestic and foreign affair in its jurisdiction. The sovereign government here includes both the general central government with sovereignty and regional government that exercises administrative, legislative, judicial and military authority within specific jurisdiction.

On December 16, 2015, the Republic of Korea successfully issued a 3 billion Yuan panda bond with a maturity of 3 years, becoming the first RMB bond issuer of foreign sovereign government.

1.2.2 Foreign Local Government (Municipal Government)

Foreign local government can be defined as subdivision of a central government governing certain area where they are located under unitary system or constituent political units that maintain certain independence and have certain powers in specified districts under federal system. Foreign local government regarded as a potential issuer of RMB bond typically refers to the government at the province level under unitary system, or state level under federal system or government of autonomous region, etc.

The British Columbia of Canada registered a 6 billion RMB bond in late November 2015, and has planned to issue in the domestic interbank market at a proper time.

1.2.3 International Development Institution

According to the 2010 revision of the *Provisional Administrative Rules on International Development Institutions' Issuance of RMB Bonds* jointly formulated by PBoC, MoF, NDRC and CSRC, international development institution refers to multilateral, bilateral, and regional international financial institutions facilitating loans or investments for the purpose of regional development. An international development institution should meet the following criteria when applying for the issuance of RMB bonds in China:

- 1) **The issuer should be financially sound with good creditworthiness and have a credit rating above AA (or equivalent) obtained from two or more rating agencies at least one of which is registered in China and is capable of rating RMB-denominated bonds.**
- 2) **The issuers should have provided at least 1 billion USD loans or investments in Chinese domestic projects or enterprises unless being exempted under the approval from the State Council.**
- 3) **The raised funds should give priority to be used for medium- and long-term loans or equity investments in projects within China, which are in compliance with the National industry policy, policies on applying foreign capital and regulations on fixed capital formation of the Chinese government. Loans to the sovereign government should be listed in the corresponding foreign loan planning of the government.**

The international development institution is the first foreign issuer of RMB bonds. International Finance Corporation and Asian Development Bank are issuers of this category by now.

1.2.4 Foreign Financial Institution

Foreign financial institution refers to institution registered abroad that is engaged in financial businesses such as deposit-taking, loan-making, note-discounting, settlement and clearance, trust investment, financial leasing, guarantee, insurance, and securities brokerage, etc. Typical financial institutions include commercial banks, insurance companies, securities companies, financial leasing companies, and guaranty companies, etc.

There have been 3 foreign financial institutions issued RMB bonds in China by the end of 2015, namely Bank of China (Hong Kong), Hong Kong and Shanghai Banking Corporation Limited, and Standard Chartered Bank (Hong Kong) Limited.

1.2.5 Foreign Non-Financial Corporate Entity (Enterprise)

Foreign non-financial corporate entities refer to enterprises registered abroad that primarily produce goods and provide non-financial services. The affiliated companies of the Chinese non-financial corporation registered in Hong Kong are also included in this category.

By the end of 2015, Daimler AG and China Merchants Group (Hong Kong) have issued RMB bonds in China as foreign non-financial corporate entities.

1.3 Credit Risk Characteristics of Panda Bond in contrast with Domestic Bonds

Although both are denominated in RMB, there are a number of differences between panda bond and other domestic bonds.

- 1) **Generally RMB is a foreign currency for the foreign issuer. Therefore, the capacity of foreign entities to meet their financial commitments on RMB debt obligations is mainly determined by the quality of the issuer's RMB assets and the feasibility of converting non-RMB assets into RMB funds. While in contrast, domestic issuers do not require the foreign exchange when making repayment, as the capital to fulfill debt service is essentially in their local currency, i.e. RMB.**
- 2) **The Chinese regulatory authorities exert quite different degree of supervision on foreign and domestic issuers. Not every foreign entity is engaged in business or establishes a branch office in mainland China, however, domestic issuers are mostly headquartered at home and running primary business domestically. Thereby foreign entities and domestic issuers will attach discrepant attention to business in China.**
- 3) **Foreign issuers, apart from international development institutions, will be largely affected by the institutional environment and credit culture of the originated country. Moreover, the allocation of solvency reserves will be constrained by the respective government to a certain extent. In this regard, the analysis of foreign entities' creditworthiness must take into account the sovereign credit risk.**

2. Definition of Credit Rating for Foreign Entities and RMB-Denominated Bonds and Rating Grades

2.1 Definition of Credit Rating for Foreign Entities and RMB-Denominated Bonds

The credit rating for RMB bonds issued by foreign entities is a comprehensive assessment of the creditworthiness of foreign entities as well as their RMB bonds. More specifically, the credit rating of the issuer is an overall analysis on the obligor's capacity and willingness to serve its debt obligations, as well as the probability of default and the expected size of default loss on senior unsecured RMB bonds (referred to as 'default risk' or 'credit risk' hereinafter). The respective bond rating is a judgment on the default risk of RMB bonds issued by foreign entities based on the obligor's capacity and willingness to meet its financial commitments, which also takes into consideration the protections on RMB bonds repayment.

In consideration of the credit risk characteristics of panda bond, the principles of Golden Credit on credit rating for the issuer and for the respective panda bond can be summarized as follows:

- 1) **Golden Credit's credit rating for Panda Bond issuers focus on the issuer's capacity and willingness to meet its financial commitments in RMB, rather than in its local currency, and also concerns about the divergence of the issuer's capacity and willingness to repay in RMB from those in other foreign currency in the perspective of the issuer.**
- 2) **As both the Panda Bond and other domestic bonds are RMB commitments, the credit rating for Panda Bond is the assessment of default risk on RMB obligations. Therefore when assessing Panda Bond Golden Credit will employ the same rating scale, grades, and definitions as those in domestic bond rating framework. In terms of keeping the credit risk measurements consistent and comparable, it will enable domestic investors as well as Qualified Foreign Institutional Investors (QFII) to evaluate the credit risk of Panda Bond and other domestic bonds under the same framework.**

2.2 Rating Grades for Foreign Entities and RMB-Denominated Bonds

The rating grades for foreign entities as well as the related RMB-denominated bonds have been divided into 9 categories, denoted by 'AAA', 'AA', 'A', 'BBB', 'BB', 'B', 'CCC', 'CC' and 'C'.

