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## Future directions for Chinese accounting research

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# **Future Directions for Chinese Accounting Research**

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## **Introduction and Summary**

Capital-markets based accounting research in China has a relatively short history; the two principal stock exchanges in Shanghai and Shenzhen have operated for less than 20 years. Recent accounting research has tended to adopt techniques, research designs and even topics that were developed in North America and apply them to the Chinese setting. This paper describes several aspects of the current empirical-archival focus of accounting research in China and offers some suggestions for expanding that focus to include analytical modeling and judgment-decision making experimentation. The paper also suggests there is a need to adjust existing research designs and methods for special features of the Chinese economy and its institutional arrangements. Finally, the paper puts forward some examples of research areas where Chinese accounting researchers can make useful contributions. In this discussion of possible research areas, we distinguish between the motivating question, which establishes the importance of the research inquiry, and the research question itself, which is relatively narrow and specifically focused on one aspect of the motivating question.

## **The Current Focus of Accounting Research in China**

An informal assessment of published accounting research in China suggests that the current focus of the research has two key features. The first feature is the use of empirical-archival methods that typically apply to large datasets of, for example,

reported accounting numbers and disclosures from audited financial reports, stock prices and returns, audit opinions, composition of audit committees, analyst forecasts and stock recommendations, compensation of top management, share holdings of institutional investors and other information that is pertinent to the preparation and use of accounting data. The quality of empirical-archival accounting research is therefore partly determined by the quality and availability of data, and the efficiency of the research is enhanced by the widespread availability of machine-readable datasets. For example, the China Stock Market & Accounting Research Database (CSMAR) provides returns data and financial statement data on Chinese listed enterprises beginning in 1990. Other commercial, and sometimes proprietary, databases are being created to provide additional detailed China-specific records of other types of information that is pertinent to accounting researchers. These databases free accounting researchers to focus on questions of issue identification, research design and methods rather than hand-collection of data.

The second feature of Chinese accounting research is the relatively greater focus on matters pertaining to auditing, earnings management and corporate governance, implying a relatively weaker focus on purely capital market questions that involve the use of stock prices and stock returns for large samples over long periods. Recently published Chinese accounting research has addressed the causes and consequences of issues related to auditor independence, causes and consequences of related-party transactions (for example, the extraction of resources from a listed firm by means of “tunneling”), earnings management and accounting implementations, the governance of listed Chinese firms including ownership structure and executive turnover. Because of the focus on corporate governance, accounting research in China currently has closer ties to corporation finance than does accounting research in the U.S.

## **Possible Expansions of Accounting Research in China**

The existing research approach—primarily empirical-archival and often grounded in corporation finance—has produced valuable insights and will continue to do so. We suggest, however, that additional insights can be gained by expanding the research focus in three ways: analytical modeling, behavioral experimentation and methodological research that considers how best to adjust data and research designs to fit with China’s institutional arrangements. We discuss each of these possible expansions in turn.

Analytical modeling. The first expansion would encompass the application of analytical modeling methods to accounting problems, using the tools of microeconomics and mathematical statistics. Learning how to use these tools does require an extensive investment but we believe that such an investment has the potential to provide a significant payoff in terms of providing insights into

accounting questions that arise in the Chinese economy. For example, analytical accounting research has examined agency issues such as budgeting, planning, compensation, communication and the coordination of effort. As a second example, disclosure models have shed light on the costs and benefits of providing better (more precise) information and reporting models have considered the tradeoffs between conservative and neutral accounting or between aggregated versus disaggregated accounting. However, the existing research has not focused much (or, possibly, at all) on the special features of Chinese firms and the Chinese economy. One of the most important of these features, in our view, is the existence of listed portions of state-owned enterprises. This arrangement creates an entity whose two components—the listed or profit seeking portion and the unlisted portion—could well have divergent objectives that give rise to agency problems that researchers have not fully considered.

