Strategic Reorientation of the Housing Provident Fund System in the People’s Republic of China

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<th>Description</th>
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<tr>
<td>CBRC</td>
<td>Chinese Banking Regulatory Commission</td>
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<td>CCI</td>
<td>Chambre de Commerce et d’Industrie (France)</td>
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<tr>
<td>CEF</td>
<td>Caixa Econômica Federal (Brazil)</td>
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<td>CIL</td>
<td>Comité Interprofessionnel du Logement (France)</td>
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<td>CNBV</td>
<td>Comision Nacional Bancaria y de Valores</td>
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<td>CPF</td>
<td>Central Provident Fund (Singapore)</td>
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<td>CSSH</td>
<td>Contractual Saving Schemes for Housing</td>
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<td>CSY</td>
<td>China Statistical Yearbook</td>
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<tr>
<td>CU</td>
<td>Currency unit</td>
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<tr>
<td>ECH</td>
<td>Economic and Comfortable Housing (China)</td>
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<td>EIU</td>
<td>Economist Intelligence Unit</td>
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<tr>
<td>FGTS</td>
<td>Fundo de Garantia por Tempo de Serviço (Brazil)</td>
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<td>FOVISSSTE</td>
<td>Fondo de la Vivienda del Instituto de Seguridad y Servicios Sociales de los Trabajadores del Estado (Mexico)</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>HAI</td>
<td>Housing Affordability Index</td>
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<tr>
<td>HDB</td>
<td>Housing Development Board (Singapore)</td>
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<tr>
<td>HPF</td>
<td>Housing Provident Fund</td>
</tr>
<tr>
<td>INFONAVIT</td>
<td>Instituto del Fondo Nacional de la Vivienda para los Trabajadores (Mexico)</td>
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<tr>
<td>LTV</td>
<td>Loan to Value</td>
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<tr>
<td>MLLE</td>
<td>Mobilisation pour le Logement et la Lutte contre l’Exclusion (France)</td>
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<tr>
<td>Acronym</td>
<td>Full Form</td>
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<tr>
<td>MOF</td>
<td>Ministry of Finance</td>
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<td>MOHURD</td>
<td>Ministry of Housing and Urban-Rural Development</td>
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<td>MW</td>
<td>Minimum Wage</td>
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<td>NAA</td>
<td>National Audit Administration</td>
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<td>NPL</td>
<td>Non-Performing Loan</td>
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<td>OA</td>
<td>Ordinary account (Singapore)</td>
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<td>PBOC</td>
<td>The People’s Bank of China (Central Bank)</td>
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<tr>
<td>PIR</td>
<td>Price-to-Income Ratio</td>
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<td>R-HPF</td>
<td>Regulations on Management of Housing Provident Funds</td>
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<td>RMB</td>
<td>Chinese Yuan Renminbi</td>
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<tr>
<td>SBPE</td>
<td>Sistema Brasileiro de Poupança e Empréstimo (Brazil)</td>
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<tr>
<td>SFH</td>
<td>Sistema Financeiro de Habitação (Brazil)</td>
</tr>
<tr>
<td>SFI</td>
<td>Sistema Financeiro Imobiliário (Brazil)</td>
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<tr>
<td>SOE</td>
<td>State-Owned Enterprise</td>
</tr>
<tr>
<td>SOFOL</td>
<td>Sociedades Financieras de Objeto Limitado (Mexico)</td>
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<tr>
<td>SWOT</td>
<td>Strengths – Weaknesses – Opportunities – Threats</td>
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<tr>
<td>UESL</td>
<td>Union d’Economie Sociale pour le Logement (France)</td>
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<tr>
<td>USD</td>
<td>United States Dollar</td>
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<td>VAT</td>
<td>Value Added Tax</td>
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Executive Summary

The Housing Provident Funds are financial instruments based on mandatory contributions from employees and employers. These contributions are calculated as a proportion of the salary and accumulated in workers’ individual accounts, allowing them to apply for low-interest housing loans and use remaining funds as pension funds. This model was first introduced in Singapore and adopted, with variations, in several other countries in Asia and Latin America.

In China, the first HPF was created in Shanghai as a pilot program in 1991 and the scheme was extended nationwide in 1994-95. The State Council set up its regulations in 1999 and revised them in 2002. Since then, the context has changed so much that the role and even the existence of HPFs in today’s China are being questioned. Given the development of commercial banks and their growing involvement in mortgage lending, the need for a specialized channel to finance housing purchase and renovation is not easy to demonstrate. Moreover, HPFs have shown a number of weaknesses, due either to the general features of such systems, to their incapacity to adapt to a changing context or to the lack of clarity of their assigned missions. The HPFs are indeed required to fulfill altogether the conflicting functions of housing finance, pension fund and housing policy tool for local governments.

The HPFs are players of primary importance: they have collected about RMB 2.6 trillion in 15 years and provided about RMB 1.5 trillion in loans to their contributors. They also are a young system which has lived only ten years under its present regulations and is still in a growing and maturing phase. For these reasons, any brutal change would be difficult and probably premature.

We will therefore recommend in the short run to clarify their policy goals, reorient their activities accordingly and improve their governance, management and control. After a period of 5 to 10 years, more drastic changes will be considered if they appear necessary.

Our assessment of HPFs is based on a number of interviews and a workshop held in Nanjing with managers of several HPFs and officials from MOHURD and the municipality of Nanjing. In spite of the quality of these exchanges, we have faced two major handicaps: the lack of individual data on HPFs and of discussion with their competitors.

I. Current conditions of HPFs

a. Policy goals

A number of roles were initially defined for the HPFs but these roles have been modified over the years and the changes have neither been integrated into the regulations nor has a national policy been formulated to provide guidance to their managers. In particular, what is at stake is the use by some local governments of the profits from the operation of HPFs to finance low-rent housing construction. This use of HPF funds is not allowed by the present regulations and it raises the questions of their use as affordable housing instruments for the benefit of non-contributors. Another policy choice is between their functions as a pension fund and a mortgage...
lender. The HPFs face an internal conflict between these two roles and the emphasis put on the lending function may be questioned.

b. Financial position

The pre-savings requirement, the low LTV ratio and the deduction of repayments from the payroll keep the credit risk at a low level. The interest rate risk is under full control of the People’s bank of China. The only major financial risk for the system is liquidity risk. Some cases of liquidity shortfalls have already been reported. This problem is caused by the mechanism of loan allocation and calls for urgent solutions since the HPF system as a whole may run out of funds as early as 2012/2013.

There are other cases of deteriorated financial situation which are due to ill management or misuse of fund. They call for a strengthening of the supervision of the management centers more than a questioning of the strategic role of HPFs as a system.

c. Corporate governance, management and supervision

HPFs are positioned as public bodies while their operation is very close to those of financial institutions. Supervision of the HPF system takes place at three levels (central, provincial and municipal) and involves three departments (the Ministry of Housing and Urban-Rural Development - MOHURD, the Ministry of Finance and the National Audit Administration) but not the Chinese Banking Regulatory Commission – CBRC - which supervises the commercial banks. The organizational structures and corporate governance architecture date from the early years of establishment and have not adapted to the rising contribution and loan volumes of HPFs. Therefore, HPFs need to restructure their organizations, use similar tools for risk control and risk management as those of financial institutions, and be regulated as such by a body with qualified staff.

d. General organization

HPF operations are fragmented amongst their 342 management centers. This atomization results in heterogeneity of lending criteria and loan products. It also exposes HPF operations to local housing market business cycles. The size of the HPF funding pool is inherently constrained by the financial capability of local contributors. The fragmentation prevents the system from exploiting economies of scale, a key requirement of financial management. It may also result in liquidity shortages in some centers at a time when other centers may have unused funds.

e. Coverage of HPF system and lending activity

The HPF system has been more successful in increasing its coverage among state-owned enterprises (SOEs) than among private enterprises. The coverage ratio, defined as the proportion of contributors among salaried urban workers has risen to 70% but this is only 26% of the urban workforce. Since the majority of the contributors belong to the middle and middle-high income groups, the HPF system may not be effective as an instrument to promote low-income housing.
The lending activity of HPFs is relatively modest and variable across cities: HPF mortgage loans outstanding represents 60% of their net stock of deposits and less than 15% of mortgage lending by banks. Despite an increase in their lending activities, HPFs have been overshadowed by banks in their roles in mortgage lending.

In the current structure of the HPF system, lower-income savers cross-subsidize a smaller number of better-off borrowers because all contributors receive below-market interest rates on their savings while borrowers pay below-market interest rates on their loans. Although this is the case with all similar systems in other countries, rising house prices in recent years have probably made things worse in China.

II. Strategic re-orientation of the HPF system

The assessment of the HPF system reveals a number of weaknesses. Some are due to unclear policy goals or poor regulations, other to mismanagement. However, we have no evidence that they have run out of their usefulness. Even if they are minor players on the mortgage market, they increase affordability and lower credit risk. Their savings function also contributes to decrease the cost of credit and will be more and more valuable as the population of contributors grows older.

Our conclusion is that this situation calls for a reorientation not for an abolition of the whole system. The government should also strengthen the system in terms of management, supervision and organization. Only if these measures prove to be inefficient, and after a period of five to ten years, a more drastic change, possibly leading to their elimination, should be considered.

At present, the HPF fulfills three functions, housing finance, pension funds and housing policy instruments. These functions are conflicting. We propose to eliminate the housing policy function and to improve the balance between credit and savings functions. We also recommend eliminating any option consisting in expanding the functions of HPFs to include for example medical and unemployment insurance. A long term perspective of the HPF could be the transformation into pension funds (following the Singaporean example). Under such a scheme, contributors would be allowed to withdraw funds for the purchase or construction of a house but they would be obliged to refill their account before entering the retirement age.

a. The housing policy function

Currently, the contribution of HPFs to serve the social goals of housing policy is marginal as it is limited to the surpluses channeled into municipal social housing projects. These surpluses would be better used for the benefit of the contributors.

The provision of low-cost accommodation or of housing allowances should normally be funded by local or national budgets. If this policy objective were to be assigned to HPFs, it should be confined to an ear-marked employers’ contribution that would go into a separate fund, like the “One percent Housing” system in France.
b. The housing finance function

Two options are proposed. They consists in either reducing the size of the loans by extending co-finance with banks or re-orienting the lending operations by ceasing lending to private individuals and lending instead to financial institutions.

- In option 1, the HPFs offer co-financing arrangements with other lenders. In this way, they leverage the existing HPFs savings by mobilizing other funding sources. The HPF loan amount could be higher for lower income borrowers. As the interest on the HPF loans would be lower than the prescribed bank rates on mortgage loans (by PBOC), the low income borrower would benefit from a lower payment burden and the loan would be more affordable. The liquidity issue would be easier to solve.

- In option 2, the HPFs lend to financial institutions which on-lend to private households. The contributor should still be entitled to withdraw his or her contribution for the purchase or construction of a house, or the repayment of a mortgage loan at a commercial bank. Besides lending to financial institutions, HPFs could invest funds in government securities. The goal should be to ensure at least a market based return on the contributions to make up for the abolition of the lower (subsidized) interest rate on the HPF loan. This model would bring in the following benefits for the HPFs: lower risk and risk diversification; provision of long-term funding instruments in the capital market; more streamlined operations, lower cost and increased transparency.

c. The pension fund function

Currently, HPFs play only a marginal role as pension funds. What can be used by retiring members is what will be left after funds have been used for housing purposes. Given the age structure of the contributors and the fast improvement of housing conditions in urban China, this function will become more and more useful over time. Moreover, unlike the lending function which is overshadowed by banks, it is not being challenged by pension funds. The option, however, would imply the termination of the lending function.

III. Short-term operational reforms

A number of short-term measures aimed at improving the efficiency of the HPFs needs to be adopted shortly. These recommendations assume that the housing finance function will be pursued.

a. Establish an effective regulatory framework

MOHURD’s role as the central supervisor and regulator of the HPF system should be consolidated and clarified. The supervisory and regulatory processes should be developed closely in line with CBRC’s model and best international practices, including a risk-focused approach to
supervision. As the central regulator, MOHURD should be equipped with adequate enforcement powers, more qualified staff and a separate provision for this activity in its budget.

b. **Enhance the level of professionalism and sophistication in the management**

The requirements for the technical capabilities and qualification of staff and management should be enhanced and the current procedures and processes should be restructured.

Common standards for loan underwriting and servicing should be adopted. Key areas of potential standardization are loan documentation, creditworthiness assessment techniques, requirements for loan approval and disbursement.

A training institute which offers courses and training to all HPFs would be an appropriate and cost-effective way to improve the qualification and capabilities of staff and management.

c. **Improve liquidity management and supervision of allocation of funds**

A major challenge for the HPFs is the management of liquidity shortages. Applying stricter rules within each HPF might be more effective than promoting inter-center lending in addressing the problem. Inter-center lending would increase regional imbalances instead of solving liquidity shortages. Loan amounts should be linked to the savings period and the availability of sufficient funds within the HPF. Clear rules for the investment of free funds should also be specified.

d. **Implement a performance evaluation system**

MOHURD should implement a performance evaluation system which would allow for comparisons and ratings among HPFs and assist in the identification of poorly managed HPF centers. This system could be based on the following criteria:

- Coverage: proportion of HPF contributors among urban workers and income of HPF savers versus average (or median) wage;

- Effectiveness: loan-to-deposit ratio, proportion of contributors with a loan and average (or median) income of contributors with an HPF loan compared with the average (or median) income of all contributors.

e. **Launch a study on the potential benefits of a merger of HPF into provincial (or national) organizations**

On one hand, closing poorly managed HPF centers, those that are operating outside their core mandate or where corruption has been proven is not an option as there should be at least one HPF at the prefecture city level. On the other hand, we believe that fragmentation is a real issue but we cannot prove it because of the lack of appropriate data.