2.2.1 The Rating Grades and Definitions for Sovereign Governments and the related Long-term RMB-Denominated Bonds

Table 1 Rating Grades for Sovereign Governments and
the related Long-Term RMB-Denominated Bonds

Grade	Definition
AAA	With extremely strong economic and financial capabilities, the sovereign government fiscal robustness is extremely strong as well. The protections on debt service and the sovereign's capacity to repay the debt are extremely strong, and the default risk on RMB-denominated bonds is extremely low.
AA	With very strong economic and financial capabilities, the sovereign government fiscal robustness is very strong as well. The protections on debt service and the sovereign's capacity to repay the debt are very strong, and the default risk on RMB-denominated bonds is very low.
A	With relatively strong economic and financial capabilities, the sovereign government fiscal robustness is relatively strong as well. The protections on debt service and the sovereign's capacity to repay the debt are relatively strong. The solvency of the sovereign government is susceptible to the adverse changes in domestic or foreign circumstances and economic conditions, but the default risk on RMB-denominated bonds is still low.
BBB	With mild economic and financial capabilities, the sovereign government fiscal robustness is modest as well. The protections on debt service and the sovereign's capacity to repay the debt are moderate. Adverse changes in domestic or foreign circumstances and economic conditions tend to weaken the solvency of the issuer, and the default risk on RMB-denominated bonds is temperate.
BB	With weak economic and financial capabilities, the sovereign government fiscal robustness is weak as well. The protections on debt service and the sovereign's capacity to repay the debt are weak, and are vulnerable to adverse changes in domestic or foreign circumstances and economic conditions. The default risk on RMB-denominated bonds is relatively high.
B	With very weak economic and financial capabilities, the sovereign government fiscal robustness is very weak as well. The protections on debt service and the sovereign's capacity to repay the debt are very weak. The solvency of the sovereign government relies on favorable economic conditions to a large extent. The default risk on RMB-denominated bonds is very high.
CCC	With extremely weak economic and financial capabilities, the sovereign government fiscal robustness is extremely weak as well. The protections on debt service and the sovereign's capacity to repay the debt are exceptionally weak. The solvency of the

	sovereign government is exceedingly dependent upon favorable economic conditions. The default risk on RMB-denominated bonds is extremely high.
CC	The solvency of the sovereign government is of large uncertainty. The repayment of debt is essentially unsecured.
C	The sovereign government is on the verge of bankruptcy, The sovereign is subject to insolvency, and its obligations cannot be fulfilled.

The ratings from 'AA' to 'B' may be tuned by a plus (+) or minus (-) sign to show relative standing within the major rating grade.

2.2.2 The Rating Grades and Definitions for Foreign Entities (except Sovereign Government) and the related Long-term RMB-Denominated Bonds

Table 2 Rating Grades for Foreign Entities (except Sovereign Government) and the related Long-term RMB-Denominated Bonds

Grade	Definition
AAA	The obligor has extremely strong capacity to meet its financial commitments, and is insusceptible to adverse changes in economic circumstances. The default risk on RMB-denominated bonds is extremely low.
AA	The obligor has very strong capacity to meet its financial commitments, and the effect on solvency from adverse changes in economic circumstances is remote. The default risk on RMB-denominated bonds is very low.
A	The obligor has strong capacity to meet its financial commitments, however, it is susceptible to adverse changes in economic circumstances. The default risk on RMB-denominated bonds is relatively low.
BBB	The obligor has moderate capacity to meet its financial commitments, with adverse economic conditions likely to weaken its solvency. The default risk on RMB-denominated bonds is modest.
BB	The obligor has weak capacity to meet its financial commitments, and the effect on solvency from adverse economic circumstances is prominent. The default risk on RMB-denominated bonds is relatively high.
B	The obligor's capacity to meet its financial commitments relies on favorable economic conditions to a large extent. The default risk on RMB-denominated bonds is very high.
CCC	The obligor's capacity to meet the financial commitments is exceedingly dependent upon favorable economic conditions. The default risk on RMB-denominated bonds is extremely high.
CC	The available protections on debt service are remote in case of a bankruptcy or restructuring, and the repayment of debt is highly unsecured.
C	The obligor is subject to insolvency and cannot repay its debt obligations.

The ratings from 'AA' to 'B' may be tuned by a plus (+) or minus (-) sign to show relative standing within the major rating grade.

2.2.3 The Rating Grades and Definitions for Short-term RMB-Denominated Bonds Issued by Foreign Entities

Table 3 Rating Grades for Short-term RMB-Denominated Bonds Issued by Foreign Entities

Grade	Definition
A-1	The capability to repay the short-term obligation is extremely strong and the repayment is highly secured.
A-2	The capability to repay the short-term obligation is relatively strong and the repayment is relatively secured.
A-3	The capability to repay the short-term obligation is moderate, and the solvency is susceptible to the adverse changes in economic circumstances.
B	The capability to repay the short-term obligation is weak whilst facing certain level of default risk.
C	The capability to repay the short-term obligation is very weak, and hence the default risk on RMB-denominated bonds is relatively high.
D	The obligor cannot repay the respective short-term obligation punctually.

The rating grades do not require to be tuned.

2.2.4 Rating Outlook

The rating outlook is a prediction of the potential change of the respective long-term issuer credit rating over the intermediate term (typically six months to one year). Basically, there are three categories for rating outlook, i.e., ‘positive’, ‘stable’, and ‘negative’. Positive means that the rating may be upgraded. Stable means that the rating is not likely to change. Negative means that the rating may be downgraded. However, a ‘positive’ or ‘negative’ outlook is not necessarily a precursor of a rating change or indicative of a Credit Watch List action.