Behavioral experimentation. The second expansion of research focus would encompass behavioral (that is, cognitive-psychology-based) methods. This research tends to focus on experiments in single-person decision making but extensions to group or team decisions are also possible. In accounting, cognitive-psychology-based research has often considered the judgments and decisions of auditors and users of financial statements, that is, information processing questions, in an experimental setting. For example, this judgment-and-decision-making (JDM) research has considered whether auditors and users of financial statements process available information fully in reaching judgments and decisions, and has often found that the processing of even readily available information is incomplete. Although the implications for asset pricing are often outside the scope of the experiment, they clearly exist, in that asset prices will not be efficient if users of financial reports do not fully and rationally process the information in those reports.

Well-designed experimental JDM research provides results with strong internal validity (the outcomes can reliably be attributed to the posited effect), the opportunity to examine highly disaggregated outcomes (such as individual research allocation decisions) and the opportunity to consider decision settings and information that do not actually exist but are instead created by the researcher. In addition, and related to the internal validity feature, the data from a well-designed experimental study are “clean,” in the sense of being free from the influences of extraneous factors. These features make an expansion of accounting research to encompass experimental methods seem particularly desirable in China, where institutional arrangements are evolving—so it makes sense to test the effects of proposed institutional arrangements in experimental settings—and where archival data on returns and reported accounting numbers have both short time series and, sometimes, data integrity problems.

The importance of institutional features and their evolution cannot be overemphasized. In the U.S. experimental research in judgment-and-decision making usually ignores institutional structures that might affect the degree to

which information is widely available and can be processed into decisions that affect asset prices. However, Chinese institutional arrangements are sufficiently different that, we believe, they should not be ignored and they should be included in experimental research designs. For example, the Chinese proscription against short-selling and the requirement to restrict intra-day trading when the price of a share has changed by 10 percent mean that news about a firm finds its way into that firm's stock price by a different channel, over a different time period, than in the U.S., where these institutional constraints do not exist.

Experimental JDM research can also be used to examine questions related to the expertise of preparers, auditors and users of financial reports. Auditor and preparer expertise will affect the quality of the financial reports and user expertise will affect the thoroughness with which the information in those reports is processed. This issue is of particular interest in light of the transition in China, now well underway, to a market economy and the use of accounting standards based on International Financial Reporting Standards (IFRS). It would be useful to have evidence on the state of IFRS expertise among Chinese preparers, auditors and users of financial reports, as well as evidence on how the state of IFRS expertise affects financial reporting implementation decisions, accounting quality and the way financial reporting information is impounded into asset prices. This evidence would also have implications for other jurisdictions, because of the adoption, or planned adoption, of IFRS or standards based on IFRS in many jurisdictions with widely varying accounting expertise, degree of economic development and sophistication of information systems.<sup>1</sup>

Methodological considerations. Empirical researchers encounter a myriad of issues related to methods and research designs. We consider two examples that we believe are particularly pertinent to Chinese accounting researchers: (1) evaluating the applicability of assumptions that support certain widely used empirical techniques; and (2) evaluating how the legal and institutional environment of Chinese enterprises affects the incentives facing Chinese preparers, auditors and users of financial reports.

With regard to research on the applicability of conventional empirical techniques, we suggest that accounting researchers might evaluate the assumptions needed to support the application of study methods to Chinese data. We offer the following examples of possible research questions related to this issue:

- 1) Do returns on the Shanghai and Shenzhen exchanges capture the same information construct as do returns on other exchanges such as London, Hong Kong and the U.S.? If yes, is this the case from the inception of the data in 1990?