Whether merging HPFs into provincial (or national) organizations would make the system more efficient deserves a study of its own. Given the obvious political challenge that such a move would represent, the benefits should be high and clearly established.
I. Introduction

The Housing Provident Fund (HPF) scheme was first established in 1991 as a pilot program and a core component of the overall housing reform in Shanghai. It was introduced in Beijing, Guangzhou and Tianjin in 1992 and extended nationwide in 1994-95. The main policy goal has been to enhance housing affordability for urban residents. It aims to enhance people’s housing purchasing power through a system of joint savings – with mandatory contributions from employees and work units. These funds are accumulated in the saver’s individual account. The savings in these HPF accounts allow workers to apply for low-interest housing loans. The design of the HPF system was modeled on the Central Provident Fund in Singapore.¹

Since its creation, the HPF system has undergone numerous reforms. In March 1999, the State Council issued the “Regulations on Management of Housing Provident Funds (R-HPF)” as a legal tool to standardize HPF decision-making procedures and fund management. Another major policy shift occurred in 1998-99. HPF funds could no longer be used for construction loans for developers, but could be granted to individuals only. The last major reform occurred in 2002 when the R-HPF regulations were revised.

Although the HPF system in its present form is about 10 years old, the context in which it operates has undergone dramatic changes. The HPF reform of 1999 was linked to the abolition of the welfare housing system which included the termination of the provision of state-subsidized housing. The goal of this reform was to promote the supply of housing finance through market mechanisms. The HPF system was considered a first step towards the creation of a market-oriented housing finance system. As the reform also allowed commercial banks to offer mortgage loans, many banks have entered this market segment. Today, the amount of mortgage loans granted by banks exceeds HPF-funded loans six-fold.

China’s economic growth has resulted in rapid urbanization which, in turn, has resulted in a strong demand for housing and a shortage of affordable housing. As a result, access to affordable housing for low and middle income groups has become more difficult. Strong housing demand will be exacerbated by rising incomes and high rates of personal savings. An enduring trend of price increase is therefore likely.

Given these changes, the role and the efficiency of the HPF system has come under scrutiny. The Ministry of Housing and Urban-Rural Development (MOHURD) has therefore requested the World Bank to assess the HPF system and provide recommendations on its positioning, strategy and future role in the overall housing policy.

The objective of this report is to respond to this request. The report is structured in the following way: the first section focuses on a strategic review of the HPF system; it compares the market in which the individual HPFs operate with the strategy, mission and operational structure of the HPFs. The second section provides recommendations on the realignment of the HPF system in

¹ A detailed description of the CPF system in Singapore is found in section D.
view of the changed market conditions. The recommendations encompass the overall policy goal of the HPF system including regulation and supervision, modifications to the current products offered by the HPFs and improvements in the operational structure (e.g. organizational set-up, technical capabilities of management and staff, liquidity and risk management, etc.). We refer to international experiences with housing provident systems/credit linked savings systems to highlight useful links with the Chinese HPF system.
II. Strategic Review of the HPF System

1. The market in which HPFs operate

The operations of HPFs face mounting challenges from two angles: (a) rising house prices and decreasing affordability and (b) increasing competition from banks. Due to the lack of a clear strategic orientation, their role and importance has diminished.

a. Rising house prices and decreasing affordability

House prices rises are driven by two factors:\(^2\)

- Rapid urbanization and migration. According to recent estimates,\(^3\) the urban population is expected to increase from 572 million in 2005 to 926 million in 2025. By this date, 221 cities are expected to have more than 1 million inhabitants each and 8 megacities with a population exceeding 10 million each. The massive urbanization will put substantial pressure on availability of land, financing and the development and construction industry.

- The organization of the land supply system and land market. Land is typically acquired through an auction of leaseholds from the Government which is the ultimate owner of land. The revenues from land sales are the most important off-budget source of revenue for local governments. Between 2003 and 2009, local governments’ income from land sales rose from RMB 542 billion to RMB 1.6 trillion (as a comparison, the budgetary income rose from 986 billion to RMB 3.3 trillion in the same period). As local governments are the monopoly suppliers of land, their policies affect, to a large extent, the supply of housing and housing prices.

Chart 1 shows house price to income ratios in eight major Chinese markets. Especially in the markets of the biggest coastal areas, house price appreciation has been outpacing the rapid growth in incomes over recent years. In Beijing, house prices have fluctuated between a multiple of 14 and 15 times incomes for the past three years. This level is higher than that experienced earlier in the decade. It rose notably to 18.5 in early 2010. In some other markets like Chengdu, Tianjin, Wuhan or Xian, urban incomes have risen faster than house prices or the ratios have remained relatively stable.

To meet the rising demand for housing, local governments have made land available for development. Unsatisfied demand has occurred particularly in Beijing, Hangzhou and Shenzhen. In Beijing, the shortfall of housing supply is quite dramatic. In view of the on-going migration, considerable price pressures in urban markets are likely to continue and may force Chinese households to spend a substantial share of their incomes on housing.

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**Box 1. Housing prices, housing affordability and housing finance**

As shown by Chart 1, there are housing price bubbles in some cities. However, concerns about possible housing market bubbles and those about the affordability of housing for low and middle income households should be addressed separately, as they require different solutions (World Bank 2010). In response to the latest housing price run-up, government tightened credit supply, raised down payment requirements on second home buyers to 60% and raised mortgage interest rates on second homes. The turnover tax on property transactions was reinstated and a new property tax on high-end housing is being considered⁴. The latter is expected to discourage demand as well as to reduce the local governments’ incentive to make land sales by providing a new revenue source to them.

There is a concern that housing has become much less affordable over the years to such an extent that only 15% of respondents to a recent survey feel they can afford to buy commercial housing at market prices (World Bank, China Quarterly Update, 2010.03.27). The national median for the price to income ratio (PIR) is estimated at 5.56 and the average for cities at 6.46, putting China in the category “severely unaffordable” according to U.N. Habitat definition (Zheng, Mand and Ren, Peking University - Lincoln Institute, PLC Working Papers series No 022, September 2009). Home purchases are concentrated among the top 20-30% in income distribution and the income of the top 20% urban households is 2.2 times larger than that of the average household. Based on such reasoning, the PIR should be in the 4-5 range, comparable with those in many developed countries. In any case, the ratio between the average price of a

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⁴ The State Council announced it has recently approved a plan to reform real estate taxes (Financial Times, May 31, 2010).
100 square meter property and household income in 35 large cities has dropped somewhat even on the same definition, meaning that housing affordability has improved over time (UBS 2009).

Improved mortgage financing cannot solve the problem of housing affordability. When inelastic supply is a major cause of high prices, increased mortgage funding can only add to demand pressure and result in yet higher prices. A recent study suggests that housing supply in major Chinese cities is moderately elastic\(^5\). On the other hand, there is a concern that rising costs of land\(^6\), demand for more spacious dwellings, and high building standards keep the price of new housing out of reach. Housing finance reform should be carried out together with the reform of housing supply system. But creating a state enterprise for housing development would not be advisable.

\section*{b. Increasing competition with banks}

HPFs are subject to competition on two fronts: (i) collection of deposits and (ii) offer of mortgage loans. Since membership of an HPF is mandatory for employees of all firms according to Art. 2 R-HPF (mainly state-owned enterprises or SOEs), HPFs do not compete with other deposit collectors (like investment funds or pension funds). Rather, they are in a quite comfortable position as they have guaranteed access to a cheap funding source, albeit of a short-term nature (see section C: performance of HPFs, assessment of financial risks).

Housing finance products are very similar. On the lending front, HPFs offer the same products as commercial banks which are considered the main competitors to HPFs. Variations exist in terms of the maximum possible loan amount, the maximum LTV ratio and the interest rate. Table 1 compares the mortgage loan conditions among HPFs and banks. Interest rates of HPF mortgage loans and bank mortgage loans will be adjusted according to the interest setting by the PBOC.\(^7\)

Competitive forces among banks and HPFs are constrained for the following reasons: (i) typically, private sector employees and independent workers do not participate in the HPF scheme; (ii) interest rates do not reflect the cost of funds of banks or HPFs. As PBOC sets interest rates for both types of institutions, this policy is likely to have an influence on market shares. As chart 2 shows, HPFs have, at present, a funding advantage of at about 130 basis points, assuming that their cost of funding amounts to approximately 1.7% while that of banks is close to 3% (the rate for 12-month deposit in February 2011); (iii) Some HPFs delegate their lending operations to banks. This policy offers banks the opportunity to learn about strategy choices of HPFs, allowing them to adjust their lending policies.

\(^5\) Wang et al (2010) report that the price elasticity of housing supply in 35 cities for the 1998-2008 period ranged from 0.79 to 1.58.
\(^6\) Deng et al (2010) report that the ratio of land to house values rose from 30~40% for 2003-2007 to 60% for 2008-2010.
\(^7\) The PBOC, with approval from the State Council, sets base interest rates for the entire banking system, including non-bank financial institutions. It also defines the corridors in which commercial banks may offer loans. For all financial institutions, the floor on lending rates is 90% of the PBOC benchmark; a 230% ceiling applies to rural and urban credit co-operatives. Financial institutions may move their deposit rates below, but not above, the benchmark rate set by PBOC. See EIU, Country Finance China, August 2009, page 46.
Table 1: Mortgage loan conditions: HPFs versus banks

<table>
<thead>
<tr>
<th></th>
<th>Bank: mortgage loan conditions</th>
<th>HPF: mortgage loan conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan amount in RMB</td>
<td>Varies according to borrower’s individual creditworthiness</td>
<td>Max. loan is a proportion of savings with a local ceiling (800,000 RMB in Beijing and Shanghai)</td>
</tr>
<tr>
<td>Interest rate in percent</td>
<td>5.94 for 6 – 30 year term 5.4 for 1 – 5 year term</td>
<td>3.87 for 6 – 30 year term 3.33 for 1 – 5 year term</td>
</tr>
<tr>
<td>Term</td>
<td>Up to 30 years</td>
<td>Up to 30 years</td>
</tr>
<tr>
<td>Loan to value ratio</td>
<td>70 %</td>
<td>70 %</td>
</tr>
<tr>
<td>Payment to income ratio</td>
<td>Up to 30%</td>
<td>Up to 30%</td>
</tr>
<tr>
<td>Required security</td>
<td>Mortgage, may be other securities</td>
<td>Mortgage</td>
</tr>
<tr>
<td>Eligibility criteria</td>
<td>Borrower’s creditworthiness</td>
<td>Minimum savings period (regularly 6 months) with HPF, individual creditworthiness</td>
</tr>
</tbody>
</table>

Source: CLSA Asia Pacific Markets, interviews with HPFs

Chart 2: Commercial loan rate versus HPF loan rate (%)\(^8\)

Source: PBOC.

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8 The chart compares the interest rates on housing loans charged by commercial banks with the interest rates on housing loans charged by HPFs.
Banks challenge HPFs on two grounds: the loan amount and the quality of service. Banks are indeed better at sales and succeed in overcoming their handicap in terms of higher interest rates due to the following factors: firstly, banks target their lending activities to individuals who are employed in the private sector, typically enterprises from the private sector which have not joined the HPFs. Secondly, individual loan volumes of commercial banks are relatively higher since commercial banks are not subject to any maximum lending limits. Thirdly, most commercial banks have pursued more aggressive marketing strategies compared with those of HPFs. Fourthly; they have better service and a country-wide branch network. Finally, they have well-trained professionals and well-regulated standards.

According to chart 3, banks have increased their lending volumes. Between 2004 and 2008, the market share of HPFs varied from 15% to 20%. Since 2009, the gap between banks and HPFs has continued to widen. One reason for the increasing gap is different loan volumes as a result of rising house prices. Banks do not face the same limitations as HPFs on maximum loan amounts.

**Chart 3: Development of lending volumes at HPFs and commercial banks (in RMB billion)**

Source: MOHURD, PBOC, The Economist, authors’ calculations, China Citic Bank, Li and Yi.

It is likely that this gap will further widen in the future since HPFs’ loan origination volumes depend on the inflow from contributors and the loan multiplier applied in view of the individual savings (contributions).

Most HPFs apply a minimum saving period of 6 month before a contributor is entitled to receive a loan. The loan amount is a multiple of the contributions made by the employee (including the matching contribution of her/his employer). According to the HPF Nanjing, for example, a contributor aged 30 year who has contributed 100 RMB a month for twelve months would be entitled to a loan of RMB 108,000 (provided that he or she is creditworthy). Thus, his or her contribution is about 1% of the funds borrowed and about 99% is provided from other HPF
contributions. Therefore, the available resources of the HPF-fund are not sufficient to satisfy all loan requests since there are not enough funds in the pool. In order to meet more loan requests, the HPF would need either to reduce the maximum loan amount allocated to one borrower or increase the current contribution rates. Both measures would not strengthen the appeal of the HPF system: a smaller loan amount is likely to force borrowers to seek more funding outside the HPF system or to provide a higher down-payment (i.e. to wait longer until they are able to purchase a house). Increased contribution rates may be difficult to implement as companies may not be ready to compensate employees for the additional “loss” of disposable income in view of rising prices (house prices and overall prices).

2. The missions of HPFs

Since the establishment of the HPF system about 20 years ago, the Chinese housing sector and the financial sector have undergone important reforms and changes. When the HPF system was set up, a number of roles were defined for the HPFs, and these have been modified over the years. However, these changes have neither been integrated into the R-HPF nor has a national policy been formulated to provide guidance to individual HPFs. During a seminar on the HPF system, HPF managers gave different views of the HPFs’ objectives, strategy and mission. HPFs appear to fulfill the following roles:

a. HPFs as mortgage lenders

As a part of the housing security system, HPFs support the purchase of a unit by offering housing loans to their members. Managers defined the provision of housing loans as a major objective. They also mentioned that HPFs complement bank financing. In their view, the concept of solidarity plays an important role in fulfilling this objective i.e. funds accumulated in the HPF are available to all members. Another objective is the improvement of housing conditions of urban residents.

b. HPFs as pension funds

HPFs are not only providers of funds for housing finance; contributions of the HPFs can be used to cover medical expenses or provide a pension upon retirement of the contributor also. According to R-HPF Art. 24, a contributor is entitled to withdraw his or her contributions upon retirement. If the contributor selects this option, the HPF pays out the contributions and closes the account, but the establishment of a formal pension plan is not envisaged. The HPF Guangzhou did plan to allow withdrawals for reasons of critical illness and catastrophic expenditure. The HPF Management was asked, however, to abandon this plan, although it had gained some traction with the public.10

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c. HPFs as instruments of housing policy

HPF managers stressed that the main mandate of the HPFs is to support housing reform, in particular to help address the housing needs of low and middle income families. However, the managers who attended did not provide details of the criteria they apply to define the characteristics of low and middle income groups (e.g. income, maximum house value to be financed etc.). They did not provide information on how the HPF scheme was related to existing government programs to support the housing consumption of low and middle income households, either. Additionally, it is not clear how far the central government considers the HPF scheme a policy instrument to improve the access of low and middle income households to better housing conditions. One HPF manager mentioned migrant workers as a potential target group as they are not considered capable of affording commercial housing. If the HPFs are considered instruments of housing policy, answers should be provided, for example, to the following questions: (i) how the HPF system should be designed to serve low-income contributors better or (ii) whether and how the system should contribute to welfare programs for non-contributors (or for contributors who cannot buy a unit at market price)?