The observation period of an issuer placed on is typically less than 90 days. The action of Credit Watch usually is caused by unpredictable and unexpected event. The Credit Watch Listing, however, does not mean a rating change is inevitable.

3. Credit Rating Analysis Framework for Foreign Entities

Issuers and RMB-Denominated Bonds issued in Mainland China

Golden Credit's credit rating for foreign entities issuing RMB bonds in China includes the RMB credit rating for the issuer and the credit rating for the RMB bonds.

3.1 Analysis Framework of the RMB Credit Rating for Foreign Entity Issuer

The RMB credit rating of the issuer is a comprehensive assessment of the obligor's capacity and willingness to meet its financial commitments denominated in RMB.

The RMB credit rating of the issuer conducted by Golden Credit is framed as follows:

3.1.1 Rating for the Endogenous Creditworthiness of the Foreign Entity

This is the initial assessment on the obligor's capacity and willingness to meet its financial commitments with respect to the operating status and financial performance, regardless of the sovereign credit risk.

In the case that a foreign issuer is a sovereign government, its endogenous creditworthiness will be in accordance with the sovereign credit rating.

3.1.2 Adjustment on the initial assessment based on the sovereign credit risk

The adjustment on the initial assessment of the foreign entity mainly reflects on the sovereign credit rating of the country of its registration or the country where the principle business is operated.

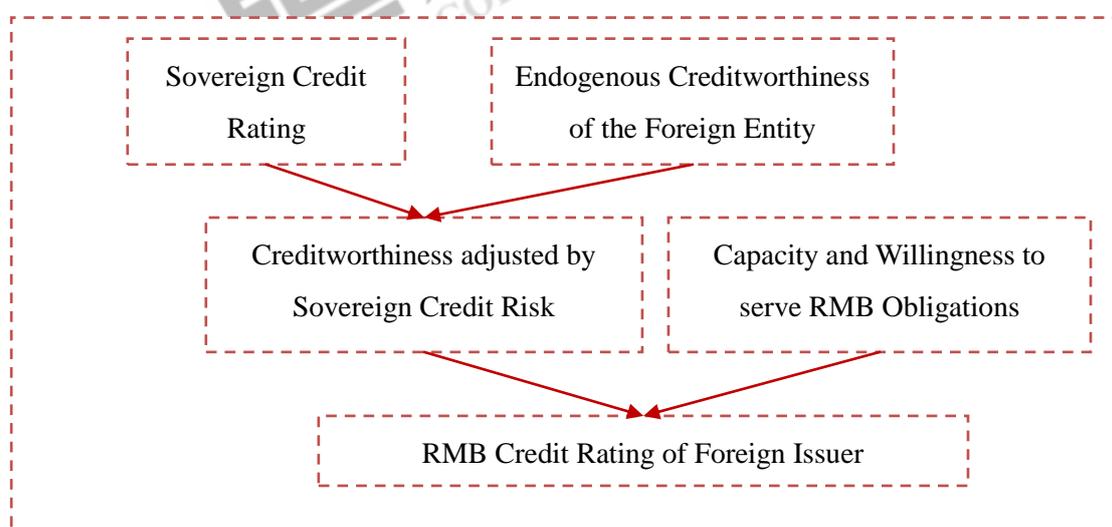
- 1) **If the place where the headquarter is registered, the primary market where the entity is engaged, and the capital market for the bond issue are in the same country, basically it is unnecessary to adjust the issuer's rating with regard to the sovereign credit risk. The assessment on its capacity and willingness to meet the financial commitments in local currency is adequate.**
- 2) **If the three locations mentioned above are not in the same country, the sovereign credit risk of the country of registration or the country where the entity is engaged could have significant influence on the transfer of repayment funds, and thereby exerts influence on the issuer's capacity and willingness to meet the financial obligations.**
- 3) **For multinational entities operating their business in a variety of countries, sovereign**

credit risks of countries where different business segments are located may be well diversified, which is favorable for the issuer's overall creditworthiness.

3.1.3 Evaluation of the Issuer's Capacity and Willingness to serve its RMB Obligations

As the RMB bonds are foreign currency obligations for foreign entities, RMB commitments exhibit some unique features before the complete internationalization of RMB. Therefore it is necessary to conduct individual assessment on the obligor's capacity and willingness to meet its financial commitments denominated in RMB following the sovereign credit risk adjustment.

Chart 1: Framework of RMB credit rating for foreign issuers



3.2 Analysis Framework of the Credit Rating for RMB-Denominated Bonds Issued in Mainland China by Foreign Entities

The credit rating for RMB bond is based on the RMB credit rating of the issuer, and evaluates whether the default risk of RMB bonds is deviate from the senior unsecured RMB bond considering the transaction structure and credit enhancement measures of the rated issue.

The transaction structure and credit enhancement measures of the rated bonds may be favorable for the repayment, however, they could also weaken the protection on the issues compared with unsecured RMB bonds. Golden Credit will assess the discrepancies in terms of the maturity, debt service precedence, transaction structure, credit enhancement measures, etc.

4. Rating Factors of the RMB Credit Rating for Foreign Entities Issuers

4.1 Credit Rating of foreign Entity Issuer

4.1.1 Rating Factors of Sovereign Credit Rating

Golden Credit's sovereign credit rating is an analysis of sovereign governments' capacity and willingness to repay debt obligations, which also can be interpreted as an evaluation of the country risk. Sovereign credit rating is analyzed from five dimensions: political stability, economic and financial strength, government fiscal strength, local currency solvency and foreign currency solvency. Political stability is the integrated embodiment of countries and regions political strength, which is a prerequisite of the country or the region's sustainable development, also has a crucial effect on the country and the region's repayment willingness. Economic and financial strength is the foundation of sovereign government fiscal strength. Sovereign government fiscal strength is the direct source supporting the country or region's solvency. Local currency and foreign currency solvency based on analysis of government fiscal strength is to respectively judge the sovereign government's debt burden in both local and foreign currencies and its protection. In addition, Golden Credit also investigates sovereign governments' default record.

