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Re-Estimation of China National Accounts and Growth Rates 677-17

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Document Date February 6, 1992	Document Type Form			
Correspondents / Participants To: Management Information Division, CTR From: Clara Else, RAD				
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Additional Comments		<p>The item(s) identified above has/have been removed in accordance with The World Bank Policy on Access to Information or other disclosure policies of the World Bank Group.</p> <table border="1"><tr><td>Withdrawn by Shiri Alon</td><td>Date April 19, 2017</td></tr></table>	Withdrawn by Shiri Alon	Date April 19, 2017
Withdrawn by Shiri Alon	Date April 19, 2017			

Completion

Correspondence

OFFICE MEMORANDUM

DATE: December 12, 1991

TO: Shahid Javed Burki, Director, AS3DR

FROM: Gregory K. Ingram, Administrator, RAD

EXTENSION: 31052

SUBJECT: Research proposal, "Re-estimation of China National Accounts and Growth Rates"

I am writing in response to your request for \$15,000 to support work on the above topic. After carefully reviewing the project description, I find it worthy of support, but I need some additional information.

The proposal provides essentially no information on the proposed work program and schedule, staffing, outputs, or budget indicating the overall and RSB-funded components. Please send me a brief supplement indicating the expected tasks, outcomes and expenditures. Note that RSB funds may not be used for support of Bank staff salaries. With this information in hand, the processing of this proposal can be quickly finished.

As you are well aware, the problems that you are addressing with this work are not unique to China. In your studies and reports, please take care to draw out those aspects of the problems and proposed solutions that would be germane to other countries so that they can be disseminated to other users.

cc: Messrs. Pearce, Yusuf, Harrold, AS3CO
Messr. Chander, DECVP
Messrs./Mss. Shah, Else, Thomas, RAD

OFFICE MEMORANDUM

DATE: February 4, 1992

TO: Shahid Javed Burki, Director, AS3DR

FROM: Gregory K. Ingram, Administrator, RAD

EXTENSION: 31052

SUBJECT: Research proposal, "Reestimation of China National Accounts and Growth Rates"

I am pleased to inform you that I have approved your request for \$15,000 to fund research on the above topic. Comprehensive and careful development of a system for the most accurate conversion from a material product system (MPS) to a system of national accounts (SNA) would yield useful information for a host of post-socialist countries, and we hope that the results will be widely disseminated, not only in the Bank, but to interested outsiders as well.

This approval is contingent upon the ancillary contribution of \$3,000 by AS3, and an additional \$2,000 from the DECVP fund for statistical work, as well as the necessary supervisory time by Messrs. Chander and Yusuf.

The following account and financial authorization are issued for your project based on your description of the work program schedule:

i) Identification code (RPO#)	677-17
ii) FY92 authorization	\$11,000
iii) FY93 authorization	\$ 4,000
iv) Total authorization	\$15,000

Expenses related to the project may be charged to the above account number up to the total amount authorized. Please use the account number as an identification code in all documents relating to the project.

Please note that you will be allowed to vary the initial FY92 allocation by only 10 percent hereafter: you may defer use of up to 10 percent of the FY92 budget which you now set for use in FY93, or draw into FY92 from the FY93 authorization an amount up to 10 percent of the FY92 allocation. Any such changes in the budget must be made by the March 13th deadline.

Since FY91, RPOs have been treated in the same manner as other World Bank accounts. Funds not committed and disbursed by the fiscal year deadlines will be lost to both your project and to the Research Support Budget.

If you have any questions about the RSB budget process that cannot be answered by your department's budget officer, please contact Vilma Mataac, the Budget Officer in charge of the Research Support Budget, at extension 3-1030.

As it is intended that the project will be completed by August 31, 1992, this will also be the last date to make financial commitments against the project's budget. The account will remain open for four months after that date to allow for disbursements against outstanding commitments.