The only indication in R-HPF of this particular mandate is in Art. 29. It allows HPFs to provide funding for the construction of low-rent housing (Box 2).

To comply with R-HPF, the HPF Nanjing has transferred about RMB 761m (about USD 111m) since its establishment in 1992 for the construction of subsidized rental housing in the City of Nanjing. This amount represents about 2% of the total contributions made during this period (1992 – 2009). HPF funds were also mobilized to support local property markets during the latest financial crisis. Some local governments, for example, raised the loan limit, lowered the down payment requirements, and increased loan maturity.\[^{11}\]

To date, a clear strategy has not been formulated for any of these three roles or objectives. The lack of strategy formulation has caused considerable debate within academic circles. A well-formulated and clear-cut mission and strategy would facilitate the positioning of the HPF system within the housing policy framework and the financial sector as well as establish brand recognition in the public which in turn may lead to greater use of HPF services.

**Box 2: Welfare housing programs**

The current welfare system in urban areas consists of three programs: the low-rent public housing program, the affordable commodity program and the price restriction commodity program\[^{12}\].

Low-rent housing is state-owned and leased at a very low rent to the lowest income group in the urban population. It is primarily financed by the local government budget but also benefits from increasingly important transfers from the central government (estimated at 49 billion RMB from a total investment of


\[^{12}\] Whether the price restriction commodity program can be viewed as part of housing welfare is causing some controversy. “Most researchers and even officials regard it as at most a temporary housing policy instrument to freeze price escalation” (Pr Jie Chen).
200 billion in 2009). Eligible families receive either an in-kind benefit of a low-rent unit or a rent deduction and in some cases, a temporary rent allowance. By the end of 2006, all 274 cities at the prefecture level had launched such programs.

ECH, or affordable commodity program, aims to provide owner-occupied housing for lower-middle and middle-income urban families. ECH is sold at a price set by the local government at 20-30% below the market price. Local governments provide developers with land free or at low cost and tax concessions to guarantee a profit margin at the regulated price\textsuperscript{13}. The ECH program has been expanded to most urban households since the 1998 reform and is criticized for missing the original target groups\textsuperscript{14}. Resale is subject to restrictions such as a priority for the local housing authority to buy back the property. By 2011, 4 million units will have been built under this program, and 2 million under the low-rent public housing program. The priority between the programs is decided locally.

The price restriction commodity housing program mainly targets urban middle-income families. (Finished) units are sold to eligible buyers at fixed prices. The price takes into account the actual costs and a reasonable profit for the developer. The resulting price is between the market price and the price of a unit under the affordable housing program. Eligibility criteria are more flexible than those of the other two programs. This program is not subsidized and therefore not included in the three-year national welfare housing project.

3. **Expectations of stakeholders**

HPFs have a hybrid functions: on the one hand they are exposed to market forces through competition with banks for borrowers. On the other hand, HPFs are a part of the administration and government housing policy framework which has provided the system with a number of privileges, notably cheap and automatic access to funding (mandatory contributions from employers and employees), exemption to hold capital to cover potential losses. There are no clear provisioning rules for non-performing loans or loans in arrears.

There are multiple stakeholders (Chart 4). These stakeholders have different and often conflicting expectations over HPF system (Table 2). Most of their demands are not able to be addressed by the current HPF systems.

\textsuperscript{13} Developers’ profits are limited to three percent. Duda et al 2005, p.6

\textsuperscript{14} A case study of Beijing by Dude et al (2005) shows that affordable housing is out of reach for the typical middle and lower-middle income households despite the substantial subsidy that lowers the purchase price per square meter by as much as 50%.
Table 2: Challenges for the HPF system

<table>
<thead>
<tr>
<th>Expectations of stakeholders and challenges</th>
<th>Response provided by HPF system or the Authorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government (local/central): they have assigned several conflicting roles to the HPFs</td>
<td>A clear mandate has not been formulated for the HPFs. A present, they try to combine serving their contributors and local authorities’ housing policy goals.</td>
</tr>
<tr>
<td>Supervisors: The HPF system should be aimed at stability and equality (equal access for all contributors to an HPF loan or support to housing consumption).</td>
<td>Current regulation does not define clear responsibilities for the individual supervisory authorities at different levels of government. In addition, several cases of misuse of funds have been reported.</td>
</tr>
<tr>
<td>Contributors: return on savings is low and very few have access to a loan allowing them to purchase a housing unit.</td>
<td>Interest rates on savings and loans are decided by PBOC. Access to loans is rationed by HPF. Clear criteria for the allocation of loans are missing and vary from city to city.</td>
</tr>
<tr>
<td>Mortgage Lenders: rising house prices and decreasing affordability.</td>
<td>Increasing loan amount financed through increase in contribution and loan rationing.</td>
</tr>
<tr>
<td>Enterprises: in the private sector, they tend to consider contribution a cost element, decreasing their competitiveness.</td>
<td>Contributing to an HPF is compulsory but it is not enforced.</td>
</tr>
<tr>
<td>Developer: they need to identify solvent buyers.</td>
<td>Some HPFs co-operate with developers and recommend pre-approved buyers.</td>
</tr>
<tr>
<td>Competitors: playing a level field</td>
<td>HPF have a number of privileges over commercial banks</td>
</tr>
</tbody>
</table>
4. Supervision of HPFs

The current regulation does not define clear responsibilities for the individual supervisory authorities and how they coordinate on the central, provincial and municipal level. The HPF system lacks a clear orientation and detailed regulations on the implementation of the system. Literature on the supervisory architecture confirms this view.\(^{15}\)

Chapter V of R-HPF provides for the supervision of the HPF system. Supervision of the HPF system takes place at three levels (i) central level; (ii) provincial level and (iii) and municipal level (Chart 5). The Ministry of Housing and Urban-Rural Development (MOHURD), the Ministry of Finance (MOF) and the National Audit Administration (NAA) are jointly responsible for the supervision of HPFs.

The Chinese Banking Regulatory Commission (CBRC), which supervises the commercial banks, does not directly supervise the activities of the HPFs from a prudential perspective. According to the information provided by CBRC, the activities of the HPFs are classified as commissioned services i.e. CBRC’s supervisory activities are limited to checking on procedures and technicalities which does not include checking solvency, liquidity ratios, etc. The interest rate regulations of the PBOC apply to the HPF activities.

MOHURD is the primary promoter of the HPF system and it began to assume the role of regulation and supervision for the HPFs in 2008 when a new department was created to specialize in overseeing the HPFs. By nature, the deposit taking and lending operations of HPFs are not much different from those of commercial banks, therefore should be overseen by the banking regulatory authority. According to MOHURD, the reason for the separation of the HPFs from the supervision of the CBRC is that they are primarily viewed as a housing policy instrument and not as financial institutions per se. According to the R-HPF, one of MOHURD’s functions is to intervene in case of misuse of funds or a violation of the rules set by R-HPF.

For various reasons, a comprehensive regulatory framework for HPFs has not been established to date. MOHURD co-ordinates the procedures for financial management and accounting of the HPFs (Art. 45 R-HPF) with the MOF. The MOF through its Finance Departments approves the budget of the HPFs (Art. 30 R-HPF) and the plans for the collection and use of the HPFs’ funds (Art. 31 R-HPF). The NAA audits the accounts and financial reports of the HPFs. The R-HPF does not prescribe the use of external professional audit companies. The R-HPF does not state any particular rules on audit.

The municipal administration has a strong role in determining the use of the surplus which is channeled into social housing projects. It is not clear how far the use of funds and the policy objectives are coordinated with MOHURD.

\(^{15}\) See for example Wang, op.cit, page 12.
The R-HPF does not require an HPF to set a particular internal control environment. According to HPF Nanjing, sound operations are ensured through regular meetings of the HPF decision making bodies and collective decision making procedures.\textsuperscript{16}

**Chart 5: Supervisory and regulatory structure of the HPF system**

The influence of the local regulators and local governments is difficult to assess but appears to be quite strong since central regulators lack the necessary capacities to ensure extensive supervision. MOHURD has just 12 staff members to supervise 342 HPFs. The few high profile corruption cases which have become public in recent years underpin the argument that the supervisory regime is weak and ineffective. In 2010, MOHURD established a specialized supervision group with 109 permanent employees, but its effectiveness leave to be evaluated.

III. Evaluation of the performance of the HPFs

Table 3 provides data on key indicators of the HPF system. Since 2000, the overall level of HPF activities has risen substantially as shown by the number of members, the volume of savings and mortgage loans.

Table 3: Key indicators of the HPF system (2000 – 2009)

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2003</th>
<th>2005</th>
<th>2007</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of account holders (1,000)</td>
<td>63,000</td>
<td>63,180</td>
<td>63,300</td>
<td>71,900</td>
<td>80,313</td>
</tr>
<tr>
<td>Cumulative contribution (RMB bln)</td>
<td>217</td>
<td>566</td>
<td>976</td>
<td>1,623</td>
<td>2,609</td>
</tr>
<tr>
<td>Cumulative contribution per holder (RMB)</td>
<td>3,443</td>
<td>8,951</td>
<td>15,419</td>
<td>22,573</td>
<td>32,487</td>
</tr>
<tr>
<td>Contribution in year (RMB bln)</td>
<td>NA</td>
<td>NA</td>
<td>236</td>
<td>354</td>
<td>539</td>
</tr>
<tr>
<td>Contribution in year per holder (RMB)</td>
<td>NA</td>
<td>NA</td>
<td>3,727</td>
<td>493</td>
<td>671</td>
</tr>
<tr>
<td>Total account balance (RMB bln)</td>
<td>NA</td>
<td>378</td>
<td>626</td>
<td>961</td>
<td>1,465</td>
</tr>
<tr>
<td>Account balance per holder (RMB)</td>
<td>NA</td>
<td>6,678</td>
<td>9,889</td>
<td>13,359</td>
<td>18,240</td>
</tr>
<tr>
<td>Cumulative withdrawal (RMB bln)</td>
<td>NA</td>
<td>NA</td>
<td>350</td>
<td>625</td>
<td>1,144</td>
</tr>
<tr>
<td>Withdrawal in year (RMB bln)</td>
<td>17</td>
<td>234</td>
<td>99</td>
<td>181</td>
<td>286</td>
</tr>
<tr>
<td>Cumulative mortgages extended (RMB bln)</td>
<td>79</td>
<td>NA</td>
<td>460</td>
<td>857</td>
<td>1,480</td>
</tr>
<tr>
<td>Cumulative mortgages extended (1,000)</td>
<td>NA</td>
<td>NA</td>
<td>5,235</td>
<td>8,300</td>
<td>11,621</td>
</tr>
<tr>
<td>Mortgage extended in year (RMB bln)</td>
<td>NA</td>
<td>NA</td>
<td>120</td>
<td>220</td>
<td>420</td>
</tr>
<tr>
<td>Average size of new mortgage (RMB)</td>
<td>NA</td>
<td>NA</td>
<td>121,969</td>
<td>209,200</td>
<td></td>
</tr>
<tr>
<td>Mortgage loans outstanding (RMB bln)</td>
<td>NA</td>
<td>NA</td>
<td>283</td>
<td>510</td>
<td>881</td>
</tr>
</tbody>
</table>


This section presents the evaluation of the performance of the HPF system. The analysis comprises four parts:

Organizational and operational performance of HPFs: This part describe the organizational structure of HPF, the collection of savings and the lending process, as well as savings and loan products offered by the HPFs. The descriptions provide a basis for the following analysis.

Managerial, organizational and financial performance: This part of the assessment focuses on the management capabilities and corporate governance, the organizational arrangement and the financial risks to which HPFs are exposed. The risk analysis outlines the extent to which the HPF institution instrument is subject to individual risks. The following risks are analyzed: credit risk, interest rate risk, liquidity risk and prepayment risk.

Cost and benefits to consumers and government: The analysis is based on the following elements:

- Cost and benefits to consumers (contributors): What costs are imposed on the consumer when he or she saves or takes up a mortgage loan from an HPF? Costs not only reflect the cost of taking out a loan, such as the interest rate and additional fees, including notary or
cadastre fees, but also the opportunity cost (e.g. relatively lower savings rates at the HPF in comparison with the interest rates offered by commercial banks).

- Costs and benefits to the government: What are the costs the government incurs for the management and maintenance of the HPF system and what benefits does it get from a housing policy point of view, as a contribution to the satisfaction of housing needs?

Improved access to housing and financial sustainability of the HPF system: Are the current arrangements sustainable? What risks are HPFs faced with? To what extent do HPFs contribute to improved access to housing finance? This last criterion will be measured against the following factors: coverage of the HPF system (HPF members compared with salaried workers; income of HPF contributors compared with salary levels); effectiveness (proportion of contributors with a loan; income of HPF contributors with a loan compared with the average income of all HPF contributors); improved access to housing (loan-to-deposit ratios, average income of HPF contributors with an HPF loan compared with the income of all contributors), and sustainability of the system (fragmentation, available liquidity).

1. Organization and operation of HPFs

As a legal entity, an HPF is a public body. It is not established as a financial institution. All the expenses for workers’ wages, office and other costs come from the HPF’s own business income. But the number of employees and operating budget has to be approved by the government authorities. Some top managers are appointed by government authorities as well.17

   a. The organizational structure

The R-HPF prescribes the organizational structure of an HPF. Chart 6 illustrates a simplified organizational structure of an HPF.

   • The HPF Committee (similar to a supervisory board) is responsible for the supervision of the HPF operations. It sets the HPF contribution rates, taking into consideration local economic conditions and approves the annual plans for collection and usage of HPF funds which are sent to the Finance Bureaus for auditing. The Committee performs year-end reviews of the execution of these plans. Members of the HPF Committee are appointed by the respective city government. The typical composition of the HPF Committee is as follows: one third of the representatives are from the trade unions and workers, one third of the representatives are from the enterprises and one third of the representatives are from the government and experts. Meetings take place at regular intervals.