Table 4 Rating Factors of Sovereign Credit Rating and Respective Rating Sub-Factors

Rating Factors	Rating Sub-Factors
Political Stability	Domestic Political Stability Governance Capabilities International Political Stability
Economic and Financial Strength	Level of Economic Development Economic Structure Economic Policy Environment Financial System Stability
Fiscal Strength	Fiscal Revenue Fiscal Expenditure Fiscal Balance Sovereign Government's Disposable Assets
Local Currency Solvency	Size of Debt Burden Debt Structure Available Local Currency Capital to Repay
Foreign Currency Solvency	Size and Structure of Foreign Currency Debt Liquidity of Local Currency in FX Market Cashable Assets in Official FX Reserves

i. Political stability

Political stability refers to the country or region's domestic political stability and international politics stability. Stable political environment can provide a favorable condition for its country or region's sustainable development while turbulent political environment has negative impacts on its economic and social development, and tends to result in default.

The political stability analysis is conducted from three aspects: domestic political stability, government governance capabilities and international political stability.

- 1) **Domestic political stability can be specified as the stability of domestic political system and political ecology. It is mainly a qualitative judgment based on investigating whether a country's power is transferred smoothly, and whether there have been potential instability among different nationalities, races, social classes and religions.**
- 2) **Governance capabilities mainly through qualitative analysis investigate whether government agencies run efficiently and the government policies are reasonable and in order, and the ability of the government to control and exert mobilization.**
- 3) **International political stability is a qualitative analysis of the country or region influence on international politics, its relationships with neighboring countries, regional and global international organization and major powers, etc.**

ii. Economic and financial strength

Economic and financial strength is an important basis for judging a country's fiscal strength, and also a foundation of sovereign government's fiscal revenue and capacity to earn foreign exchange. Economic and financial analysis mainly includes the level of economic development, economic structure, economic policy environment, and financial system stability, etc.

- 1) **Level of economic development means the relative size of a country's economy and national wealth. The rating indicators include but not limited to gross domestic products, per capita gross domestic product, economic growth rate and growth rate fluctuations, inflation rate and unemployment rate, etc.**
- 2) **Economic structure is mainly to investigate the structural factors, such as resource endowment, industrial structure, economic driving force structure, technology research and development input, and the composition of populations and labor force, which could affect the quality of economic development. The investigation of resource endowment is the starting point to understand the industrial structure. Industrial structure analysis is the foundation to judge the economic strength. The analysis of economic driving force structure is to explore the country's economy from the perspective of demand, which is influenced by domestic consumption and investment,**

or external demand. Along with structural characteristics of research and development investment and the trend of population structure change, the long-term economic development momentum can be concluded.

- 3) Economic policies constitute an important part of the economic operation environment. The policy analysis is an important precondition for forecasts of short-term economic growth and fluctuation and long-term economic development trend. Golden Credit mainly investigates the fiscal policy, monetary policy (applicable for sovereign government that issuing local currency), industry policy, and production factors policy, etc.
- 4) Financial system is regarded as the artery of economic development. Fragile financial system is more likely to trigger financial risk, and to bring a costly effect on economic development. The financial system stability analysis is mainly to investigate the level of financial system development and the effectiveness of financial regulation system and risk control mechanism.

iii. Government fiscal strength

Government fiscal strength is the most direct determining factor to sovereign government's solvency. Golden Credit mainly investigates its financial strength from four aspects: fiscal revenue, fiscal expenditure, fiscal balance and government's disposable assets.

- 1) Fiscal revenue is the sum of all funds government raised in order to perform its function, implement public policy and provide public goods and services. Golden Credit mainly focuses on fiscal revenue's size, structure and trend. The size measurement includes both the absolute and relative size of disposable fiscal income. For the structure, the proportion of tax revenue in fiscal revenue is employed to judge the sustainability of fiscal revenue. The analysis of future fiscal revenue trend is mainly combined with short-term economic trend to predict the changing trend of fiscal revenue, and based on economic long-term trend to judge future spaces for fiscal revenue growth.
- 2) Fiscal expenditure is the main source of government investment, and has an important influence on economic growth. Fiscal expenditure flexibility is also considered. Golden Credit mainly focuses on the structure of fiscal expenditure, especially the proportion of current expenditure.
- 3) Fiscal balance is an investigation of the government budget surplus or deficit over a period of time.
- 4) Sovereign government's disposable assets as an important part of solvency, is examined by Golden Credit through the analysis of adequacy and liquidity of government disposable assets.

iv. Local currency solvency

Local currency solvency analysis is the synthetic judgment on sovereign government's local currency debt burden and solvency that based on the political stability, economic and financial strength and fiscal strength analysis. Golden Credit mainly investigates sovereign government's local currency debt scale and structure, and judges the sufficiency of its disposable assets relative to local currency debt.

- 1) The absolute size, the changing trend, and the relative local currency debt burden compared to national economy and fiscal revenue are analyzed.**
- 2) The analysis of debt structure can better reflect the different risks of the government debt, which mainly includes maturity structure, interest rate structure, and the creditor structure, etc.**
- 3) Available local currency capital for repayment generally includes fiscal surplus, fiscal reserves, the government cashable assets and government's available debt refinancing funds. Golden Credit concludes on the local currency solvency through the coverage of available local currency capital on its local currency debt.**

v. Foreign currency solvency

Foreign currency solvency analysis is the synthetic judgment on sovereign government's foreign currency debt burden and its solvency. Compared with local currency debt, foreign currency debt requires sovereign government to repay by foreign currency. Therefore, Golden Credit investigates the coverage of government's available repayment funds in foreign currency on foreign currency debt.