You are required to file a completion report on the project no later than two months after its closing date; forms for this purpose may be obtained from this office.

cc: Ms./Messrs. D. Pearce, S. Yusuf, P. Harrold, AS3CO; R. Chander, DECVP; M. Bellinger, ORGHD; R. Salandy-DeFour, ACTAS; C. Ramierz, ACTAB; S. Shah, C. Else, E. Thomas, V. Mataac, J. Kipnis, RAD
Research Committee members

OFFICE MEMORANDUM

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JAN 23 1992

RESEARCH ADMINISTRATION DEPARTMENT

DATE: January 22, 1992

TO: Mr. Greg Ingram, RAD

FROM: Shahid Javed Burki, EA2DR

EXTENSION: 82332

SUBJECT: Research Proposal: "Re-estimation of China National Accounts and Growth Rates"

1. The information you requested on our research proposal is as follows:

Proposed work program and schedule:

Using the 1987 I-O matrix, data gathered during the mission in 1990 and other material published by the State Statistical Bureau, we would begin work on methodological issues and reestimation of the accounts once the study has been approved. As indicated in the proposal, Messrs. Chander and Yusuf will supervise the study but the bulk of the work will be done by Mr. Albert Keidel. He participated on Mr. Chander's mission and has close familiarity with the data and problems. Mr. Keidel has full command over spoken Chinese and will be assisted by a Chinese research assistant also conversant with national accounts data.

Division of Labor:

Mr. Keidel would be responsible for the sectoral issues and adjustments. However, on the price deflators and time series on the industrial sector, we would be contracting with Mr. Michael Fields, another China scholar whose specialty is in this area.

Scheduling:

Assuming that work could commence in February, we aim to complete the task by July-August 1992.

Nature of the Output:

- i) A paper that describes in detail the methodological issues faced in revising China's accounts and how these were tackled. The approach to adjusting various numbers would be described and justified by reference to standard national accounting practice and economic conventions.
- ii) A set of revised summary national accounts that make full use of the I-O matrix and other related sectoral and price data at our disposal.

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January 22, 1992

- iii) a brief account of the relevance of the methodology as well as of the reestimation techniques for other transitioning economies.

This output would be issued in the Department Working Paper series or some other suitable form.

Budget:

[REDACTED]

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Exception PERSONAL INFORMATION

Dissemination

We are planning on a seminar in China with the SSB where this work and other topics of interest would be discussed. A workshop in the Bank in early fall would allow us to make available our findings to interested staff.

cc: Messrs. Chander, Pearce, Harrold.

SYusuf:hk

REFERENCE
COPY

OFFICE MEMORANDUM

DATE: November 21, 1991

TO: Mr. Gregory K. Ingram, RAD

FROM: Shahid Javed Burki, Director, AS3DR *607*

EXTENSION: 82332

SUBJECT: Research Proposal for Re-estimation of China National Accounts
and Growth Rates

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RESEARCH ADMINISTRATION DEPARTMENT

1. The attached research proposal stems from the findings of our recently concluded study of China's National Accounts that was headed by Mr. Ramesh Chander. The study, to which we attach a good deal of importance, identified methodological deficiencies in adapting MPS based data for SNA; price distortions, especially of housing but also of other major raw materials; and gaps in coverage of agricultural output as well as rural industry. These problems are biasing national income estimates to an unknown degree. This is a point which Mr. Summers has noted on several occasions when the issue of inter country comparisons has arisen.

2. In order to induce the Chinese to accelerate their efforts at revising the national accounts, we believe that an exploratory re-estimation exercise would yield rich dividends. It would help us to arrive at a more reliable set of accounts and, along the way, we could attempt to resolve thorny issues of methodology and data quality. Although our research would be specific to China, I believe that the findings would be of considerable relevance to other transitioning East Asian and European economies.

3. The financing required for a limited exercise is \$20,000. The department is prepared to invest \$3000 in the effort. This is in addition to the substantial outlay already incurred on the ESW report. Mr. Ramesh Chander is in a position to budget \$2000 from the funds earmarked for statistics related work in the VPDECs office. We would like to request the Research Committee for the remaining \$15,000.

Attachment

cc: Messrs. Pearce, Yusuf, Harrold, Shah, Chander

SYusuf:hk

Re-estimation of China National Accounts and Growth Rates

October 14, 1991

Introduction

1. It barely needs repeating that the quality of economic analysis and of economic management is critically dependent on the volume as well as the adequacy of statistical material. For the macro policymaker in a market environment, the dependability of national accounts is of the highest importance. A number of socialist economies--Hungary, Yugoslavia and China--have been en route to a market based system for several years. They have been joined over the past two years by virtually all the remaining socialist economies. As these countries enter the market milieu, one of the highest priorities for them is to restructure their national accounts so that policymakers have the necessary indicators to work with. In most instances, the preferred approach is to move from the MPS to the SNA, although in the interim, some countries such as China might attempt to maintain two accounting frameworks.