   • The HPF Management Center (similar to a management board) is responsible for all routine operations and is directly involved in collection, financial supervision and the management of the HPF funds that have been loaned.

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17 See Wang, L., “Housing Finance: Bridge the Gap between Supply and Demand”, page 12.
• Operation sites (or departments) are responsible for the different administrative tasks of the HPF Management Center. For example, the loan department is in charge of the review and creditworthiness assessment of loan applications. Treasury functions are located within two departments: Capital Planning and Finance. Most branches have responsibilities for savings collection and review of loan applications.

Chart 6: Organizational structure of an HPF

Source: Nanjing HPF.

According to the R-HPF, there is a clear segregation between the supervisory activities (performed by the HPF Committee) and the management (the responsibility of the HPF Management Center). Functions and responsibilities of the two bodies are defined in the R-HPF. Similar organizational structures are applied in other countries, such as Germany and France. As illustrated in chart 6, an HPF has separate departments for the individual operating functions.

b. The collection of savings and the lending process

For the collection of savings and the distribution of loans (i.e. the physical cash flows), an HPF typically operates through a bank. The HPF accounts for all operations within its own accounting system.

All wage earners are required to pay a certain percentage of their salaries into their designated HPF savings account. Employers supplement their employees’ deposits with an amount equal to each individual employee’s contribution. Contribution rates vary from 5% to 20% of an employee’s monthly salary i.e. the total contribution of one individual contributor into her/his HPF saving account amounts to 10% to 40% of his or her monthly salary.

Contributors are entitled to withdraw their savings in case of purchase, construction or reconstruction of a self-occupied house, retirement and unemployment or loan repayment. A
contributor may also borrow from the HPF for housing purposes. Two models exist for the operation of an HPF.

i. **Monitoring and supervision of cash-flows**

The banks are responsible for collecting savings and making loans (including withdrawals and disbursement of loans) and the HPF Management Center retains the role of bookkeeper of all transactions performed by the banks. The bank is responsible for pre-screening applicants, property appraisal, loan origination, underwriting and monitoring on behalf of the HPF (according to the criteria set by the HPF). Before disbursing a loan, the HPF performs a secondary review of all loan applications to check whether all criteria have been met by the applicant.

Secondary underwriting is done according to a certain number of criteria: the pre-screening HPF partner bank provides all relevant data to the responsible HPF loan officer in an automated form. The loan officer finally approves the loan request. Typically, HPFs do not use credit committees.

ii. **Direct process management and supervision**

The HPF Management Center performs all the functions i.e. account opening, management of the savings collection and withdrawal process and the lending process. Banks only handle the physical cash transactions.

For example, the Nanjing HPF has arrangements with one bank for the management of contributions and with 16 for loan distribution. According to the management of the Nanjing HPF, the HPF partner banks compete on service quality. Loan conditions are the same at every partner bank. The reason for the high number of partner banks is that the management wants to give contributors a choice.

c. **Balance sheet of an HPF**

Chart 7 shows a simplified balance sheet of an HPF. It was compiled from information provided by HPFs at meetings during our mission.

Typically, HPFs do not have equity. The risk reserves and undistributed profits serve as a substitute for equity. Savings are invested in loans or treasury bonds (Art. 26 and 28 R-HPF). The Regulation is quite flexible on the type of treasury bonds the HPF is allowed to purchase (e.g. in terms of maturities, percentage of portfolio to be invested etc.). In addition, there are no rules on asset-liability management, provisioning, etc. The management uses profits to establish the risk reserves and to channel them into social housing projects. The funds, which are channeled into social housing projects, will not be paid back to the HPF.
Savings and loan products offered by the HPFs

HPFs do not offer different savings products. There is only one account (no sub-accounts for different purposes, such as pension or housing) in which the employer transfers both the employee’s and the employer’s contribution. The interest rate on the contributions is below market rates. If inflation is taken into consideration (currently at 3.5% for 2010), the real return on the HPF contribution is negative: a contributor earns 0.4% nominal in the first year and 2.6% from the second year. Nominal interest rates offered by banks vary from 0.4% (demand deposit) to 5% (5-year term deposit).

Typically, HPF borrowers are first-time buyers. Only a limited number of HPF contributors use the HPF facility twice. The loan amount is set in accordance with the total contributions made by the borrower, capped at a maximum loan amount. For example, the amount of the mortgage loan should not exceed 40 times the applicant’s total contribution with a maximum of RMB 800,000 (in Beijing and Shanghai). Loan approval procedures at HPFs are understood to be time-consuming and cumbersome. The effectiveness depends to a great extent on the co-operation among the HPF-bank, the individual HPF and the employer of the contributor. Typically, HPF borrowers are entitled to combine an HPF loan with a bank loan.

HPF borrowers repay their loans with the help of their contributions (including the employer’s contributions) which leads to a lower repayment burden in comparison with a loan repayment schedule with a commercial bank. During the repayment period, the savings account will not be credited. As soon as the loan is repaid, the contributions will flow again into the contributor’s savings account. HPFs do not apply pre-payment penalties.
2. Managerial, organizational and financial performance

The organizational structures and corporate governance architecture has not adapted to the rising contribution and loan volumes of HPFs. They do require a higher level of professionalism and sophistication in managing and supervising an HPF. Thus, the restructuring and reorganization of the HPFs is likely to become a matter of major concern in the near future.

a. Management capabilities and corporate governance

As far as qualifications required for the management and supervision of an HPF are concerned, the R-HPF remains rather vague. According to R-HPF Article 8, the chairman of the HPF Committee should be a person of high social prestige. This term is, however, not further defined in the R-HPF. The R-HPF does not state any qualifications for the other members of the HPF committee.

The same concerns apply to management positions at an HPF. It seems that the HPFs do not use job-descriptions and qualification requirements for staff. For example, the head of the Nanjing HPF management center was a former general of the army. HPF managers stated to the team the desire for better trained staff and managers. They recognize the need for the formulation of human resource standards, business standards as well as evaluation systems for the performance of staff (and the overall HPF as a business entity).

b. Organizational arrangements

To streamline processes, most HPFs have made investments in IT architecture and established procedures for the approval of loans. Operational guidelines (handbooks) that regulate the business management and the internal management have been introduced as well. This arrangement reflects management practices employed in other financial institutions. HPF managers’ desire for an improvement of processes and procedures, however, indicates a need for reform in this area.

The co-operation with the banks in the collection of savings as well as the approval and disbursement of loans indicates a weakness in the HPF system. Firstly, it adds another layer of complexity to the management of the HPF. For example, as already mentioned, Nanjing HPF co-operates with 16 banks in its lending operations. Although the co-operating banks perform the creditworthiness assessments according to the standards of the HPFs, the HPF has less control over selection of customers and the quality of the underwriting (despite a secondary review). Secondly, this type of co-operation prevents the HPFs from establishing a personal relationship with the contributors.

c. Financial Risks

i. Credit risk

To date, the quality of lending appears to be good. Loan arrears or the number of non-performing loans is quite low. At HPF Nanjing, for example, the percentage of overdue loans amounts to 0.18% of the total loan portfolio. The relatively low credit risk is due to the following factors:
The pre-savings requirement and the lower LTV ratio (refer to table 1) translates into a smaller loan amount and a larger buffer in case of falling property prices;

- The collection mechanism: repayments are directly deducted from the contributors’ payroll;
- The subsidization of the repayment rate: During the redemption period, the employer’s contribution is also used for the repayment of the HPF-loan. Thus, there is a minimal increase of the payment burden for the contributor compared with the amounts contributed during the savings period;
- The target group of HPFs is typically employees from SOEs which have regular and stable incomes. Additionally, the risk of unemployment in this sector is relatively low.

ii. **Interest rate risk**

Interest rate risk is the risk that an HPF will experience deterioration in its financial position as interest rates move over time. According to the Basle II framework, HPF would be in particular exposed to repricing risk (i.e. it results from differences in maturities (fixed rate) and repricing periods (floating rates) for assets versus liabilities) and basis risk (i.e. it arises from imperfect correlations between changes in the rates earned and paid on different instruments with otherwise similar repricing characteristics).  

Interest rate risk is limited by the design of the HPF system and the interest rate regime employed by the PBOC. PBOC has no influence on the profit and loss structure; it only regulates the interest rates. To date, loan interest rates have exceeded interest rates on the savings. Even if interest rates were liberalized, interest rate risk would probably remain relatively low since the contributors have to continue with the HPF. In this context, the HPF can “afford” to pay an interest rate on savings below market rates.

iii. **Liquidity risk**

A key risk of the HPF system is liquidity risk, or the risk that an HPF will have insufficient funds to meet future loan demand. According to information provided by HPF managers, HPFs in the eastern provinces already report liquidity shortfalls while HPFs in the western provinces have ample liquidity. Some HPFs like Nanjing’s have set up an early warning mechanism to ensure an adequate supply of funds. Liquidity shortfalls are due to the mechanism of loan allocation. The maximum loan amount is calculated as a multiple of the salary and of the repayment time, instead of the amount saved. There is a maximum amount, for each city, which has been increased according to house price increases. Affordability problems are likely to result in a concentration of the demand for loans among higher-income borrowers, those who get the larger loans. To manage the inflow and the outflow of funds, the HPFs either need to raise contributions and/or modify the way the loan amount is calculated as loan rationing is also likely

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18 Hong Kong Monetary Authority, Supervisory Policy Manual, Interest Rate Risk Management (2002); Brown, Christine, Asset and Liability Management, University of Melbourne, December 2008.
to undermine confidence in the HPF system. Another area of concern is the maturity mismatch within the HPF system. In addition to housing investment (down-payment and loan repayment), the R-HPF allows for the withdrawal of funds in a limited number of cases: retirement or permanent disability, settling abroad or paying an excessively high rent (Art. 24). It does not establish any minimum savings period. However, for loan allocations, most HPFs require a minimum savings period of 6 months.

iv. Pre-payment risk

HPFs do not apply pre-payment penalties. The team did not receive any data on pre-payments of HPF loans. Given the strong repayment culture in China, it is likely that most of the HPF loans are repaid prior to the initial loan term fixed in the loan contract. Since pre-payments can be reinvested into loans, they stabilize the HPF system and with a relatively stable interest rate environment the risk to the profitability of HPFs through early repayment is considered low.

3. Costs and benefits to consumers and government

a. Costs and benefits to consumers

In theory, an HPF offers two products to the contributor: (i) a savings product; and (ii) the option to receive a loan product with an interest rate which is typically lower than the interest rate of a mortgage loan from a commercial bank (interest rate option product). The ultimate value which the contributor attributes to the product depends on his or her individual expectations: if, for example, he or she expects loan interest rates to rise, he or she will value the interest rate and credit option higher and be more willing to accept a lower return on savings. These opportunity costs (i.e. lower return during the savings period) reflect the value of the other two option products.

Another reason why the contributor may associate a lower value with the interest option product is the loan rationing since he or she will not receive any compensation for the lower return on his or her savings unless a loan is obtained. Thus, it is likely that the opportunity cost outweighs the advantages which are offered to the contributor by the HPF system (e.g. lower interest rate during the loan period, subsidization of the repayment rate through the employer’s contribution, etc.).

Box 3 illustrates the regressive nature of HPF subsidies: a contributor with an income high enough to allow him or her to buy will benefit from several implicit subsidies: the major subsidies are the interest rate subsidy and the income tax exemption on the contribution. As the loans are funded by the deposits of all contributors, the higher income members who can purchase a unit are cross-subsidized by the lower income members who cannot afford to buy; moreover the latter receive a negative real rate of return on their deposits.

The contract value may become negative if the opportunity costs of higher remunerated savings today exceed the value of the interest rate option.
b. Costs and benefits to the government

The cost to the government potentially comprises three elements. First, employers’ and employees’ contributions are tax deductible (up to a certain salary level). Next, interest on savings in an HPF is tax free. However, as interest on other savings products is also tax free, this should not be taken into account. Lastly, for those employees who work for a governmental body, the employers’ contributions may be, arguably, considered a cost to the government. Tax losses are indirect costs. Otherwise, there are no costs to the government for the management of the HPF since they are covered from the HPF budget (Art. 30 R-HPF).

The benefits for the government correspond to the amount of subsidies they should otherwise have to provide to achieve the same level of satisfaction of housing needs. This is, of course, very difficult to calculate. In addition to this, a more tangible benefit is the total value of the transfers from HPFs to municipalities in order to finance their housing policies. As mentioned above, in the case of Nanjing, these transfers amount to 2% of the total contributions made.

**Box 3: Estimate of the subsidies received by an HPF borrower**

<table>
<thead>
<tr>
<th>Subsidy</th>
<th>Household A</th>
<th>Household B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loan: Below-market interest rate</td>
<td>32,029</td>
<td>0</td>
</tr>
<tr>
<td>Purchase: Exemption from transaction tax</td>
<td>836</td>
<td>0</td>
</tr>
<tr>
<td>Contribution: Income tax exemption</td>
<td>29,604</td>
<td>12,505</td>
</tr>
<tr>
<td>Deposit: Below-market interest rate</td>
<td>0</td>
<td>-2,401</td>
</tr>
<tr>
<td><em>Total</em></td>
<td>62,469</td>
<td>10,104</td>
</tr>
</tbody>
</table>

**Hypotheses:**
- Source for income distribution: China Statistical Yearbook 2009 (updated using quarterly data on wages)
- Household income (per year): A = 62,950 Yuan, B = 37,227 Yuan
- A and B include one HPF contributor whose wage is 2/3 of total household income
- House purchase = 566,550 Yuan (based on PTI = 9)
- Loan amount = 283,275 Yuan (based on LTV = 50%)
- Loan term = 20 years; repaid in full after 10 years
- Discount rate: 4.8% (current inflation rate)
- Income tax upper bracket: 35% (A), 25% (B)
- Transaction tax rate: 5.5%

**Comment:** These estimates are based on averages and current behavior. Household A can maximize his or her subsidy either by taking a maximum loan (800,000 Yuan) on 30 years and making no early repayment or by taking a second loan (less subsidized) after repaying the first one. In the former case,
4. **Coverage, effectiveness and financial sustainability of the HPF system**

A number of indicators are defined to measure the coverage, the effectiveness and the financial sustainability of the HPF system. The results shown in the following tables and charts have to be read with caution due to the limited availability of data. They are, to a large extent, drawn from the insights and analysis provided by the counterparts with whom the mission met.