Golden Credit believes that the sovereign government's available capital in foreign currency mainly determined by the following factors: firstly, the international liquidity of the local currency determines the difficulty of converting local currency into foreign currency or the difficulty of directly repaying foreign currency debt in local currency. Secondly, the ability to earn foreign exchange through export determines the country or region's foreign currency funds scale during a specified period. Thirdly, the official foreign exchange reserves determine the foreign currency funds that the government can use in hand.

For foreign currency solvency, based on the analysis of scale and structure of foreign currency debt, Golden Credit mainly considers local currency's international liquidity, the ability to earn foreign exchange and disposable foreign exchange assets to investigate the coverage of sovereign government's available capital in foreign currencies on foreign currency debt.

- 1) The scale and structure of foreign currency debt. The scale of foreign currency debt mainly investigate total amount of foreign currency debt and its relative scale. The structure analysis mainly focuses on the maturity structure, currency structure and**

interest rate structure of foreign currency debt.

- 2) **Local currency international liquidity includes the currency's foreign exchange ability and currency's international usage. The foreign exchange ability considers factors such as the attributes of the local currency, exchange rate mechanism, and long-term exchange rate performance. Currency international usage refers to the proportion of local currency used as an international trade clearing currency and the measurement currency of financial assets.**
- 3) **The ability to earn foreign exchange can be quantitatively measured by export volume, current account surplus, and capital account surplus.**
- 4) **The cashable assets in the foreign exchange reserves held by the monetary authority is the most direct and reliable source for government repaying foreign currency debt. Also, abundant private foreign exchange resources, the maturity and openness of the financial systems, and sufficient liquidity in the domestic foreign exchange market are the main concerns of judging disposable foreign exchange assets.**
- 5) **Sovereign government's available repayment capital in foreign currency includes official foreign exchange reserves, government cashable foreign currency assets, available refinancing funds obtained from international market and possible international aids, etc. Golden Credit investigates its foreign currency solvency by the coverage of available repayment capital in foreign currency on its foreign currency debt.**

4.1.2 Rating Factors for Issuer of Foreign Local Government

The credit rating of foreign local government issuer is a judgment on the capacity and willingness of the foreign local government to meet its financial obligations. Golden Credit rates foreign local government from the five dimensions of the institutional framework between the local and central government, the governance capability, the economic strength, local government fiscal strength, and local government solvency. The institutional framework between the local and central government determines the distribution of power between the two, and the degree of influence from sovereign credit risk on the credit risk of the local government. The governance capability refers to the specific governance structure and efficiency under the institutional framework, which is the fundamental to the regional economic development and local government finance strength. The local government finance strength indicates the disposable finance resource of the local government to repay its debt obligations. The solvency of the local government is based on the analysis of economic and government finance strength to examine the debt burden of the government and the protection for the debt service. Furthermore Golden Credit verifies whether

there was a default history of the rated local government.

Table 5 Rating Factors of Foreign Local Government and Respective Rating Sub-Factors

Rating Factor	Rating Sub-Factor
Institutional Framework	Distribution of Power Influence of Sovereign Credit Risk
Governance Capabilities	Economic Management Capability Execution of Fiscal Budget Debt Management Capability
Regional Economic Strength	Level of Development Economic Structure
Fiscal Strength	Size and Stability of Fiscal Revenue Fiscal Expenditure Structure Fiscal Balance Disposable Assets
Local Government Solvency	Size of Debt and Changing Trend Debt Structure Available Capital to Repay Debt Obligations

i. Institutional framework between the local and central government

The institutional framework between the local and central government refers to the distribution of power in politics, economy, and public finance between central government and local government, including unitary and federal system.

Golden Credit mainly focuses on the following aspects in evaluation the institutional framework:

- 1) **The influence from the distribution of power between local and central government on the governance capability, economic strength, public finance strength**
- 2) **The influence of sovereign credit risk on the credit risk of local government includes both the influence on the local government capacity and willingness to repay debt (especially the foreign debt) from the sovereign government and the feasibility of financial support from the sovereign government. Generally the sovereign credit rating the ceiling for the local government, however under federal system or system with specific arrangement, there is not necessarily a relation between the credit risk of local government and central government.**

ii. Governance capability

The governance capability of the local government includes the capability of economic management, execution of budget, debt management. Golden Credit essentially examines the consequence of governance capability on the economic development, public finance strength, and debt management.

- 1) **The economic management capability primarily studies the impacts of the local**

government's industry policy, fiscal policy, employment policy, foreign capital policy and demographic policy on the economic development.

- 2) The execution of fiscal budget focuses on the extraction ability of fiscal revenue, the fiscal discipline of expenditure, and the transparency and supervision of information disclosure on fiscal budget.
- 3) The debt management capability is to investigate the local government's debt in term of debt burden, debt financing cost, and maturity structure, which could also includes transparent and punctuate disclosure of the local government indebtedness.

iii. Regional Economic Strength

The economic strength is fundamental to the local government's fiscal revenue and available capital to repay debt. Golden Credit analysis of economic strength is conducted from both the level of development and the economic structure.

- 1) The level of development mainly refers to the relative size of the economy and the per capita richness. The rating indicators include but not limited to gross domestic production, GDP per capita, economic growth rate and volatility, unemployment rate, etc.
- 2) The economic structure generally focuses on structural factors influencing the quality of economic development such as the natural endowment, the industrial structure, the source of growth momentum, the inputs on research and development, the population and labor force structure, etc.

iv. Fiscal strength

The fiscal strength is the direct and prominent determining factor of the local government solvency, which is evaluated from the fiscal revenue size and stability, the fiscal balance capability, the disposable assets of the local government.