2. The process of conversion is a difficult and technically demanding one. China embraced certain elements of the SNA framework 6 years ago but is a still considerable distance from having ironed out the many problems. However, the need to settle the outstanding issues grows more urgent as the role of the market is enlarged and the task of management becomes more

complex. For countries that are attempting to compress a decade of reform into a few years (e.g. Laos, Vietnam, Mongolia, Bulgaria), the need to refashion their National Income data is at least as crucial.

3. The purpose of this short exercise, which draws extensively on a major report on China's national accounts, is to define guidelines for the re-estimation of national accounts in centrally planned economies and to trace out their implications, using data for China. We believe that this way both the general principles, their application and the implications of revising can be brought out most effectively.

Background to the Proposed Study

4. Since the mid eighties, the People's Republic of China has been attempting to convert its statistical system from one based on the Material Product System (MPS), originally acquired from the Soviet Union, to a system more closely resembling the System of National Accounts (SNA), the basis for statistical systems in most market economies. In preparation for a program of technical assistance, a World Bank mission to China in November 1990 reviewed current and pending changes in China's statistical system. The mission collected a wide variety of technical and statistical materials and conducted detailed technical discussions with statisticians and other specialists in national, provincial and county-level statistical offices.

5. The mission's report, China: Statistical System in Transition, currently in Green Cover, identified a wide variety of weaknesses in China's transitional statistical system resulting from its conceptual framework, its reliance on traditional data collection methods, and its use of valuation procedures initially intended for recording centrally-planned economic transactions. In particular, China's current system under-reports a number of important activities because of coverage deficiencies, inappropriate valuations, and lack of imputations where there is no valuation at all. Under-reporting of housing services is the best example. More fundamentally, the current Chinese system reflects a basic misunderstanding of the nature of market transactions used in the SNA accounting methodology; the Chinese framework considers any transaction to be a market transaction, when in fact many transactions are still valued at government-set prices which are either arbitrary or set with little or no reference to the scarcity or usefulness of the goods and services involved.

6. The mission report noted the clear need for quantification of the biases introduced by these weaknesses, both to assist China's statistical transition and to prepare for similar changes necessary in other centrally planned economies undergoing reform.

Nature and Purpose of the Study

7. The study would meet several needs--for China and other countries:

- (a) The study would help explain the degree to which the current statistical system in China gives misleading estimates of GNP and real GNP growth. Official data show that China--beginning from a starting point of extreme poverty--has had enormous success with its own brand of economic reforms. According to official data and the World Bank Atlas method of calculation, China's 1990 per-capita GDP was U.S.\$370 after 12 years (1978-90) of real GNP growth averaging 8.7 percent per year. These figures imply extremely low per-capita income at the outset of reforms in 1978. If these data are accurate, China's strategy and methods warrant especially close scrutiny to determine their applicability in other very poor countries not nearly as large as China. If, however, GNP is significantly under-reported and growth rates significantly over-stated, these results, although still respectable, would parallel comparable experiences in several other economies.

- (b) The study would provide rules of thumb for adjusting statistical results in other countries reforming towards

a more market-oriented economy. China's current GDP statistics are MPS calculations transformed to resemble SNA-based estimates of macroeconomic aggregates. A careful examination and correction of these GDP results based on a fuller application of SNA methodology would give a more accurate standard for estimating GDP from MPS data in other economies where no SNA results are currently available, or where they are available but of questionable quality. For example, in an economy which reports national income as defined in MPS and additionally reports housing statistics in physical space units, this study would provide some guide to estimating a housing services GDP component, which is largely excluded from MPS national accounts.

- (c) The study would be useful for price reform policy in China and potentially elsewhere. By using the just-released 1987 input-output table to explore the direct and indirect implications of price adjustments consistent with price reform--such as housing price increases--the study would help track the impact of reforms. In China's experience, price reform has brought with it the need for adjustments in a variety of subsidies, other transfer payments, and wage levels. This study's adjustment of national accounts valuation would in some ways simulate price reform and with the help of China's 1987 I-O table could indicate the scale

of further adjustments necessary in the short run to accommodate price reform.

