外部評価

一橋大学 21 世紀 COE プログラム「社会科学の統計分析拠点構築」
ミクロ実証分析班への外部評価報告

　平成 15 年度から平成 19 年度にかけて実施された一橋大学 21 世紀 COE プログラム「社会科学の統計分析拠点構築」の中で、主としてミクロ実証分析グループおよび経済統計分析グループの活動と対外的な貢献に関する評価は、以下の通りです。
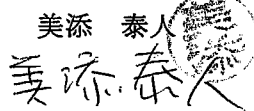
　ミクロ実証分析グループの研究活動を概観しますと、多様なワークショップ、セミナー・シリーズ、レクチャー・シリーズ、合同コンファレンスが開催され、そこで発表された Discussion Paper の多くは最終的に研究論文として主要ジャーナルに掲載されています。このことは本プログラムが精力的な活動を行ってきたことを端的に表しています。
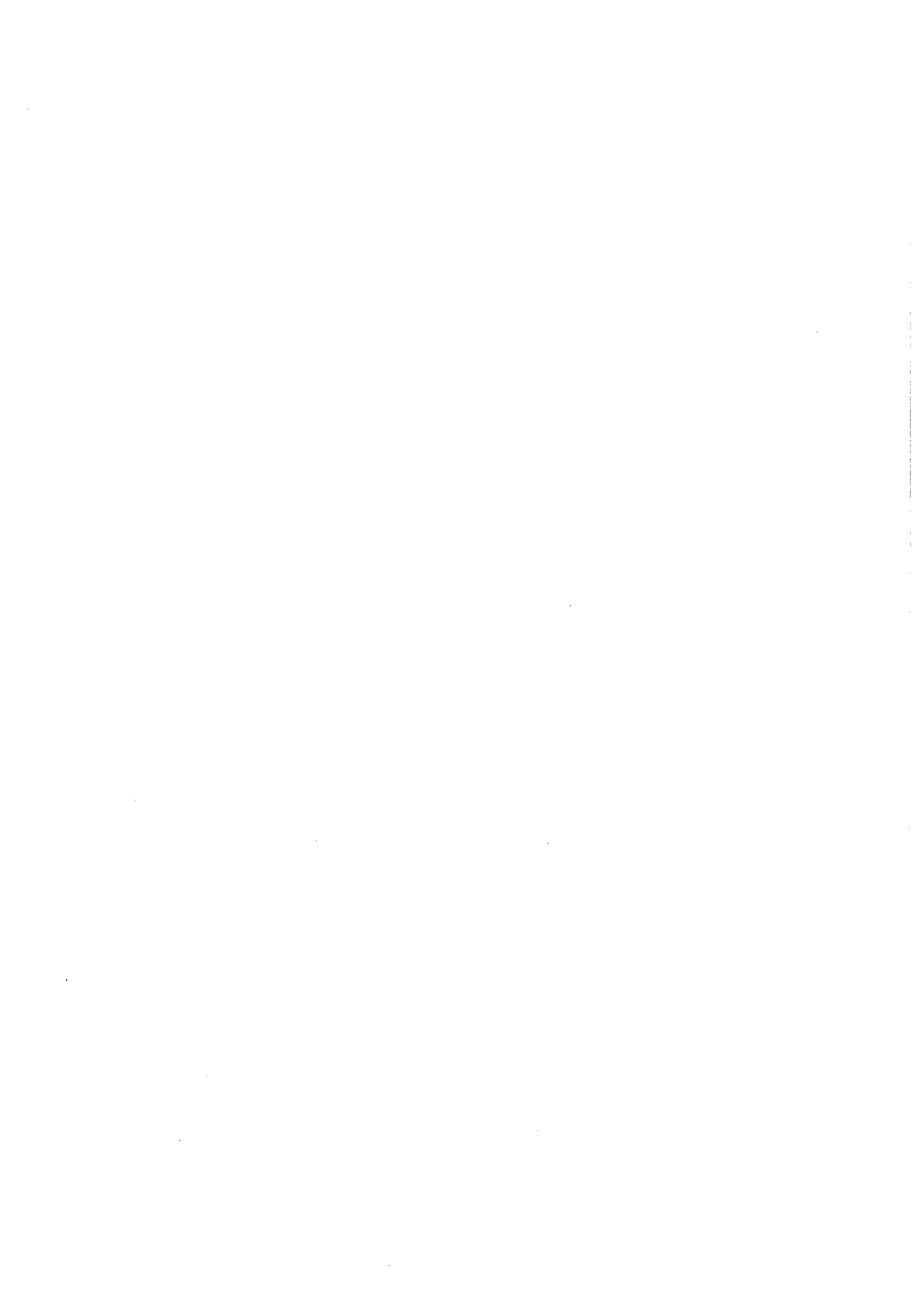
　教育面においても、全国からミクロ計量経済学の若手研究者を集めた合宿を行うなど、当拠点のみではなく、全国規模の研究会を主催し、教育を行う機会を提供しています。実際、プログラムの後半においては何らかの形で当拠点に所属した大学院生の博士号取得数が増加する傾向にあります。このような教育における成果も、本プログラムで評価されるべき点と考えます。