- 1) Golden Credit's analysis of the size and stability of fiscal revenue includes the size and composition of fiscal revenue, the ongoing changing trend, etc. As of the size, both the absolute and relative size of the disposable fiscal revenue is considered. The proportion of tax revenue is the main structural factor to judge the sustainability of fiscal revenue. The analysis of ongoing trend of fiscal revenue includes both the short-term change base on short-term economic forecasts and the long-term growth potential based on the judgment of long-term economic trend.
- 2) In term of fiscal expenditure, Golden Credit chiefly looks at the expenditure structure especially the share of current expenditure.
- 3) The fiscal balance examines the fiscal surplus or deficit status over a prolonged period, and concludes on the structural balance of the local government based on the analysis of

fiscal revenue stability and fiscal expenditure elasticity.

- 4) The disposable asset is the crucial composition of the local government's solvency, and Golden Credit examines both the adequacy and liquidity of the disposable asset.**

v. Solvency of Local Government

Based on the fundamental analysis of institutional framework, governance capability, economic strength and fiscal strength, Golden Credit judges the local government's solvency through the examination of debt and capital for repayment.

- 1) The analysis of debt size includes not only the absolute size and the ongoing trend, but also the relative size in term of GDP and fiscal revenue. The possibility for realization of contingent liability is analyzed as well.**
- 2) The debt structure includes the maturity structure, interest structure and the currency structure.**
- 3) The available capital to repay debt mainly is composed of fiscal surplus, the fiscal reverses accumulated by historical surplus, the cashable assets and the debt-refinancing funds. Golden Credit examines the local government's solvency through the coverage of available repayment capital on its debt.**

4.1.3 Rating Factors for Issuer of International Development Institution

International development institution refers to multilateral, bilateral, and regional international financial institutions lending or investing usually with a development mandate. An international development institution is an entity that typically owned jointly by a group of governments, created specifically for the purpose of furthering the economic and social development policy goals of these governments.

The credit rating of international development institution is based on a forward-looking expectation of its capacity and willingness to meet financial commitments. Golden Credit's approach to assessing the creditworthiness considers five key factors which are governance structure, essentiality of existence, capital strength and risk management capacity.

Governance structural characteristics of the institution determine the share of votes among participated countries and the specific governance mechanism, which contributes to the institutional framework of the international development institution's operation and has significant influence on the operation of the institution, capital strength and risk management capability. The essentiality of existence assesses the operational significance of international development institution, as well as the scope of influence on its stakeholders. In general, with institutions' operation being more significant and their influence on member countries being more tremendous, it is more likely for these institutions to win support from stakeholders, and hence achieve stronger

capital strength.

The capital strength takes into consideration the initial cash outlay at the creation of a development institution and also the rest of members' committed capital. In fact, the capital paid-in and the correspondent capital base lays foundation for institutions to achieve development policy goals, as well as channel finance toward specific sectors and regions.

The capability of risk management is likely to affect the overall operational health of development entities. For practical purposes, the risk management ability is also a primary determinant of asset quality for development institutions aiming to provide lending to a targeted sector or in a certain geographical area.

Table 6 Rating Factors of International Development Institution and Rating Sub-Factors

Rating Factor	Rating Sub-Factor
Governance Structure	Influence and Recognition of Member Countries Distribution of Voting Power among Stakeholders Election and Formation of Management Team Transparency and Accountability
Essentiality of Existence	Functional Positioning Regular Cash Inflow Policy Support Contribution to Economic and Social Development
Capital Strength	Stock Capital Value Assessment Potential Incremental Capital Injection
Risk Management Capability	Credit Risk Asset Concentration Risk Market Risk Operational Risk Liquidity Risk

i. Governance structure

The governance structure essentially belongs to the realm of the superstructure in an international development institution. It is generally considered important to the operation of the institution, its capital adequacy, and risk management capacity. Golden Credit's analysis of the structural features of a development institution is based on the following considerations:

- 1) **The international influence and recognition of member countries.**
- 2) **The distribution of voting power among stakeholders, focusing on member countries that exert substantial influence on the development institution.**
- 3) **The election and formation of management team, the managerial and administrative expertise of the top management in a development institution.**
- 4) **The transparency and accountability of the institution.**

ii. Essentiality of existence

The essentiality of existence of an international development institution refers to its crucial mission and role imposed by the founding members and other member countries. The more significant of an entity's mission and role, it will be more likely for the institution to be supported by stakeholders. Golden Credit's analysis of an institution's significance is based on the following factors:

- 1) **The functional positioning of a development institution. In general, an international development institution is considered of more significance than a regional development institution. Development institutions targeting a wide range of sectors or geographical areas typically have a much more significance than those focusing on a unique sector or area.**
- 2) **Regular cash inflow from members, guarantees by members, grants from members, taxes levied on sovereign members' economies and other forms of member support.**
- 3) **Policy support provided by member countries.**
- 4) **The institution's contribution to members' economic and social development.**

iii. Capital strength

The capital strength of an international development institution is considered as the fundamental factor to determine its capacity for meeting financial commitments. Golden Credit's analysis focuses on two broad indicators, i.e., stock capital value and incremental capital.

- 1) **The stock capital value assessment considers the ratio of paid-in capital to total assets, and the paid-in capital to debt ratio.**
- 2) **The two key indicators for assessing the incremental capital are the relative shares of shareholders' subscribed capital contribution to paid-in capital, and the contingent credit facility of shareholders.**

iv. Risk Management Capability

An institution's risk management capability is embodied in control over and precautions in credit risk, asset concentration risk, market risk, operational risk, and liquidity risk.