**a. Coverage of the HPF system**

The team suggests two sets of indicators to measure the coverage of the HPF system:

i. **Proportion of HPF contributors among urban workers**

This quantitative indicator aims to show how far the HPF system has extended membership among those who are legally entitled to participate in it. The general trend is a continuously increasing HPF membership, albeit from a low base. As illustrated in table 4, the coverage of the HPF contributors in comparison with the total urban workforce is quite low: compared with the total urban employment (293 million in 2008) or with the number of urban households, which are estimated at 170 million, the contributors appear to be a small minority. If the workforce is limited to the salaried workers, the ratio increases to 70%. In view of the number of contributors in comparison with SOE employees, it seems that among SOEs, every employer is also a member of an HPF. Since, in some cities, private enterprises participated with an HPF, the indicator exceeds 100% for the year 2008. This tends to indicate that there has been some success in attracting workers into the system from other enterprises.

**Table 4: Proportion of HPF contributors among urban employees**

<table>
<thead>
<tr>
<th>Year</th>
<th>Contributors / total urban employees</th>
<th>Contributors / urban salaried employees</th>
<th>Contributors / SOE employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>24%</td>
<td>58%</td>
<td>84%</td>
</tr>
<tr>
<td>2006</td>
<td>25%</td>
<td>62%</td>
<td>90%</td>
</tr>
<tr>
<td>2007</td>
<td>25%</td>
<td>63%</td>
<td>98%</td>
</tr>
<tr>
<td>2008</td>
<td>26%</td>
<td>69%</td>
<td>103%</td>
</tr>
</tbody>
</table>

*Source: China Statistical Yearbook 2009 (CSY), Li and Yi, China Citic Bank, MOHURD.*

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20 As of 2009, about 80 million employees participate in HPFs. Urban employment in 2008 was 293 million and urban population 607 million. Assuming an average household size of three, the number of urban households is estimated at 202 million.

21 For example, the company membership base of Nanjing HPF also comprises private enterprises. Often, these were former SOEs which had been privatized and had not left Nanjing HPF.
ii. **Income of HPF savers compared with the average (or median) wage**

The second (qualitative) indicator would compare the income of HPF contributors with the average urban salary and income, but this data is not available. Given the high proportion of SOE employees among the contributors, it can be assumed that the SOE salary is a good proxy for the contributors’ income (table 5). Incomes of SOE salaried employees are slightly (5-6%) above urban salaries. It seems that the current contributor base does not support the public perception that the HPF system is a tool to improve housing conditions for low income groups. A considerable number of beneficiaries of HPF loans must come from groups with income above the low income level.22

**Table 5: Salary of SOE employees compared with the average salary and urban income (RMB)**

<table>
<thead>
<tr>
<th>Year</th>
<th>SOE salary</th>
<th>Urban salary</th>
<th>Urban income</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>19,313</td>
<td>18,364</td>
<td>18,200</td>
</tr>
<tr>
<td>2006</td>
<td>22,112</td>
<td>21,001</td>
<td>20,856</td>
</tr>
<tr>
<td>2007</td>
<td>26,620</td>
<td>24,932</td>
<td>24,721</td>
</tr>
<tr>
<td>2008</td>
<td>31,005</td>
<td>29,229</td>
<td>28,898</td>
</tr>
</tbody>
</table>

Source: CSY 2009.

**b. Effectiveness**

Three indicators to measure the effectiveness of the operations of an HPF are suggested:

i. **Proportion of contributors with a loan**

How many contributors have access to an HPF loan? As shown in table 6, about 15% of the HPF contributors had a loan outstanding in 2009. This ratio increased by more than six percentage points from 2005 to 2009. Thus, the number of borrowers is slowly expanding, but still lagging behind expectations since relatively few contributors have obtained an HPF loan. One reason for this difference is the high loan multiplier. Evidence suggests that there are sizable variations among cities. For example, the ratio of contributors with an outstanding loan balance amounts to 1.5% in Beijing, 9.5% in Shanghai, 2.5% in Ningbo and 1% in Chengdu.23

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22 Migrant workers for example are one group that is not covered by the HPF system since they are often employed by private enterprises which are routinely not members of an HPF. On the one hand, this group typically cannot afford a normal bank loan to buy a house. On the other hand, they are not entitled to a subsidized housing unit since their incomes are too high to qualify for a subsidy.

23 See Wang, L., op.cit, page 14.
Table 6: Number and proportion of contributors with an HPF loan

<table>
<thead>
<tr>
<th>Year</th>
<th>Contributors (thousands)</th>
<th>Contributors with a loan (thousands)</th>
<th>Contributors with HPF loan (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>63,300</td>
<td>5,235</td>
<td>8.3%</td>
</tr>
<tr>
<td>2006</td>
<td>69,200</td>
<td>8,300</td>
<td>12.0%</td>
</tr>
<tr>
<td>2007</td>
<td>71,900</td>
<td>9,130</td>
<td>12.7%</td>
</tr>
<tr>
<td>2008</td>
<td>77,500</td>
<td>9,610</td>
<td>12.4%</td>
</tr>
<tr>
<td>2009</td>
<td>80,313</td>
<td>11,621</td>
<td>14.5%</td>
</tr>
</tbody>
</table>

Source: Li and Yi, China Citic Bank, MOHURD.

ii. Income of borrowers compared with income of all contributors

This indicator measures to what extent contributors with higher incomes have access to an HPF loan. An HPF system could be regressive if contributors received any benefits in proportion to their incomes (e.g. employers’ matching contribution, tax exemption on savings, etc.). Data on HPF borrowers’ income are not available. The public data on incomes in general do not point to a clear direction (table 5). It is likely that lower income groups do not benefit from the scheme. Due to the typical membership (employee of an SOE in an urban area), this result may not be a surprise as incomes of these groups tend to be more stable and relatively higher than in rural areas. Further research is required in order to draw a clear conclusion.

c. Sustainability of the system

The sustainability of the HPF system is jeopardized by two types of risks: exposure to local economic trends because of mortgage portfolio concentration and lack of funds due to different growth rates between savings and loans.

i. Fragmentation

HPF operations are fragmented among their 342 management centers in charge of daily operations. Each city has its own policies and rules on contribution rates, maximum loan amounts, etc. For example, the contribution rate is 12% in Beijing, 7~15% in Shanghai and 5~20% in Guangzhou (2009). The maximum loan amount and the utilization of HPF loans also vary greatly across cities.

This fragmentation does not allow for economies of scale, resulting in higher costs for every HPF. If HPFs shared business functions, costs for the overall system could be lowered. These cost savings could be used to stabilize the overall system. In addition, mortgage loan portfolios cannot be diversified and are exposed to the risk of a local economic down-turn. For example,

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24 This is the number of cities. According to the New Rules of HPF in 2002, one city should have only one management center, but in fact many provincial capital cities have more than one.
during the 2009 housing boom, in many eastern coastal cities, the inflows of HPF funding were significantly less than the demand for loans and HPF centers in Nanjing, Guangzhou and Changzhou even had to set quotas or impose constraints on loan applications.

As mentioned in a previous World Bank document, there are a number of ways to alleviate portfolio concentration, including mortgage default insurance, securitization or portfolio sales and the consolidation of separate HPF. Only the merger of HPFs will be considered here (see below).

ii. Available funds

The longevity of the HPF system in providing loans has been estimated, assuming that the current multipliers and lending policies are maintained.

The following assumptions have been used to provide an estimation of the expected growth rates of savings and loans. From 2005 to 2009, the average increase in savings per year was 23% while the average increase in loans was 37% for the same period. These growth rates are in line with the trends shown in tables 3, 5 and 6. For the calculation of future growth rates, it is assumed that current average growth rates for the contributions and loans will remain at these levels. As a result, the estimate is based on a yearly growth rate of 23% for the contributions and of 37% for the loans until 2020. Additionally, the model assumes an average inflow of 20% per year from redemption payment and prepayments of loans. This appears realistic given the rising incomes in China and the rising demand for housing. The growth rates may be even higher if China experiences the same growth rates as in recent years.

As illustrated in chart 8, the HPF system may be expected to run out of funds as early as 2016/2017 and will not be able to serve its members with loans from this date. The most important finding of this simulation is not the actual date of the funding shortfall but the eroding financial sustainability given the high multipliers.

However, it may be argued that the future growth rate of HPF savings volume and loan amounts will not reflect that of past years and that the estimate does not sufficiently take into consideration inflows from redemptions and early repayments. According to Jie Chen, “the shortage of HPF liquidity in eastern cities is primarily temporary than permanent, mostly driven by business-cycle factors of housing markets”. One may be more pessimistic and consider several reasons for the saving volume to plummet, e.g. changes in population structure (reduction in the working age group), or in company ownership structure (less SOEs and public sector).

26 Chart 8 is a very simplified simulation of the development of the fund flows of the HPFs. A more detailed simulation requires access to data on inflows and outflow of funds. The main idea of this chart is not to offer a precise extrapolation but to show that the current multipliers (i.e. the loan amount in relation to the savings amount) applied within the HPF system are not sustainable in the mid-term. Sooner or later, the HPFs will face a funding shortage if the multipliers are not revised (see also the example on the bausparkassen system).
27 Due to the excessive loan multipliers, the inclusion of redemptions may not make a big difference in the overall result of the expected liquidity gap. In 2009, the return on HPF was 24.5 billion RMB. Early repayments might help reduce the liquidity gap.
As already mentioned above, some HPFs are already reporting a shortage of liquidity. Other HPFs have adequate liquidity at the moment but how long this situation will remain will depend on supply and demand in the local housing market in the future. These calculations also assume that there will be an ample supply of housing to serve the growing demand. Since HPFs are not allowed to close any funding gaps with borrowings in the capital market or other funding sources, any shortage of funding could jeopardize their business model.

In future years, HPFs are unlikely to face higher NPL ratios or shrinking margins (as long as the PBOC maintains the current interest regime) due to the current collection practices of the HPFs (see under financial risks – credit risk for more details). As shown in chart 2, HPFs have benefitted from lending margins of at least 200 basis points and higher since the average cost of funding amounts to approximately 1%. Funding costs of the banks amount to 3% (based on the costs of deposits). Thus, the eroding liquidity will be of higher concern for the HPF management in the next 2 to 3 years than any squeeze on margins.

**Chart 8: Estimated growth of savings and loans within HPF system (in RMB bln)**

Source: Li and Yi, China Citic Bank, MOHURD, authors’ calculations.

5. **Summary of the performance of the HPF system**

Table 8 summarizes the performance of the HPF system.

**Table 7: Results of performance analysis**

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Main findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Managerial, organizational and financial performance of HPFs</td>
<td>Lack of professionalism and weak corporate governance jeopardize the viability of the current business model. HPFs trail</td>
</tr>
</tbody>
</table>
and corporate governance behind commercial banks, their main competitors.

2. Organizational structure

The organizational structure dates from the early years of establishment. Processes, procedures and co-operation structures with HPF partner banks have apparently not adjusted to current market conditions and practices.

3. Effectiveness to manage financial risks

- Credit risk: the collection mechanism, the subsidization of repayment rate and the target group have had a positive impact on maintaining low credit risk.
- Interest rate risk: the current interest rate design results in low interest rate risk.
- Liquidity risk: the key risk for the HPFs due to unsustainable multipliers and maturity mismatches. If not properly managed, HPFs may be forced to cease lending operations soon.
- Pre-payment risk: high pre-payment rates help to stabilize the liquidity pool of the HPF.

### B. Costs and benefits to consumers and government

1. Costs and benefits to consumers

Opportunity cost (i.e. relatively low return on contributions) outweighs advantages (e.g. relatively lower interest rate on HPF loan, subsidized repayment rate, etc.) offered by the HPF system, in particular in case of the rationing of the loan allocation.

2. Costs and benefits to government

Costs and benefits of HPF system to the Government are neither easy to define nor to evaluate. They should be compared with alternative instruments of housing policy.

### C. Improved access and financial sustainability of the system

1. Coverage of HPF system

The HPF system has managed to increase its coverage among SOEs but has failed to cover private enterprises. It appears that the majority of the contributors belong to the middle income group. This contradicts statements of policy makers and regulators who view the HPF system as an instrument to promote low-income housing.

2. Effectiveness

HPF loan approvals have been rationed. To date, most
contributors have failed to obtain an HPF loan.

3. Access to housing

The rising loan to deposit ratio is due to increasing average loan amounts instead of an increasing number of borrowers. This tends to indicate that the HPF system has not performed well in increasing housing affordability for low income groups.

4. Sustainability

Based on current lending policies and multipliers, HPFs in cities facing housing bubbles may be expected to run out of funds for loan allocation in the near future.

Both stakeholder analysis and performance analysis permit the conduct of a SWOT analysis (chart 9). This analysis summarizes the strengths and weaknesses of the HPF system as well as defines threats and opportunities.

**Chart 9: SWOT Analysis of the HPF system**

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Specialization in housing finance</td>
<td>• Weak management capabilities and corporate governance</td>
</tr>
<tr>
<td>• Design products which take into consideration needs of low income groups</td>
<td>• Influence of government on decision making processes</td>
</tr>
<tr>
<td>• Provider of long term funds for housing for other lenders</td>
<td>• Strong competition from banks</td>
</tr>
<tr>
<td>• Provider of long term funds for housing for other lenders</td>
<td>• Eroding liquidity to maintain system</td>
</tr>
</tbody>
</table>

The specialization in housing finance derives from the product focus and the local knowledge of housing markets. Many banks may lack these competencies. These skills provide an opportunity to design products which take into consideration the specific needs of low income groups (for example smaller loan amounts, flexible repayment terms, etc.). If the HPFs decided on a second tier lender function, they could provide long-term funds to the industry. Most banks may fail to tap long-term funding resources given the state of capital market development in China.
IV. **International Experience relevant for the Reorientation of the HPF System**

Housing provident funds were often created when private lenders were reluctant to participate in the mortgage market. HPFs have been created in countries, such as Mexico, Nigeria, Brazil, Jamaica, the Philippines and Singapore. A number of these systems are briefly described below, with an emphasis on the positive and negative lessons. Some systems, which are not HPFs, because contributions are not mandatory (Germany) and because they are only from the employers (France) are also considered.