　ミクロ実証分析グループは、通常の研究・教育活動の枠を超えた大きな活動として、ミクロ統計データベース構築に関して特筆すべき二つの成果を上げています。一つは戦前の農林省が集めた「農家経済調査」個票のデータベース化という、膨大な原資料を掘り起こし、現代的な経済分析を可能とするための地道な労力を必要とする作業で、このような基礎的な統計整備は一橋大学経済研究所の伝統に沿った貴重な成果です。もう一つは、慶應義塾大学と共同で収集している「慶應義塾家計パネル調査」に関して、一般公開を始めるとともに、ルクセンブルグ所得調査に参加したことから、日本人研究者に対して同調査に参加する他国のミクロデータ利用の道を開いたという意味で、学界に対する画期的な貢献をなしとげました。

　最後に、本プログラムの最も重要な貢献として「政府統計ミクロデータの試行的提供」を経済統計分析グループが開始したことが挙げられます。この試みを通して、政府統計ミクロデータを初めて利用した研究者の数は増加傾向にあります。さまざまな分野の研究者が多様な利用を試みることで、政府統計の二次利用に関して新しい方法が開発されることも予想されます。今後、当拠点がさらなる発展を遂げ、より本格的なミクロデータ提供拠点として、日本におけるミクロ経済データ分析の中心になることを強く期待するものであります。

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美添　泰人

The Asian Historical Statistics Project: A Short Evalution/

Jan-Pieter Smits

Internationally, a couple of regional initiatives have been undertaken to study the dynamics of long-term economic growth. For (East) Asia, Hitotsubashi University has become a major global player in this field. Not only do researchers have special expertise in quantifying and analysing the dynamics of the long-run growth performance of Japan. But much more importantly, this research group also functions as a 'hub' for international research in this field. One of the main contributions of Hitotsubashi to the discipline of quantitative economic history and economic growth analysis, is that that it has been able to bring together experts for a great number of Asian countries to study processes of economic growth and structural change in a comparative framework.

Already now much of the work done at Hitotsubashi is world-wide recognised as highly relevant and of high quality. Results of the AIDA and JIP projects are used by many scholars outside Japan. Besides, one of the major strengths is the combination of macroeconomic analysis with the use and exploration of micro data.

In recent years, important collaboration with research groups outside Japan has been realised. Hitotsubashi University is one of the key players in the EU KLEMS project. Besides, research on productivity –carried out in the JIP project- is linked to the ICOP project done at the Groningen Growth and Development Centre (GGDC). In the near future the co-operation with this Centre (founded by professor Angus Maddison) will be extended, as the research group of prof. Fukao will closely collaborate with the GGDC in order to make a contribution to their global database on Comparative Historical National Accounts. Within this project Hitotsubashi University will be responsible for the entry of (East) Asian time-series in the database on historical national accounts.

The paper by professor Odaka unequivocally shows the impressive nature of the Asian Historical Statistics Database Project. The main aim is to present time series on national income and its main components for several Asian countries. Besides, ample attention is paid to the internal as well as external consistency of the time series, which enhances the comparability of the estimates. The estimation methodology presented in section 5 is impressive, and beyond any doubt the research carried out by the Hitotsubashi research group can be classified as one of very high quality by international standards. Special reference should be made to the attempt to make estimates of national expenditure. Many European

Historical Accounts focus solely on the output side, but the addition of expenditure estimates does not only enable us to make plausibility checks, it also serves important analytical purposes. The possible uses of the project which are summarised in section six of the paper, clearly indicate the relevance of this type of work.

A number of questions can be raised, which may be clarified in later work of prof. Odaka:

-First of all one wonders why the SNA 1968 has been chosen as the statistical model to estimate the historical accounts. In order to have time series which are better comparable with present-day estimates, the SNA 1993 would have been expected. But perhaps the choice for 1968 has been made as the data requirements for a 1993-based SNA would be very demanding and may even make it impossible to arrive at long-run time series;

-Secondly, some information could be given as to how the estimates for the several countries deal with the problem of border changes. Is it possible to adjust estimates in order to follow one geographical entity over a longer period of time? Do primary sources provide us with enough regional information to make the necessary adjustments?