- 1) **In terms of credit risk, major attention is attached to loans and investments credit profiles, the ratio of non-performing to total loans, the relative shares of high-rating-grade loans or investment, the proportion of equity investment, and risk exposure to non-sovereign entities, etc.**
- 2) **The asset concentration risk management is measured by the degree of diversification in loans and equity investment.**
- 3) **The market risk analysis takes into account interest risk, exchange rate risk, the employment of hedging products, and the procedure of market risk control.**
- 4) **The operational risk refers to the institution's awareness of laws and regulations in**

relevant countries and regions, the corresponding strategies against political or economic shocks in countries or regions where its headquarter is located, and the precautionary measures for risk caused by human mistakes or technical errors.

- 5) The liquidity risk management is intended to provide quantitative assessments on the institution's liquidity position as well as the maturity matching structure of asset and liability.

4.1.4 Rating Factors for Issuer of Foreign Financial institution

Foreign Financial institution includes commercial bank, security broker, insurance company, financial company and guaranty company, etc. The Foreign Financial Institution Credit Rating Method of Golden Credit is primarily to obtain the institution's individual financial strength by analyzing its business environment, management and strategy, business operation, risk management and financial position. Business environment, management and strategies, business operation and risk management are elements to evaluate the financial institution's operating risk, while financial position reflects its financial risk. Financial institution's individual financial strength reflects its solvency without relying on external support. Based on its financial strength, external support factor is further considered to obtain the credit rating of the financial institution.

Table 7 Rating Factors of Foreign Financial Institution and Respective Rating Sub-Factors

Rating Factor	Rating Sub-Factor
Business Environment	Macroeconomic Environment
	Industry Environment
Management and Strategy	Corporate Governance
	Corporate Management
	Development Strategy
Business Operation	Market Position
	Business Development
Risk Management	Risk Management Framework
	Credit Risk Management
	Liquidity Risk Management
	Market Risk Management
	Operational Risk Management
Other Risk Management	
Financial Position	Accounting Information Quality
	Asset Quality
	Profitability
	Capital Adequacy
	Liquidity

External Support

Government Support

Shareholders' Support

i. Business environment

Business environment analysis mainly includes the analysis of economic environment and industry environment.

- 1) **Economic environment analysis is primarily based on economic data to predict the economy and policies tendency, and to focus on analyzing the impacts of this trend on the future business development, operating risk and profitability of the financial institution.**
- 2) **Industry environment is to investigate the degree of competition of the industry and development trend, industry regulation and the credit risk of the industry as a whole.**

ii. Management and strategy

Management and strategy analysis for foreign financial institution is primarily conducted through corporate governance, internal management and development strategy.

- (1) **In term of corporate governance, Golden Credit investigates financial institution's ownership structure, and the composition and functioning of board of shareholders, board of directors, board of supervisors and management team.**
- (2) **In term of corporate management, Golden Credit mainly investigates whether the company has built the organization structure with rational division of labor, well-defined duties and clear authorization.**
- (3) **In term of development strategy, the analysis of the development strategy focuses on evaluating its foresight, rationality and feasibility.**

iii. Business Operation

Business operation analysis mainly evaluates from the market position and business development aspects.

- (1) **Market position will be measured as market share. Higher market share not only indicates financial institution's stable market position and widely brand recognition, but also can be interpreted as an entry barrier against other competitors.**
- (2) **The business development mainly focuses on foreign financial institution's operation area, the number and location of branches, the share of income from different lines of business, the trend of business component and change and stability of income, etc.**

iv. Risk Management

Risk management capabilities for foreign financial institution are directly related to the security of its operation, and affect its profit level, capital adequacy and credit risk level. The

risk management evaluation for foreign financial institution is mainly based on risk management framework, credit risk management, liquidity risk management, market risk management and operational risk management and other risk management.

- 1) Risk management framework includes risk preference, concept and risk management goals, and investigates the perfectness and effectiveness of current risk management system.
- 2) Credit risk management can be divided into portfolio credit risk analysis, and off-balance sheet credit risk exposure and distribution.
- 3) Market risk management includes interest rate risk exposure, interest rate sensitivity and foreign exchange exposure.
- 4) Liquidity risk management mainly investigates liquidity risk management strategy, the perfectness of policies and procedures and the effectiveness of risk identification, measurement, monitor and control.
- 5) Operational risk management mainly investigates the optimized conditions of business and management system and process, risk identification and measurement, etc. In addition, Golden Credit also concerns about the causes, development and disposal of recent operational risk events of the institution.
- 6) Other risk management includes legal risk and reputation risk, etc.

v. Financial Position

Financial position analysis for foreign financial institution mainly focuses on accounting information quality, asset quality, profitability, capital adequacy and liquidity.

- 1) The process of accounting information analysis refers to the foreign financial institution's frequency and reasons of changing its auditor, the authenticity and accuracy of financial data and transparency of report disclosure.
- 2) Asset quality evaluation refers to judgment drawn from foreign financial institution's credit asset quality, investment asset quality and other asset quality.
- 3) In evaluating the profitability of foreign financial institutions, the source, composition and stability of its earnings need to be concerned to determine the long-term core profitability.
- 4) To analyze capital adequacy, the main concerns are capital composition, the channel of supplement capital and its stability, capital supplement plan, the degree of matching of annual operation target, etc.
- 5) Liquidity condition evaluation for foreign financial institution is also the one of important contents to evaluate its financial strength. The analysis should refer to liability capital movements, dependence on borrowed money, the amount of the

assets can be converted into cash at any time and previous financing needs and future financing demand forecasting, etc.

vi. Capability of getting external support

Whether to get enough strength of external support in the event of crisis has significant impact on foreign financial institution's final credit rating. External support includes the supports from government and the shareholders.

- (1) Government support mainly focus on the willingness of government support and abilities to provide necessary support.**
- (2) Shareholders' support mainly investigates shareholders' credit condition, willingness of support and abilities to support.**

4.1.5 Rating factors for Issuer of Foreign Non-financial corporate

Golden Credit applies qualitative analysis and secondly by quantitative analysis in the rating method, and investigates credit risk of foreign non-financial corporate from two dimensions, i.e. operational risk and financial risk. Operational risk is the fundamental factor of credit risk for foreign non-financial corporate. Financial risk is the direct embodiment of non-financial corporate solvency.