1. **The Singaporean model**

The Singaporean model is a good example of a clear strategy, corporate governance structure and transparency.

   a. **Description of the system**

   The Central Provident Fund (CPF) of Singapore was originally established as a pension plan in 1955 to provide social security for the working population in Singapore. The scheme mandated monthly contributions by both employers and employees of a certain percentage of each individual employee’s monthly salary toward the employee’s personal and portable account in the fund. The CPF became an important institution for financing housing purchases from September 1968 when legislation was enacted to allow withdrawals from the fund to finance the purchase of housing sold by the Housing Development Board (HDB). HDB combines roles of a developer and lender (very similar to a housing bank) as well as housing policy maker.

   In 1981, the scheme was extended to allow for withdrawals for mortgage payments for the purchase of private housing. From 1984, rules governing the use of CPF savings have been gradually liberalized to allow for withdrawals for medical and education expenses, insurance and investments in various financial assets. Today, contributions are channeled into three accounts: an Ordinary Account (OA), a Special Account for retirement and a Medisave Account for medical related expenses. Contributors withdraw money from the Ordinary Account for housing purposes. The return which contributors earn on their Ordinary Account is below market returns (currently at 2.5%). Chart 10 provides a simplified illustration of the Singaporean model.

   As shown in the chart, the Singaporean housing model is based on two institutions: (i) CPF and (ii) HDB. The government recycles CPF funds to HDB for its lending operations, establishing a clear segregation between the savings and lending activities. Any loan defaults will not be at the cost of the CPF contributors the funds of which are invested into “safe” government bonds.
b. The extent to which this model is replicable

As already mentioned above, the CPF was initially set up as a pension scheme. In this context, the set up of CPF-type institution is relatively simple if designed as a savings and payments institution.

The more complex institution to replicate is the HDB, in particular, its ability to develop, comprehensively and effectively, entire towns, provide high quality housing, maintain and upgrade estates and intervene to affect many aspects of housing demand, supply and prices. Moreover, the tactics on which Singapore relies – compulsory savings, state land ownership, and state provision of housing, complemented with an extensive public sector – could easily have spawned widespread inefficiency and corruption.

Singapore’s effective implementation of such planning and regulation is attributable to a network of competent and reliable organizations that together provide rich public sector capacity. Another important factor is macroeconomic stability which has allowed for relatively high savings rates and the confidence of contributors in the stability of the system.

The quality of public administration in Singapore is a result of merit based recruitment; competitive pay benchmarked against private-sector salaries; extensive investments in IT infrastructure and e-government services and a civil service culture of zero tolerance of corruption. Where governments and public sector leadership are weaker or risks of corruption exist, such extensive intervention and government control over resource allocation can be potentially abused and may carry a high cost.28

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Another important aspect is the inherent expectation within the Singaporean population that (i) CPF proceeds are available for housing and (ii) there is a constant increase in house prices to ensure a wealth effect (and compensate for the low return on the OA account). As a result, it seems that the current housing policy has propelled house price inflation which has entailed a stronger role of Government to ensure affordability (in Singapore, the main management elements are: (i) grants and (ii) policies to influence supply of housing). Additionally, vast amounts of money are needed to ensure access to housing. CPF contribution rates amount to about 35% of the contributor’s monthly salary (employer and employee contribution combined), two thirds of which are credited into the OA account. There is not much room for other consumption opportunities.

2. The “One per Cent” Housing Fund in France

The “One per Cent” Housing Fund in France is not an HPF, as only employers contribute, but it is an example of a fund used as an instrument of housing policy.

a. Description of the system

In the 1940s, groups of companies started to participate voluntarily in the financing of housing for their employees. This contribution was made mandatory in 1953 for all private non-agricultural enterprises with at least 20 employees, with a rate initially set at a one per cent of payroll, hence the common name of "One per cent Housing". Industrial and commercial public institutions are also subject so that 13 million employees are affected.

A growing part of the contribution has been used to fund aid to individuals, so that since 1992, the “One per cent Housing” now amounts to 0.45 per cent only, while 0.50 per cent is paid to a state fund which finances housing allowances for low-income households, whether they are contributors or not.

In return for the contribution of the employers, the collection agencies have been offering to the employees of the contributing firms: i) additional home loans at a reduced rate, ii) reservations in the social rental programs they co-financed, and advice on home purchase and lending.

The traditional use of the “One per cent Housing” in the social rental sector is the payment of subsidies and low-interest loans for the construction and improvement of housing units. In exchange for their contribution, the collectors obtain reservations in the social rental housing stock for the employees of contributing firms.

- The creation of new forms of assistance to individuals, from 1998. This benefits an audience wider than just the employees of firms subject to 1%, particularly young and mobile people. For example, one area favors access to a rental unit by funding the guarantee deposit and a rent payment guarantee.

- A commitment in 2001 to contribute to the policy on urban renewal, which later took the form of a subsidy to the National Agency for Urban Renovation and the improvement of a bundle of loans to urban renewal.
• The creation in 2002 of an association 'Fonciere Logement', the purpose of which is to have private rental housing units built and managed before disposing of them later to the complementary retirement regimes of the private sector. Its investments are in part made in the neighborhoods of social housing in urban renewal in order to diversify the offering and encourage social mixing, in the form of rental units without maximum resources or rent cap. The remaining investments are made where the rental offer is inadequate, particularly in communities that do not reach the threshold of 20% of social housing units provided for by the law; these units are subject to the resources and rent levels caps of the social rental housing stock.

b. Positive aspects
In spite of large differences with HPFs (no employees participation, significant amount of collected funds used for State-level housing policy purposes), some features and changes of the 1% Housing are worth considering:

• The creation of a central-level structure that represents the interests of its shareholders collectors, issues recommendations to its members and provides inter-center lending; it may borrow on the market if the resources of the collectors are insufficient;

• The officially defined and budgeted use of a part of the funds for housing policy goals;

• The creation, at the end of 1996, of a Union for the social economics of housing (UESL) grouping together all of the CIL and the CCI collecting bodies. Its role has just been transformed in the framework of the MLLE Law dated 25 March 2009: if the law confirms the missions consisting of representing the interests of its collector associates, emitting recommendations to ensure the implementation of policies of utilization of the resources of the 1% and managing the funds improved by the associates (in order to finance these utilizations; on the other hand, it terminates the conventional mechanism for the definition of the policies of utilization. This definition thus comes back into the domain of the law and regulations.

c. Negative aspects
The large number of collecting agencies has resulted in high administrative costs and, in some cases, in a misuse of funds. Only recently the government decided that the number of collecting agencies should be drastically reduced. Year after year, there is increasing pressure from the government to use funds for national housing policy purposes, making long-term viability of the system more and more questionable.

3. The Mexican HPF (INFONAVIT)
INFONAVIT in Mexico is a good example of an HPF which has been able to implement new lending products directed at low and middle income households.
a. Description of the scheme

There are two large HPFs, one for the employees of the private sector (INFONAVIT) and the other for public sector employees (FOVISSTE). Both have been operating for more than 30 years. Both collect 5% of the salaries of employees through individual savings accounts (withheld at source by the employer). Both make direct mortgage residential loans to their members. The credits are generously subsidized in the case of FOVISSTE. Members may withdraw their savings to use as a down payment to purchase a house, together with a loan from their HPF alone or co-financed by a private lender. Any savings remaining at retirement are available to supplement retirement income. INFONAVIT loan maximum amounts are indexed to the minimum wage (180 times the monthly minimum wage) and the interest rate varies with the income level so that borrowers of lower income segments are cross-subsidized: those with an income higher than 10 times the minimum wage pay an interest rate of 10% whereas those with an income below 1.5 times the minimum wage pay an interest rate of 4%.

Both HPFs have suffered from political influences and weak financial management for many years, which has resulted in a poor performance both as lenders and as pension funds. They were under pressure to provide subsidized housing loans to favored groups and provide extensive forbearance to borrowers. Prior to 2000, both recorded default rates on mortgage loans in the range of 30%-40%. INFONAVIT paid negative real rates of return on savings during much of the 1980s and 1990s, while FOVISSTE suffered from a funding shortfall. Most members failed to receive a loan, and had not much left to collect at retirement.

Both HPFs could barely reconcile their functions as housing lenders, subsidy distributors and pension funds. The conflict existed between maximizing returns for savers and providing low-cost mortgage finance through cross-subsidies. They had to ration credits (by 2000 only 1 loan for 7 savers at INFONAVIT) which remain accessible only to the formally employed minority. INFONAVIT management has implemented operational reforms during the last six years which have significantly improved its performance. They have concentrated on the modernization of information and accounting systems, the improvement of procedures in mortgage origination and servicing. They have also appointed external debt collectors, created better tracking system to follow up on employees who became unemployed (unemployment is a major reason for default), and have established new committees for risk management, auditing, and for strategic policy.

These reforms enabled INFONAVIT to increase its lending, improve the cash flows and pay a return on savings comparable with private pension funds. INFONAVIT has adopted international accounting standards and made itself subject to the financial regulatory oversight, and is now subject to all the reporting and control rules of commercial banks. INFONAVIT is now under the supervision of the Banking Commission (CNBV), auditing and risk committees, and an external auditor. The default rate has been reduced to 8%. Its savings pay a positive net real yield, close to the net yields of private pension funds in recent years.

INFONAVIT has widened its cooperation with the private sector, providing its members with the ability to leverage their savings. Members may simultaneously originate the purchase of a house
with one credit from INFONAVIT and/or a private lender. They may also use their INFONAVIT savings as down payment for a loan originated by another lender.

INFONAVIT has been targeting its subsidized lending only to the underserved households. Between 2002 and 2005, 76% of its originated loans went to individuals earning less than 7 MW29 or less, a segment that is lightly served by specialist private lenders (SOFOLs), and not at all by banks. This proportion even increased after the HPFs accessed Esta-es-tu-Casa program upfront subsidies (for income groups below 4 MW). INFONAVIT’s objective in 2010 was to allocate 60% of its financing to households below 4 MW.

b. Positive aspects

- The improvement of performance through several reforms: modernization of information and accounting systems, improvement of procedures in mortgage origination and servicing, etc;
- A widened cooperation with the private sector, allowing members to combine their own loan with another from a private lender;
- The cross-subsidization of lower income borrowers by applying lower interest rates and targeting subsidized lending only to the underserved households.

c. Negative aspects

- In spite of their efforts to go down-market, the HPFs are not allowed to serve the informal / independent sector households (1.6 million). Neither do other lenders, but the increase dominance of the public HPFs exacerbated the crowding-out effect of the private sector away from the middle-and low-income mortgage markets and the Mexican housing finance system has become too dependent on these two HPFs;
- Government policies, laws and regulations, as well as internal rules, give HPFs significant financial advantages over private mortgage lenders. As a consequence, they monopolize the market, both on the lending (85% of originations) and the funding (100% of MBS) sides. A more level playing field is needed.

4. The Brazilian FGTS

The Brazilian FGTS system provides an example of a centralized structure.

a. Description of the system

The FGTS as part of the Brazilian Housing Finance System (SFH or Sistema Financeiro de Habitação)30 is financed from mandatory contributions from all workers (except civil servants and self-employed). The FGTS is a housing provident fund. Workers have to open an FGTS

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29 Corresponding approximately to the 6th decile of income distribution.
30 The SFH consists of two sub-systems: (i) Sistema Brasileiro de Poupança e Empréstimo (the Brazilian Savings and Loan System or SBPE) and (ii) the Fundo de Garantia por Tempo de Serviço (National Severance Fund or FGTS).
account at CEF (state-owned housing bank) in which the employer deposits 8% (2% for apprentice contracts) of the employee’s gross pay every month. The FGTS account is remunerated at TR + 3%.

Every employee (or his or her dependents) is allowed to make withdrawals (up to the full balance) on their FGTS account in case of:

(i) Redundancy, unjustified dismissal, end of fixed term contract, or company closure;
(ii) Retirement or 70th birthday;
(iii) Fatal illness and death and natural disaster;
(iv) 3 year-inactivity of FGTS account;
(v) Acquisition of housing, i.e. prepayment of existing housing loans under the FGTS or SFH schemes, purchase of the main residence, in urban areas and with an appraisal value within the SFH limits, if the employee has no outstanding SFH loans and is not the owner (or owns less than 40%) of a house (finished or under construction) in the city of principal employment.

Lending under the FGTS is subject to a number of criteria, e.g. income limits, maximum repayment to income limits, etc. Interest rates are also capped at a maximum of TR + 6.16%. These criteria allowed the Government to direct FGTS resources to low and middle income groups. As a result, individuals whose income exceeds the FGTS income limits may not receive an FGTS housing loan even if they pay into the scheme.

CEF has a double role within the FGTS: it is both administrative agent of the FGTS scheme and main lender to private individuals. Although other lenders are also allowed to access FGTS funds to refinance housing loans, they have not yet used this option to a large extent.

Except housing loans to individuals, FGTS sources are used for sanitation and infrastructure loans and social housing purposes. The Conselho Curador (which is similar to a supervisory board) decides on the allocations of the FGTS funds, taking into consideration plans of the Federal Government, with a minimum of 60% of the funds earmarked for social housing loans.

b. Positive aspects

- Centralized refinancing agent: CEF as the administrative agent acts as a second tier lender to all other financial agents of the FGTS (or participating lenders). This centralized function facilitates risk management and liquidity management. In China, a merger of local HPFs into one central HPF might not be achievable politically. Additionally, it could be quite costly and lead to loss of confidence.

- Standardized lending criteria: All FGTS loans have to comply with the same criteria, irrespective of the lender which has originated the loan.
• Provision of long-term funds: Financial agents access long term funds to finance the housing loans originated in line with the FGTS lending criteria.

• Lower credit risk for the lender: The down-payment function of the FGTS consists of: (i) savings accrued in the provident fund; (ii) an upfront down-payment subsidy (for households with incomes up to 5 MWs) provided by the FGTS.

c. Negative aspects

• The second tier lender should not be a primary market lender at the same time as such a structure is poised to create market distortions. In 2001, for example, as a result of a liquidity crisis and high levels of non-performing loans, the Government had to bail out CEF.