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<sup>1</sup> Among large economies, Japan and the U.S. have not announced firm dates by which IFRS will be adopted, but both have adopted detailed plans to converge their accounting standards with IFRS. Detailed information on IFRS adoptions for many jurisdictions can be found at <http://www.iasplus.com/country/useias.htm>

- 2) Does the proscription on short selling, combined with a trading restriction when price moves by more than 10 percent, differentially affect the flow of good news versus bad news into share prices? If yes, what is the implication for the profitability of a trading strategy based on post-earnings-announcement drift?
- 3) Do market-based measures of earnings quality such as value relevance, timeliness and conservatism capture the same construct for Chinese financial reporting as for U.S. financial reporting (where the constructs were developed)?<sup>2</sup>

With regard to how jurisdiction-specific institutions and laws shape incentives related to financial reporting, we note considerable differences between the treatment of accounting losses between Chinese listed firms and U.S. listed firms. For example, Givoly and Hayn (2000) report that the incidence of losses for a broad sample of firms listed in the U.S. increased from about 2% in the early 1950s to as high as 34-36% during the late 1980s and the 1990s (their sample period ends in 1998). For a sample of 896 firms that exist from 1968 to 1998, loss incidence is less than 2% in the early 1950s and as high as 20% in the 1990s. Thus, the reporting of accounting losses, even by long-surviving and therefore highly successful firms, is relatively commonplace in recent times in the U.S. There are no regulatory consequences to the reporting of losses in the U.S. and some firms report multiple successive years of losses.<sup>3</sup> In contrast, in China, reporting just three successive years of losses can lead to a trading suspension (with a PT or particular status label for the shares), and reporting two successive years of losses leads to special treatment (ST) status which requires that interim reports be audited. PT firms can be permanently delisted if they fail to return to profitability during a grace period.

To summarize, there is a strong regulatory disincentive to report losses in China and the incidence of loss is accordingly low, while no such incentive exists in the U.S. and the incidences of reported losses is high. Accounting research could investigate how this difference in reporting incentives affects the properties, including the precision or quality, of the reported numbers. Further, research could investigate the costs and benefits of the Chinese policy toward loss making firms versus the U.S. policy, in terms of investor protection.

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<sup>2</sup> Francis, LaFond, Olsson and Schipper (2004) describe the calculation of these and other earnings quality measures and examine the extent to which they have distinct pricing effects in U.S. data.

<sup>3</sup> During the 22 years 1985-2006, among Compustat firms with sales of at least \$50 million, 751 firms reported at least five consecutive years of losses. Of these, 305 survived until 2006. Among smaller Compustat firms (sales of at least \$10 million) loss incidence is even higher; 1556 reported at least five consecutive years of losses and of these 632 survived until 2006.

## Identifying Motivating Questions for Accounting Research

Regardless of the methodological approach taken, accounting research begins with a *motivating question* that establishes the significance of the research project by linking the project to a broad and consequential issue. Given the practical nature of financial reporting in its role of providing decision useful information for making investing and lending decisions, the motivating question in accounting research is often (but not always) tied to a public policy issue or a standard setting issue. An example of a motivating question that arises from a standard setting issue is: Should fair value measurements be required in financial reporting?

In contrast to a motivating question, a research question poses a specific researchable issue that derives from the motivating question. Relative to a motivating question, a research question is narrow and therefore intended to produce evidence that sheds light on the motivating question, as opposed to answering it. Thus, for example, if the motivating question is, “should fair value measurements be required in financial reporting?” possible research questions include the following:

- 1) Are fair value measurements relevant?
- 2) Are fair value measurements reliable?
- 3) Do financial statement users understand fair value measurements?

Given this description, the starting point for accounting research is clearly the identification and development of a motivating question, which would then be used as a basis to derive one or more research questions. Motivating questions might be specific to a given jurisdiction or relevant across several jurisdictions; we believe they are identified through deep subject matter knowledge that encompasses professional knowledge (eg, the authoritative guidance in accounting standards), institutional knowledge (eg, securities laws) and results of previous relevant research. We provide several examples of areas that could contain motivating questions of interest for accounting research:

- 1) Commercial arrangements and forces shaping changes in those arrangements, for example, joint ventures between Chinese enterprises and foreign enterprises.
- 2) Institutional arrangements and changes in those arrangements, for example, the adoption of IFRS for financial reporting of listed entities and changes in securities regulations.
- 3) Issues facing securities regulators with accounting implications, for example, setting criteria for accessing the public capital markets; regulating the professional conduct of auditors; enforcing anti-fraud regulations, including requiring restatements of previously-issued reports.