- 1) Operational risk is determined by industry factors, competitiveness of enterprise and management quality. Industry factors include macroeconomic environment, the level of regional economic development, current situation and development trend of the industry, policies and regulatory environment, etc. Enterprise competitiveness mainly investigates the scale of enterprise and product diversification, equipment and technology, sales channels and customer loyalty, as well as the external support. Management quality investigates enterprise's management and strategy, management capability, the effectiveness of organization structure and business operation strategy.**
- 2) Financial risk is determined by the quality of enterprise assets, capital structure, profitability, cash flow and solvency, etc.**

Considering that non-financial enterprises are involved in many industries and the main concerns of credit rating for enterprises from different industries is various, the specific credit rating factors for issuer of foreign non-financial enterprises should refer to Golden Credit's rating methods for each individual industry.

4.2 Rating Factors for Country Risk Analysis of Foreign Entities

For RMB bond issuer of foreign entities except sovereign government, the issuer's endogenous credit strength need to be adjusted according to a variety of country risks faced by the issuer.

1. As for country risk for headquarter registered countries, the issuer is faced with political risk, economic risk and exchange transfer risk from headquarter registered countries or region.
2. As for country risk for countries where primary business is located, the issuer is faced with political risk, economic risk, exchange transfer risk and industry regulatory policy risk.
3. As for the dispersion effect on country risk of multinational business, its business chain or industrial chain is located in various countries or regions with different characteristics of country risk, but as a global enterprise, the systematic risk may be effectively reduced through risk diversification.

4.3 Rating Factors for the Capacity and Willingness of Foreign Entities to Fulfill RMB Obligations

On the basis of entities' creditworthiness adjusted by country risk, the capacity and willingness of foreign entities to fulfill RMB obligations can be investigated from the following considerations:

1. The importance of foreign entities' Chinese business mainly focuses on the importance of Chinese business for foreign entities and the importance of foreign entities doing business within the territory for China. For sovereign governments and foreign local governments, the closeness of trade and FDI between foreign sovereign countries or local government and China is the major concern. For international development institutions, the role of China played in its governance mechanism and the importance of China in its business and strategy are examined.
2. The possibility of foreign entities' non-RMB assets converting into RMB mainly investigates exchange rate stability against RMB of the local currency for foreign sovereign countries or local government and the main function currency for international development institutions and foreign enterprises or financial institutions, which includes the historical performance of exchange rate and expected exchange rate during the maturity of RMB bonds.
3. The coverage of RMB funds for repayment to RMB debt obligations mainly considers the coverage of foreign entities' current cashable RMB assets to its current RMB debt and the incremental RMB debt.
4. Special arrangement with Chinese government refers to mutual diplomatic strategic positioning, currency swap agreement, direct currency trading mechanisms, and free trade agreements, etc. between the mother countries of foreign entities and the Chinese government.

5. Rating Factors for RMB-Denominated Bonds Issued in Mainland China by Foreign Entities

Golden Credit's rating factors for RMB bonds mainly includes the maturity of bond, repayment priority, transaction structure and credit enhancement, etc.

5.1 Bond Maturity

5.1.1 Short-term bond

The credit rating for short-term bond of foreign entities is base on the evaluation of foreign entities' creditworthiness, and focuses on short-term asset liquidity and short-term debt liability of the issuer while considering the potential impact on asset liquidity and short-term obligations from expected changes of macroeconomic environment, industry environment, and business environment. Thereby the short-term solvency of foreign entities can be determined.

5.1.2 Mid- and long-term bond

Based on the evaluation of foreign entities' Creditworthiness, the capability of foreign entities to obtain RMB repayment funds within the maturity of the rated bond is the major concern.

5.2 Repayment Priority

Repayment priority investigates the repayment order of RMB bonds issued by foreign entities under the applicable legal framework. Especially for foreign financial institutions, significant attention should be paid to liquidation sequence of different debt under the applicable law framework of foreign financial institution issuer's register area, and the compulsory agreement and other applicable debt obligations.

5.3 Transaction Structure

The transaction structure of RMB bonds issued in China by foreign entities includes but not limited to RMB cash flow pooling mechanism, RMB cash flow payment mechanism, credit trigger mechanism, floating rate, early repayment term, etc. Golden Credit will evaluate the protection of the principal and interest repayment of foreign entities' RMB bond from the

transaction structure. If there is a significant risk of transaction structure, Golden Credit will appropriately adjust the credit rating of the respective RMB bond.

5.4 Credit Enhancement

For the RMB bonds with credit enhancement, Golden Credit will assess the effect of credit enhancement.

5.4.1 Surety Guarantee

Golden Credit will perform the RMB credit rating for the guarantor in order to synthetically judge its repayment ability, and determine guarantor's possibility of meet its compensatory obligation through the terms in the warranties and guarantor's compensatory record, etc. Only on this basis can the credit enhancement effect of surety guarantee be synthetically judged.

5.4.2 Mortgage guarantee/ Pledge guarantee

Golden Credit will conduct an independent review of collateral's realizable value based on the appraisal report form an evaluation agency, and synthetically judge pledge ratio's sensitivity to collateral's liquidity and the change of realizable value, through which the credit enhancement effect of mortgage and pledge guarantee can be evaluated.

5.4.3 Balance compensation mechanism

Golden Credit will carry out the RMB credit rating for compensator in order to synthetically judge its ability to compensate, and determine the possibility of the compensator to fulfill its obligation through investigation of the balance compensation terms, the relationship between compensators and issuer, the credit record of compensators, etc.

5.4.4 Other guarantees

For RMB bonds with credit insurance, sinking fund and other security arrangements, Golden Credit will accomplish a specific analysis of the credit enhancement effect from the guarantee arrangement.