• Equal access for all contributors to the fund’s resources. The current FGTS lending policies prevent certain income groups from accessing an FGTS loan although they are contributors to the Fund.

• The restrictive criteria which FGTS applies for the refinancing of private lenders’ housing loans under the FGTS have so far prevented a larger use of FGTS funds for the financing of low income housing.

• The interest rates set by Government for both FGTS and SBPE have crowded out the emergence of market based housing finance. As a result, funds channeled into housing finance have been low. The outstanding mortgage loans account for about 5% of GDP in Brazil.

5. The German Bausparkassen

The German Bausparkassen or, in a wider sense, contractual savings schemes for housing (CSSH) are not HPFs, as contributions are free and by employees only, but they are included as an example of risk and liquidity management.

a. Description of the system

Contractual savings schemes for housing (CSSH) schemes offer a dedicated loan-linked form of saving that combines a phase of contractual savings with the promise of a housing loan. Typically, after the successful completion of the pre-determined savings period, both the amount saved and the loan are disbursed to the saver who uses the funds for housing purposes. CSSH were already introduced in China. In the province of Tianjin, the German Bausparkasse Schwaebisch Hall and the China Construction Bank established the Sino-German Bausparkasse. Savings interest rates vary between 0.5% and 1.2%. The provincial government of Tianjin

31 The description focuses on CSSH in the form of a closed system. The funding of CSSH-loans exclusively relies on savings funds previously collected by the CSSH institution. In open systems, external funding is permitted when the inflow of savings does not suffice to meet the contractual commitments of the CSSH institution towards the savers.
enhances this yield by an interest subsidy of 1.5%. The interest rate on the contractual housing loan varies between 3.3\% and 3.9\%. 

The underlying construction of CSSH products is more or less similar, notwithstanding variations. The typical CSSH contract consists of three phases: (i) the savings period, (ii) waiting or allocation period and (iii) loan period. In the savings period, the saver agrees to save for a certain minimum period and/or accumulate a certain amount (e.g. in a closed system, regularly about 50\% of the contract sum). The length of the waiting or allocation period may vary. It depends on the availability of funds in the savings collective or other funding sources to which the collective has access. During the loan period, the customer repays his CSSH-loan in regular instalments.

b. Substantial exposure to liquidity risk

CSSH systems are exposed to a host of risks. The key risk is liquidity risk or the risk that entities will have insufficient funds to meet future loan demands. Therefore, aggregate liquidity management crucially depends on whether products are individually viable and how credible the scheme is as a generator of loans. The latter implies ensuring a sufficient ratio of loan allocations within the collective. Four factors are crucial to the sound liquidity management of a CSSH scheme, three of which are contractual:

- The length of the savings and loan period. The longer both periods are the more stable are the schemes, thus lowering liquidity risk. Additionally, the size of the minimum savings amount plays a role.

- The nature of the loan commitment. The nature of the loan commitment (i.e. time) is the only tool to balance supply of savings and demand for loans, especially in a closed system. Thus, the CSSH bank must determine when loans are ready for allocation.

- Loan multiplier. It determines the size of a loan in relation of the savings effort. A greater multiplier implies a need for a higher share of good brothers and/or access to external funding.

- Share of good brothers. The higher the numbers of good brothers, the more savings are available for allocation to borrowers.

Chart 11 shows the change of the liquidity status of the CSSH pool in case the CSSH bank decides to raise the multiplier from 1 to 2. The model works with the following assumptions:

- Both the savings and the loan periods are 4 years;

- There is no waiting period; the numbers of newly concluded contracts per annum and borrowers are estimated at 1,000 and 880 respectively. This means that 88\% of the customers will take up a loan; only 12\% of savers are good brothers;
• The sum of the CSSH contract is 5,000 currency units (CU). In the left chart, the saver will receive a loan worth 5,000 CU; in the right chart, he or she will receive a loan amounting to 10,000 CU.

According to the calculation, an increase in the multipliers will result in a cash shortfall of about 4.5 billion CU for the CSSH banks which has to be covered through outside funding in order to meet the loan commitments.

Chart 11: Change of liquidity status of CSSH pool when multiplier is raised from 1 to 2

Source: A. Duebel and F. Roy.

c. Positive aspects

• Careful liquidity management. It is a function of the multiplier (optimal around 1 to 1.5), a minimum savings period and enough funds available for allocation. An appropriate regulatory framework in place to deal with the specific type of risks is therefore recommended.

• Management of credit risk. The required savings period has two benefits: (i) persons with no credit history must prove their creditworthiness through the regular savings process; (ii) persons with informal incomes may use CSSH to prove regular income streams.

• Small loan amounts. These amounts may serve to finance home improvements or they can be used to complement a mortgage loan from the bank.

• Instrument to facilitate access to housing for low and middle income groups. In particular the pre-savings requirement helps these income groups to access to a housing loan.

d. Negative aspects

CSSH require macro-economic stability. A long savings period may erode the value of the savings, especially in times of high house price increases or growing inflation rate.
### 6. Summary of the findings of the review of international experience

Table 8 summarizes which positive aspects of the funds examined in above section D might be transposed into the HPF system of China if it were reformed.

**Table 8: Strategic choices for HPFs: relevant examples of HPFs and similar systems in other countries**

<table>
<thead>
<tr>
<th>Strategic choice</th>
<th>Obstacles</th>
<th>Relevant example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combine housing finance, pension fund and housing policy objectives</td>
<td>Potentially conflicting objectives</td>
<td>Central Provident Fund (Singapore)</td>
</tr>
<tr>
<td>Support objective “instrument of housing policy”</td>
<td>Deposits belong to contributors</td>
<td>“One per cent” Housing (France)</td>
</tr>
<tr>
<td>Improve governance and transparency</td>
<td>HPFs are exposed to an inefficient corporate governance structure, leading to decision influenced by vested interests; Lack of transparency foster abuses and corruption</td>
<td>Central Provident Fund (Singapore)</td>
</tr>
<tr>
<td>Improve terms of competition with banks</td>
<td>HPFs compete with banks for the same customers. Instead, they should encourage private lenders to go down market (by revisiting their products)</td>
<td>INFONAVIT (Mexico) Bausparkassen (Germany)</td>
</tr>
<tr>
<td>Organizational structure</td>
<td>HPFs are decentralized</td>
<td>FGTS (Brazil) Bausparkassen (Germany) in their role as competitor against conventional mortgage lenders</td>
</tr>
<tr>
<td>Liquidity management (sustainability of the scheme)</td>
<td>HPFs risk running out of funds for loans</td>
<td>Bausparkassen (Germany)</td>
</tr>
</tbody>
</table>
V. Recommendations for the reforms of the HPF system

1. Recommended approach to improve the HPF system

The HPF system played a crucial role in the implementation of the housing policy reforms in the early 1990s. The goal was to transfer the responsibility for housing provision from the state to the market by providing low interest rate loans to the contributors for the purchase or construction of a home. In this context, the HPF system has contributed to mobilizing private savings that have been channeled into the housing sector, especially at the beginning when commercial banks were reluctant to provide mortgage lending.

After nearly 20 years of existence (and 15 years on a nationwide level), the role and even the existence of HPFs in today’s China are subject to review. Given the development of commercial banks and their growing involvement in mortgage lending, the need for a specialized channel to finance housing purchase and renovation is hard to demonstrate. Some conclude therefore that the HPF system should simply be abolished or, at least, its role drastically reviewed.

HPFs may be considered as a unique instrument that has proven capable of fulfilling together the functions of housing finance, pension fund and housing policy tool for local governments. The issue is therefore how their functions and objectives should be clarified and modernized in order to improve their efficiency so that they better fit within the new context of a market economy. This means that the various flaws and weaknesses that have been identified should be addressed as soon as possible.

The recommendations below stand at two different levels:

a. If the HPFs do not drastically change their missions or if, during an interim period, the present activities are continued, a number of short or medium term operational measures need to be adopted in order to allow the system to keep up with the recent developments in the housing and financial sector in China. These reforms consist of establishing an effective framework, enhancing the level of professionalism and sophistication in the management, harmonizing practices for loan underwriting and servicing, and improving liquidity management and supervision of the allocation of funds.

b. As the mission has been requested, proposals for a strategic re-orientation of the HPF system are being provided. These proposals are based on the assessment of the HPFs and the review of international experience presented in the previous chapters. They are formulated in general terms: further work, including access to more information is required to make them more concrete and precise.

With the exception of the first one, the proposed operational measures make sense only if the missions of HPFs remain the same in the short and medium terms. For example, obviously, there would be no need for the HPFs to adopt common standards for their lending activities if it a decision was made to terminate this function.
A precondition to any operational reform or strategic reorientation is to clarify the goals of the HPF system. This implies that the authorities answer the following questions:

(i) Should the HPFs serve only the needs of the contributing employees?

There is a view that the provision of low income housing should be a major concern for HPFs. As many low-income households are not contributors, this role is not supported by the current legislation, although local governments are using HPF funds for that purpose.

(ii) Should the HPFs give priority to their lower-income contributors?

In order to reduce the imbalances among lower and higher income contributors, the PBOC may consider allowing HPFs to apply lower interest rates to lower income borrowers, as INFONAVIT is doing now in Mexico.

(iii) Should the priority of the HPFs be as a lender of housing funds or as a pension fund?

There is a conflict of interests between these functions and if both are confirmed, it should be clearly understood which function has priority. On one hand, HPF offers mortgage rates about 2% below bank rate and this rate benefits only a minority of home-buyers. On the other hand, all members receive a low return on their savings.

2. Short and medium-term operational reforms

A number of weaknesses in the supervision, management and organizational structure of the HPF system have been discussed. For HPFs to remain an attractive funding instrument and an efficient housing policy instrument as well as becoming more competitive vis-a-vis commercial banks, the following areas should be taken into consideration to adapt the HPF system to the changed market conditions.

a. Establishing an effective regulatory framework

As the central supervisory and regulatory authority of the HPF system, MOHURD is responsible for the following activities: (i) regulation of HPFs which entails issuing specific regulations and guidelines governing the operations, activities, and acquisitions of HPFs. These functions should instill confidence in the HPF system and the individual HPFs operating therein; (ii) bank supervision which involves monitoring, inspecting, and examining HPFs to assess their condition and their compliance with the relevant laws and regulations.

Law of the People's Republic of China on Banking Regulation and Supervision, vests the regulation and supervision of deposit taking institutions in the CBRC. As HPFs are deposit taking and are “banking financial institutions” in nature, it is more logical that they be supervised and regulated by CBRC (see below for country examples). Regulation and supervision by CBRC is justified on the basis of ensuring the soundness and stability of the financial system in China and also ensuring a consistent supervisory and regulatory approach is applied across the financial sector. A transfer of supervisory and regulatory responsibilities from MOHURD, however, is unlikely to happen. As the team understands, the reason for this policy is that the HPF system is
primarily viewed as a housing policy instrument rather than a systemically important part of the financial system.

MOHURD has already undertaken efforts to enhance its supervisory capacities. Given the lack of prospect to transfer the regulation and supervision to CBRC, the team believes that further improvements are necessary to ensure appropriate regulation and supervision of the HPF system and confidence of consumers in its soundness and stability. The actions recommended are to:

- Clarify and consolidate the MOHURD’s role as the central supervisor and regulator of the HPF system. The legislation (R-HPF) should define clear responsibilities for MOHURD and the co-ordination with other authorities involved in the regulation and supervision of the HPFs. Ideally, this role should be centralized at MOHURD alone (i.e. both the MOF and the municipal authorities would transfer their responsibilities to MOHURD), but MOHURD would keep offices in the provinces.

- Develop the supervisory and regulatory processes closely in line with CBRC’s model and best international practices. MOHURD should be equipped with adequate legal powers, more qualified staff and a separate provision for this activity in its budget. MOHURD should have the resources (financial and personnel) to ensure an adequate assessment of the HPFs’ risk management systems, financial conditions of the individual HPFs and their compliance with applicable banking laws and regulations. Additionally, sufficient staff should be available to conduct an annual inspection of individual HPFs.\(^{32}\)

- Strengthen MOHURD’s role by the adoption of a clear regulatory regime. This regime should encompass prudential standards which regulate capital adequacy, asset classification and provisioning, external audits, liquidity management rules, etc. In addition, MOHURD should promote the application of sound accounting and risk management policies.

- Ensure a risk-focused approach to supervision. The goal of the risk-focused supervision process is to identify the greatest risks to an individual HPF and assess the ability of the organization’s management to identify, measure, monitor, and control these risks. A potential area of concern could be, for example, any pre-borrower qualification schemes which are arranged with developers. Another area is the selection of borrowers being recommended by banks, with a view to ensuring that banks do not try to direct customers with a poor credit history to an HPF.

- Provide MOHURD with appropriate enforcement powers. MOHURD should be empowered to apply corrective measures in case an individual HPF is not in compliance with the laws and regulations. These powers should also include the power to close an HPF which shows significant deficiencies or fails to comply with measures imposed on it.

\(^{32}\) The Federal Reserve of the United States, for example, applies thresholds for inspections. Banks that have assets less than USD 250m and that meet certain management, capital, and other criteria may be examined once every 18 months. Annual inspections are conducted for banks the assets of which exceed USD 1 billion.
Seek a partnership with CBRC. This partnership would allow MOHURD to benefit from CBRC knowledge and capacities. It may also facilitate the establishment of adequate supervisory and regulatory capacities at MOHURD.

For the establishment of an effective regulation and supervision of the HPF system, the following steps are recommended:

**Step 1:** Reference should be made to the practices of similar schemes in other countries which could provide useful guidance. For example, in Germany, the supervisory and regulatory authority, BAFIN, has a separate department for the supervision of the bausparkassen system. Bausparkassen, which are regulated and supervised as commercial banks, are subject to additional regulations. Before becoming a board member of a bausparkasse, a candidate has to work one year in a senior management position. This rule aims to ensure that the candidate has sufficient knowledge of the specifics of the bauspar business. In addition, if a bausparkasse plans to introduce a new product line, it has to provide ample liquidity projections and simulations on how the inflow of savings under this new product line would react under different stress scenarios (e.g. a sudden increase in the inflation rate).