## Examples of Motivating Questions in Chinese Accounting Research

In this subsection of the paper, we describe three examples of possible motivating questions for Chinese accounting research. These examples are chosen for two reasons: (1) to illustrate how features of the Chinese economy and regulatory system can be used to identify issues on which accounting researchers can provide evidence; (2) to illustrate how an issue that arises in one jurisdiction has broader applicability.

Motivating question: What is the best way for the state to reduce its majority ownership of a partially privatized state-owned enterprise (SOE)? This question can be viewed from the perspective of the state (majority) owner and from the perspective of the existing (minority) owners and the answers could well differ depending on the perspective taken. In addition, this broader issue raises the sub-question of whether the preferred arrangement for reducing majority state ownership depends on the composition of the minority owners (for example, institutions versus individuals).

This motivating question also combines broad applicability with special Chinese features, because some version of the question arises in any jurisdiction where the state is reducing its ownership of productive assets. In addition, the question is a variant of the problem facing the owner of a nonlisted firm that is considering an initial public offering of shares or a majority owner of any listed firm, in any jurisdiction, that is considering reducing its ownership percentage. The special features of the Chinese environment include the existence of many SOEs, some of whom are extremely large, and relatively few widely held listed firms.

Motivating question: In a partial privatization of a state-owned enterprise (SOE) how should the assets and obligations of the SOE be allocated between a listed entity and the state-owned holding company? An SOE will have some combination of tangible assets, intangible assets, financial debt and retirement obligations, and possibly other assets and liabilities as well. The question is: what is the best way to allocate these between the listed portion that is held by equity investors whose investment objective is to earn a rate of return (and who therefore want management to maximize share values) and the state-owned holding company that is not held by investors and therefore is not associated with value maximization. Subquestions that arise include the following:

- 1) Which entity—the listed firm or the state-owned holding company—should assume the retirement obligations?
- 2) How should the financial debt be allocated?
- 3) If some of the tangible assets are health and welfare assets (for example, a school) that are not intended to be operated to earn a rate of return, should those assets be retained by the holding company?



- 4) If an intangible asset could be used by the listed firm and licensed to others, should that asset be retained by the holding company? If the holding company retains the asset, how should the fee paid by the listed company to use the asset be calculated?

We note that the question of the preferred allocation of assets and obligations between two entities in anticipation of a partial or complete separation is broadly applicable to a variety of divestiture arrangements, in particular, to spin-offs and equity carve-outs. However, the existence of health and welfare assets and the related complications seems very specific to China.

Motivating question: What are the implications of certain changes in arrangements for accessing the Chinese bond market? By way of background, we note that for many years access to the Chinese corporate bond market has been regulated by government agencies, including the National Development and Reform Commission (NDRC) and the People's Bank of China (PBC). These agencies also set the prices and other terms of the bonds. Bonds issued by a Chinese corporation had to be underwritten by a state commercial bank and the approval process was lengthy (up to 12-18 months). Hale (2007) reports that in 2006, bond financing accounted for only about 1.4% of total corporate financing in China, with bank debt (85% of total financing) and equity (about 14% of total financing) accounting for the rest; put another way, in 2006 only about 6% of bonds issued in China were issued by nonfinancial enterprises, with most bond issuances coming from the government and government-controlled banks. To increase corporate access to the bond market, supervision of the bond market is to be transferred to the Chinese Securities Regulatory Commission (CSRC) and the issuance process has been streamlined. Annual quotas on bond issuances have been removed, although limits on individual firms' leverage ratios remain. The goal is to achieve prices and interest rates that are set by market forces and a significant reduction in the length of the approval process.<sup>4</sup>

Hale (2007) reports that, across 37 jurisdictions between 1995 and 2004, larger bank loan markets tend to be associated with larger corporate bond markets. However, bank financing dwarfs the corporate bond market in China.<sup>5</sup> Therefore,

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<sup>4</sup> As of April 2008, at least one debenture bond that is not guaranteed by a state-owned bank has been issued. China National Materials Group Corporation issued debenture bonds without a state-owned bank guarantee and with a fixed interest rate of 6.4%. The bonds are rated AA. One credit analyst predicts state bank guarantees will give way to credit ratings, although the current market continues to favor bonds with bank guarantees. This story is available at: <http://english.mofcom.gov.cn/column/print.shtml?newsrelease/commonnews/200804/20080405469375>.