-Thirdly, a somewhat more comprehensive treatment of deflation techniques would have been appreciated. In the European Historical National Accounts projects there has been a fierce debate between scholars who opt for annually linked prices indices, whereas other researchers prefer periodically changing weighting schemes (for every 20-25 year; sub periods chosen on the basis of information on business cycle patterns).

It should be stressed that the wealth of statistical data collected and processed within this project will enable scholars to pursue exiting, new types of research:

-The long run time series will enable us to do growth accounting analysis for longer periods of time. The long-run nature of the time series will make it possible to take long-run changes in technological systems into account on the basis of which systematic comparisons between different General Purpose technologies can be made. Present-day debates on, for example, the importance and dynamics of ICT for stimulating productivity growth can be enriched by making systematic comparisons with for example productivity growth trends in the era of electrification;

-The processes of long-term economic growth and structural change, which are narrowly interrelated, can be studied in great detail. This might enable scholars to do research in the tradition founded by scholars such as Chenery and Syrquin. It might be fruitful to test

hypotheses put forward by the dual economy literature founded and elaborated by Lewis, Fei and Ranis.

-Following the work by Acemoglu et al on the colonial origins of development, the impact of Japanese colonisation on a number of East Asian countries can be charted and be compared to the colonial experience of countries that were colonised by western powers.

The paper by profs. Fukao, Miyagawa and Takizawa (Hitotsubashi/Gakushuin/Hitotsubashi) may serve as an excellent example of the profitable use of (historical) national accounts for analytical purposes. It should not come as a surprise that this paper is of very high quality by international standards, because researchers of this team also played a leading role in the KLEMS project on international growth accounting. The data as well as the research methodology used in this paper are up-to-date and represent the best work that is currently carried out in this field of research. The methodology of growth accounting serves as a powerful tool to analyse the proximate causes of growth as it enables researchers to identify the importance of increases in factor inputs versus the growth of multi factor productivity. This refined analysis puts the authors of this paper in the position to make a thorough comparison of Japan's growth record in the late twentieth century compared to the growth performance of the European Union and the United States. Such an analysis is of vital importance as in a globalising world countries can only survive when sustaining their competitive strength which in its turn is largely determined by relative levels of (labour) productivity.

One of the most valuable parts of the paper concerns the comparison of productivity levels across countries. Where the EU KLEMS project strongly focuses on the construction of consistent time-series, Japanese researchers (working at the Japan Economic Foundation and the Japan Center for Economic Research) also make systematic productivity comparisons between countries. These figures enable the authors to identify the relative strengths and weaknesses of the Japanese economy in the late 20th century. Especially the rather low productivity levels in market services can be seen as a source of weakness of the Japanese economy.

The paper could be strengthened on a number of points:

-A more systematic analysis could be made of the growth of ICT producing and ICT-consuming industries when trying to assess the importance of ICT for economic growth.

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Special attention could be paid to the extent to which potential spill-over effects may have spurred growth even more;

-When analysing the extent to which technologies are widely used in the economy, Harberger's distinction of 'Yeast'- and 'mushroom'-type of technologies could be distinguished. By means of the so-called 'sunrise' diagrams it can be demonstrated to what extent ICT can be characterised as a general purpose technology;
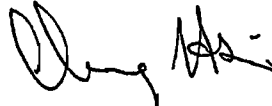
This paper points at important and intriguing results such as the problems in the field of market services. The same type of problem has been identified in some western European countries. Also here, compared to the US, labour productivity seems to be lagging behind. It is the challenge to come up with explanations for this phenomenon. These explanations might be related to differences in economies of scale, variations in terms of the organisational capabilities of firms (not all types of firms are equally successful in adopting new technologies) or even consumer preferences (for example US citizens seem to prefer to do their shopping in large shopping malls whereas European citizens prefer smaller shops which are less efficient and characterised by lower levels of productivity).

Both papers do show the remarkable expertise of the Hitotsubashi group in terms of quantifying as well as analysing processes of long-term growth and structural change. It is my hope that this research group will be able to pursue this research the next couple of years and that it will continue to seek co-operation with research groups in other parts of the world. Such close collaboration can be fruitful for all scholars in the field of quantitative economic history.