Other countries also apply specific rules for the regulation and supervision of their housing provident schemes. In Brazil, CEF, which is the administrative agent of the FGTS system, is supervised by the Central Bank. It is understood that the Central Bank applies stricter supervisory standards to it compared with those applying to commercial banks. In Singapore, the CPF operates in the same way as other statutory boards in Singapore: there is a board of directors and it is audited by internal and external auditors. In Mexico, INFONAVIT is under the supervision of the Banking Commission (CNBV), auditing and risk committees, and an external auditor.

**Step 2:** The organizational requirements for the establishment of an effective supervisory and regulatory regime at MOHURD should be understood and reviewed. To date, the quality of MOHURD’s regulation and supervision of HPFs has not been evaluated. The team recommends reviewing the current regime and making suggestions for improvement. This review should result in a strategy for the implementation of an enhanced regime. Ideally, this work should be coordinated with CBRC to benefit from its experience.

**Step 3:** The new supervisory and regulatory regime as outlined in the strategy needs to be implemented.

b. **Implementing a performance evaluation system**

A performance evaluation system needs to be implemented. Such a system will allow for comparisons among the individual HPFs. Performance measures could include the criteria proposed above (section C). It should also include the design and implementation of a suite of reporting tools to monitor and supervise the activities of individual HPFs. Relevant information for reporting purposes includes:
• Coverage: the proportion of HPF contributors among urban workers and the average income of HPF savers versus average (or median) wage;

• Effectiveness: loan-to-deposit ratio, proportion of contributors with a loan and average (or median) income of contributors with an HPF loan compared with the average (or median) income of all contributors.

The introduction of performance indicators is likely to assist in the identification of poorly managed HPF centers, which would allow MOHURD to close the most inefficient institutions or those that are operating outside their core mandate or where corruption has been proven. Indicators may facilitate the setting by MOHURD of a minimum institution size which could be established in terms of total population, contributions to the HPF or assets held by it.

In order to make this possible, HPFs should be created at the province level. The number of HPFs could be strongly reduced by progressively raising the standards in terms of size, with the final objective to replace the prefecture level by the province level as the administrative division defining the field of operation for an HPF.

c. Enhance the level of professionalism in the management

It is recommended that the HPFs increase the technical capabilities and qualification of staff and management as well as restructuring the current procedures and processes.

It is recommended that HPFs adopt common standards for loan underwriting and servicing. Potential areas of standardization include loan documentation, creditworthiness assessment techniques and requirements for loan approval and disbursement. The uniform quality standards within the overall HPF system would facilitate the transfer of an HPF loan to a different HPF in case an employee moves from one city to another. In addition, standardization would reduce costs for the HPFs since they can use, for example, the same software modules within their organizations. The formulation of standards should take into consideration international best practices. But they should be aligned to the current situation in China.

A training institute which offers courses and training to all 342 HPFs is an appropriate and cost-effective way to improve the qualification and capabilities of staff and management. The training institute should be run on a commercial basis. Examples of similar institutions in Germany, Spain, Korea and Singapore demonstrate the viability of such an institution. The training programs could help to train the HPF employees on the common standards.

d. Improve liquidity management and clarify the possible uses of free funds

A major challenge for the HPFs will be the management of rising liquidity shortages in a number of HPFs. Stable and reliable loan allocations to HPF contributors are an important requirement to gain confidence in the system as well as to maintain existing contributing companies and

33 The move may not necessarily imply the sale of a unit and the prepayment of the existing HPF loan.

34 Examples of such training institutions in Europe are the Frankfurt School of Finance and Management in Germany and AFI in Spain.
attracting new ones (especially from the private sector). Lending should be made a function of a minimum savings period, a minimum savings amount and the availability of sufficient funds within the HPF. As a result, multipliers and maturity mismatches would decrease.

It is also recommended that clear rules be established for the investment of free funds and the surplus (profits). Any net earnings from the investment of free funds or from HPFs regular operations should be used to stabilize the liquidity pool (including loan loss reserves). Another important objective is to ensure the future viability of HPFs. Thus, earnings should be used to improve their operations (for example, investments in IT, training of employees, and other initiatives).

The creation of an inter-center lending structure to address the liquidity shortfall would pose more problems than it would solve. First, it is not clear whether it should be created at the national level or at the provincial level. France created a similar structure but in a different context: the country is much smaller and the collectors of funds are not local companies: the contribution is mandatory but the choice of the collector is free (see above). Next, there are potential issues about creditworthiness assessment. There would be room for moral hazard on the part of borrowing HPFs and a great deal of reluctance on that of the well-functioning centers. Differences in contribution rates and maximum loan amounts further complicate the problem.

It also appears that such an initiative would increase regional imbalances instead of solving liquidity shortages. Indeed liquidity shortages are more likely to occur in regions where strong economic development fuels housing price increases while liquidity would be available in quieter markets. Such issues require in-depth studies of the financial situation of all HPFs and of the housing market in which they operate, including projections of the financial flows.

3. **Strategic reorientation of the HPF system**

Given that HPFs contribute both to satisfy the housing and the pension needs of (a share of) the population, a reorientation of the HPF system should take into account the answers to the following questions:

- What are the needs in terms of housing? What is the contribution of HPFs in this area today?
- What are the needs in terms of pensions? What is the contribution of HPFs in this area today?
- Given the strengths and weaknesses of HPFs, are there changes that can positively impact these contributions? And are there other areas of social policy to which it would be advisable to have the HPF contribute?

A strategic re-orientation of the HPF should therefore not be considered as a separate objective, but be part of a global review of the housing policy in China, if not the entire social policy.
From the assessment above, one might conclude that HPFs should be abolished because they are not performing well as lenders and offer poor returns to the savers and therefore that they should be abolished. This drastic solution would pose at least two problems:

- There would be much less money flowing into the housing sector;
- Due to the nature of the system, it is almost impossible to stop it within a few years.

Adaptations, that do not exclude major changes, seem therefore to be a better option.

**a. Role of HPFs in housing finance**

A drastic change is recommended. It consists in either reducing the size of the loans by extending co-finance or re-orienting the lending operations by ceasing lending to private individuals and lending instead to financial institutions. The options are the following:

- The HPFs could offer co-financing arrangements with other lenders. In this way, the HPFs would leverage the existing HPFs’ savings by mobilizing other funding sources. For example, the HPF would only fund 20% of the housing construction cost or purchase cost of an apartment. Another lender would finance the rest (up to 50% of the cost as the minimum down-payment is 30%). These proportions could vary with the income level of the borrower: the lower income would have a higher share of HPF loan in order to receive a higher interest rate subsidy.

- The strength of the Singaporean CPF model is the separation of the savings collection (performed by the CPF) and the lending function (performed by HDB). Following this approach, the HPF could lend to a financial institution which on-lends to private households. If desirable, lending to private households could be made subject to certain criteria (e.g. income thresholds, maximum loan amounts, etc.). The contributors could still withdraw their contributions for housing purposes. Alternatively, HPFs could invest into government securities (besides lending to financial institutions).

The goal should be to ensure at least a market based return on the contributions to make up for the abolition of the lower (subsidized) interest rate on the HPF loan. The contributor should still be entitled to withdraw his or her contribution for the purchase or construction of a house, or the repayment of a mortgage loan at a commercial bank. This model would bring the following advantages for the HPFs:

- Lower risk and risk diversification. Credit risk would be shifted from an individual borrower to the financial institutions which would guarantee the repayment of the loan with its entire balance sheet.\(^{35}\) The HPFs could also invest funds into financial institutions that are active in other provinces, thereby reducing its dependency on local economic cycles.

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\(^{35}\) If the borrower defaulted on his mortgage, the lending bank would repay the loan from other sources to the HPF.
• Promotion of long-term funding instruments in the capital market. HPFs could invest a part of their funds into bond issuances of financial institutions. In this way, they could provide long-term funding and promote capital market development.

• More streamlined operations, lower cost and increased transparency. HPFs could benefit from lower operational cost due to their role as asset managers. Management complexities would be reduced since HPFs would not need to maintain the current arrangements with banks to lend to private individuals. Additionally, oversight would be improved since the allocation of funds would be more visible and transparent.

• Maintain local ownership and efficient fulfillment of policy goals. Most of the HPFs are closely intertwined with the local economy. This feature would not change since the HPF would be transformed into an asset manager. The HPF could still invest into local housing projects provided that they offer a decent return to the contributors (through on-lending to banks).

b. Role of HPFs as pension funds

Currently, HPFs play a marginal role as pension funds: what can be used by retiring members is what will be left after funds have been used for housing purposes. The lending rate is about 200 basis points below bank rate but the savings’ rate is also far below the commercial rate: the interest rate on HPF deposit for the first year is equal to the bank demand deposit rate (0.40% since February 9, 2011) and the interest rate of HPF deposit for more than one year is equal to the bank three-months term deposit rate (now 2.60%), while the bank deposit rate may be as high as 5% (for five-year term deposits). Members keep contributing until they retire but this contribution does not go into a separate fund with a higher return; it seems therefore that it contributes more to the liquidity of the system than to the real needs of the members. Unlike the Singaporean CPF which has first been established as a pension fund before members were allowed to use the Fund for mortgage payments, the primary goal of HPFs is clearly to support home purchases.

In order to strengthen the role of HPF in this area, it can be suggested that the interest rate for savings be raised for some members. The criterion could be the age of the member or the commitment not to use the funds for housing investment any longer or a combination thereof. Under such conditions, the interest rate on deposits should be brought closer to that of banks (the present gap reaches 500 – 260 = 240 basis points).

If the government envisions giving priority to this role for the HPF system, it is strongly recommended to cease the lending function of the HPFs. The role of a pension fund is indeed to collect contributions from its members and to invest these contributions in a portfolio which offers a certain return under a given risk scenario. Typically, a pension fund would invest into assets with a low risk (e.g. government bonds). Investments in loans bear a higher risk and require a higher return to compensate the saver for the increased risk. If the lending function
were maintained a state guarantee would be necessary to guarantee the pensions and a certain return in order to cover both risks of bankruptcy and of liquidity shortage.

c. Role of HPFs as instruments of housing policy

Although the mission did not investigate housing policy issues outside the HPF system, it can be assumed that this policy has two major objectives:

- Provide alternative accommodation to those who are unable to buy because their status (migrant and independent workers) or their income (low income salaried workers) prevents them from accessing the market;
- Fill the quantitative gap between market prices and what is affordable for the low-middle-income with access to credit, within the HPFs or the banking system.

Currently, the contribution of HPFs to each of these goals is marginal. On the first one, they only contribute through the surpluses channeled into municipal social housing projects. As long as the funds belong to the contributors, HPFs cannot do more and even the current practice can be challenged as these surpluses could alternatively be used for the benefit of the contributors. On the second one, the response from the HPF system to house price increases has been to raise the maximum loan amount and the contribution rate. This orientation favors higher income members as their rising incomes can better keep up with rising house prices. In other words, it exacerbated the subsidization of higher income contributors by lower income contributors, which is inherent in any HPF.

The provision of low-cost accommodation (public or social rental housing, hostels) or of housing allowances should normally be funded by local and/or national budgets. Using HPF funds creates a hidden and earmarked tax on salaries and this solution cannot be justified easily. An acceptable way to do it would be to set aside a fraction of the employers’ contribution. This fraction would not belong to the contributors but would go into a distinct fund, which would be an employers’ fund only, similar to the French 1% Housing. Whether this would be preferable to another form of taxation, such as an increase of corporate tax, deserves to be debated. One pro argument is that such a tax is earmarked and one con is that it increases salary costs.

On the second goal, making housing affordable through access to credit, HPFs should improve the targeting of their loans. For example, the PBOC might consider allowing HPFs to apply lower interest rates to lower income borrowers, as it is now the case with INFONAVIT in Mexico.

d. Other potential roles for HPFs

Some propose to follow the example of Singapore and allow for withdrawals for medical and education expenses. The mission would not advise such extensions for the following reasons:
• The total contribution in Singapore (employer and employee) reaches 34.5% of contributors’ income. In spite of recent increases in some cities\textsuperscript{36}, it is far from being certain that there would be an agreement to reach such a level in China, especially in a period where an emphasis is placed on the need to increase household consumption;

• The Singapore system was established in 1955 and the abovementioned extensions were allowed only in the 1980s. By comparison, the HPF system is much younger and it should focus on improving the way it fulfills its present objectives (which moreover need to be clarified) before considering such major changes.

4. **Proposed timeline for reforms**

The expected depletion of HPF funds will require improvements of the HPF system in due course. According to the projections shown in chart 8, the estimated timeframe would provide sufficient time for a well-structured and coordinated approach to adapt the HPF system to the current market conditions and practices.

Chart 12 provides an overview of the suggested timing of the individual improvements, which have been discussed above. It aims to provide a summary of the specific recommendations and proposed timing for their implementation. The most important action is the clarification of the objectives of the HPF system and the corresponding review of the legislation. These two tasks are the most urgent to be tackled as they will have a substantial impact on the strategy, the management and corporate governance structure, staff qualifications, etc.

We see value in maintaining the housing element in the HPF, but as a liquidity provider to the system (as described above) in the form of a second tier lender (instead of a primary lender). Measures for social housing should be carefully vetted and should not jeopardize the liquidity position of the HPF system (no earmarked funds). Additionally, any measures should be coordinated and embedded in the current housing policy framework.

This work will set the framework and will provide guidance for the follow-up measures to improve the HPF system. In this context, investments to enhance the professionalism and sophistication of the HPF operations are considered substantial (including the definition of performance criteria) to ensure the future viability of the system.

It is expected that most of the work on the improvements will start very soon and most likely be completed in 2011. In 2012, those measures could be tackled which constitute an on-going process due to the fast changing market conditions in China. They include the extension and calibration of MOHURD’s regulatory powers and the establishment of a national training institute, followed by the formulation of the liquidity management rules. In 2013/14, the re-orientation of the lending function of the HPFs could be taken up.

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\textsuperscript{36} \text{Contribution rates in Guangzhou and Dongguan can reach } 2 \times 20\% = 40\%. \text{ }
The arrow behind the boxes should reflect this on-going process while the box should represent a one-time measure which should be completed within 3 to 6 months. Depending on the review of the legislation and the goals of the HPFs, the timing of some of the suggested improvements may be reviewed and adjusted. The results of the legal adaptation and the definition of the goals will have an impact on the future orientation of the HPF system as a whole. It is expected that the major improvements will be implemented in 2011 and will require refining in 2012 and 2013/14.
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