<sup>5</sup> Hale reports that bank lending in China in 2004 (approximately 140% of GDP) was similar to bank lending in Japan and South Korea (approximately 100% of GDP) but its bond market was less than 1% of GDP, similar to India where bank lending was less than 40% of GDP.

one might ask how the changes to the regulation of the corporate bond market would affect the relative sizes of bank lending and the corporate bond market.

Theory predicts that the bond market offers two kinds of cost advantages, relative to bank financing. First, firms that are neither the most risky or the least risky borrowers do not benefit from close bank monitoring and so they benefit from borrowing by issuing bonds and saving the monitoring costs that bank lenders would pass on to them (Diamond (1991)). Second, the bond issuance process provides firm-specific information to a large number of investors and thereby reduces or eliminates a bank's information-based monopoly over the borrower and, therefore, its information rent (Rajan (1992)). These theoretically predicted cost advantages require that the terms of bank loans reflect the borrower's credit quality so that competition among lenders reduces borrowing costs once firms broadly disseminate information as part of the process of issuing bonds. To the extent the terms of Chinese bank loans do not reflect the borrower's creditworthiness, theory would not necessarily predict borrowers would obtain a cost advantage from accessing the bond market. To shed light on this issue, accounting researchers might attempt to provide evidence on the following questions:

- 1) How do Chinese banks set the terms of loans? Are interest rates adjusted for risk? Do they seek to maximize profits?
- 2) Given the large market share of four large state-controlled banks, is there sufficient competition among banks for borrowers to obtain theoretically predicted benefits of accessing the bond market?
- 3) What is the credit risk analysis expertise of the Chinese banking system? Diamond (1991) predicts that the borrowers most benefited by access to the bond market are those with intermediate credit risk, which would be established by the borrower's credit history with banks.

Theory that predicts advantages to corporate borrowers, in the form of lower borrowing costs, from ready access to the bond market, also requires the existence of investors who want to hold corporate bonds and an active market for those bonds. The active market, in particular, facilitates the dissemination of information that is needed to price credit risk appropriately. Institutionally, a bond market also requires a well functioning system for dealing with insolvency through bankruptcy and reorganization, which provides protections for bond investors. However, a bankruptcy system like that in the U.S., in which employees are terminated and retirement benefits can be cut, might be unacceptable for a listed firm that is majority-owned by a state-owned holding company; that is, the interests of employees and retirees might trump those of creditors for such firms. Accounting researchers might be able to provide evidence and insights on the following questions:

- 1) What are the institutional and other forces that encourage or impede the growth of entities that would want to invest in corporate bonds?
- 2) What protections exist, and what are needed, to protect bond investors in the event of insolvency? How should those protections interact with protections for employees and retirees?
- 3) What are the implications of a corporate bond market for credit analysis? Accounting researchers could contribute to the development of accounting-based credit analysis tools for banks and for bond rating agencies.

## Concluding Comments

We have described our sense of the current focus of accounting research in China, particularly the emphasis on the use of empirical-archival methods to address questions that are more closely related to corporation finance than to asset pricing. We have suggested that this emphasis could be broadened to include the application of analytical modeling and behavioral experimentation, and that within the empirical-archival paradigm, one possibly fruitful avenue is to explore how best to adjust research designs and research questions to fit China's specific institutional and economic features.

In the second portion of this paper, we described the distinction between a motivating question and a research question, and linked this distinction to several areas that researchers may wish to explore for possible motivating questions. This portion of the paper concludes with a discussion of three examples of motivating questions and related research questions.

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