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Groningen Growth and Development Centre/ Statistics Netherlands

External Review Report
on
the Activities of Statistical Theory Section
Research Unit for Statistical Analysis in Social Sciences(Hi-Stat)
(21st Century Center of Excellence (COE) Program)
Institute of Economic Research, Hitotsubashi University
for the Period 2003 to 2007

Cheng Hsiao

Research

The contributions of the Statistical Theory Section (hereafter, STS) are mainly in the area of panel data, time series, and other related areas such as official statistics, financial econometrics, Bayesian analysis and so forth.

(a) Panel Data Analysis

The focus is on estimating dynamic panel data models. According to Nerlove (2007), "all interesting economic behavior is inherently dynamic, dynamic models are the only relevant models". However, the estimation of dynamic panel data models is a great deal more difficult than the estimation of nondynamic models. Eight research papers have been produced on sampling properties of the popular generalized method of moments (GMM) estimators that enhance the profession's understanding of the statistical properties of this widely popular approach, suggesting bias-corrected GMM estimators that outperform many existing GMM estimators, and suggesting more powerful testing procedures. Some of these have already been published, more are expected to be accepted for publication in international journals.

(b) Time Series

The focuses are in estimation, testing and forecasting cointegrated processes. Ten research papers on asymptotic properties of efficient estimators with strongly serially correlated errors, new approaches to test cointegration rank and Granger non-causality are

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proposed; new procedures for forecasting large cointegrated processes without prior identification of cointegration rank are produced. Three have already been published and more could be expected.

(c) Other Related Research

Six research papers on models on more general models on duration dependence, Markov-switching model with time-varying transition probabilities, and novel approaches to analyze financial data have been proposed. Although the discussion papers in this area have not yet to be published. They are of sufficient high quality to deserve publication in due course.

In addition to the research papers, three books have also been published or are forthcoming during this period. In short, the research productivity of the STS during 2003 - 2007 is truly outstanding.

Effectiveness of Graduate Program

Five graduate students have successfully completed their Ph.D. degrees under the supervision of the STS staffs and they all got respectable academic positions. Their dissertations have led to a number of publications. Out of the five, I am somewhat familiar with the work of H. Chigira and K. Hayakawa. I am most impressed by their creativity and solid technical skills. For instance, I have been working on dynamic panel data models on and off in the past quarter a century. However, it has never occurred to me that initial values would play a role in the efficiency of GMM type estimators until as an editor of the *Journal of Econometrics* I came across the submission of Hayakawa. This submission has received rigorous but positive reviews by an associate editor and two referees. A revision with adequate response to the issues raised by the referees can be expected to be accepted for publication. Similarly, Chigira has published four papers from his dissertation. In view of over ninety percent of Ph.D. dissertations do not get published, their record is a testimony of the remarkable effectiveness of the graduate program of the STS.
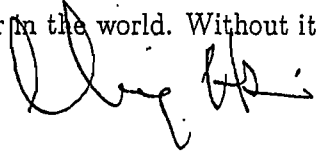
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International Collaboration

Most of what we know we learn from other people. In economics, much as in "arts" and "sciences", group interactions are central to individual productivity. Moreover, the reputation of an institute or a scholar not only depends on how good we are, but also depends on what others think. Under the auspice of the STS, in the course of four years, leading scholars N. Katayama, C. Hsiao, M. Ogaki, H. Tsurumi, In Choi, T. Amemiya and Y. Kitamura have given intensive lectures for the graduate students and researchers. Their lectures cover a broad spectrum of leading research topics that could broaden the perspectives of graduate students and stimulate Japanese research communities. In addition, the STS has organized four international conferences that brought together domestic scholars and foreign scholars for mutual stimulation and collaboration. The specific ideas exchanged in these activities will play an important role in the growth of knowledge and help raise the visibility of Japanese scholars.

Summary

Economic science has become increasingly empirical and quantitative in past decades, imposing common research resource needs. The focus areas of the STS complements very well with the 21th COE program's goal of advanced empirical research in social sciences, based on both statistical data and sophisticated statistical methods. The 2003-2007 research productivity and effectiveness of graduate program of the STS under the leadership of Professor T. Yamamoto and the late Professor S. Kanoh are indeed impressive.

The integration of data archiving, statistical theory research and advanced empirical studies have made the Institute of Economic Research at the Hitotsubashi University one of the premier economics research center in Japan, if not the best. However, the Institute is also at a critical junction. With continued support by the 21st Century Center of Excellence Program, the Institute could be one of the best economic research centers in Japan and become an outstanding economic research center in the world. Without it, the Institute could sink into mediocrity.

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