- (d) Finally, the study affords an opportunity to improve our knowledge of the Chinese statistical system itself. During the Bank mission in November 1990, many features and idiosyncrasies of the Chinese statistical system were revealed in the course of meetings and discussions with the SSB (State Statistical Bureau). These informations, however, are documented only by mission notes, and some of them have become controversial--the scale of services provided *gratis* to state enterprise employees, for example. However, with the inception of quantitative discussions (based on Chapter 7 in the mission's report), the SSB has begun commenting in writing on mission conclusions. These comments represent a written record of the SSB's specific approach and the explanations could be expanded in the course of correspondence related to the study proposed here. As a result, the Bank would be much better informed about China's statistical system and statistics, since a number of misconceptions and interpretations of China's national accounts would be clarified.

Design of the Study

8. The study would be divided into specialized areas of investigation reflecting many of the issues raised in Chapter 7 of the November 1990 mission report (China: Statistical System in Transition, June 5, 1991). These specialized areas of investigation would be divided largely by economic sector. In all, there would be 7 such sections:

1. Agriculture
2. Industry
3. Services
4. National accounts expenditure data
5. National accounts income data
6. Growth-rate-specific investigations
7. Input-output analysis of indirect valuation effects

Agriculture

9. Issues of scope, valuation and internal consistency are all important for adjusting agricultural output measures.

10. The most important scope issues are for grain and vegetables. In the case of grain, planted area appears to be under-reported, while in the case of vegetables, the nature of the surveys used indicates under-reporting of gross output. In both cases, the study would attempt re-estimates based on mission

notes, 1987 I-O relations, published household survey reports, and other data sources. Volume measures of output would be verified by calculating annual balances (output, use, and net exports) for major agricultural commodities.

11. Valuation issues are most significant for grain and are of two sorts. The least controversial is the valuation of own-consumption of grain by rural households. The SSB values this grain at less than its opportunity cost to farmers, and correction would raise total output value. A more controversial adjustment would test the sensitivity of farm output value to pricing grain at some level consistent with China's scarcity of land and strict restriction on grain imports.

Industry

12. The study would concentrate on three adjustments to industrial output measures. The first would correct TVE (Township & Village Enterprise) output estimates for errors of both scope and valuation. The second would quantify the impact of treating government enterprise subsidies as demand for goods rather than as compensation for losses. The idea is that the government in these cases is purchasing significant output for distribution to end-users. Finally, the industrial study would adjust output downward to allow for the shift of in-house services output of industry into services output. The valuation of these services is also an important issue and is treated in

the next section. All of these adjustments would be based on input-output relations, mission notes, and on-going correspondence with the SSB. Where appropriate, secondary published sources will also be used as a basis for re-estimates.

Services

13. Service output is the single most important area for GNP revaluation, and the study will focus on 3 especially significant issues. The first is the value of housing, which in most cases is valued at zero or close to zero. Revaluation of housing services is particularly important given the housing construction boom in China--both urban and rural--since the onset of reforms. There are ample statistics on housing occupancy by physical area, however, in addition to some estimates of housing services--at extremely low prices--as part of current SSB national accounts. The study would combine such information and adjust it for a more realistic range of valuation, although how much of an adjustment to make may remain controversial. The study will experiment with several possible housing revaluations, including using ratios observed in other low-income countries at a comparable stage of development.

14. The second important service issue is the valuation of non-housing services (e.g. education, health, recreation) provided in kind by state enterprises and government agencies to their staff. The November 1990 mission found that many of these

services are treated neither as output of the state enterprises, nor as production costs. They therefore fail to appear anywhere in the national accounts. The scale of these services appears to be quite large, judging from SSB comments and labor force data, and the study will combine these and other data to estimate their scope. The study will value the services in ways consistent with valuation of other comparable services in the study.

15. The third important service issue is rural services provided by rural enterprises and households to rural consumers. Because China's traditional MPS system was not designed to capture these output components, their production is under-reported, although there are alternative expenditure data from household surveys which provide some guidance. Although this is a difficult area for estimating corrections, the study will use both household consumer surveys and labor force data to adjust the output estimates.

Expenditure Estimates of GDP

16. Many of the output adjustments described above imply corresponding estimation of and adjustments to national accounting entries for final expenditure. There are no regular Chinese estimates of GDP by SNA expenditure categories, although China's MPS national accounts report a variety of related statistics, and the 1987 I-O table provides an official Chinese benchmark. This part of the study will therefore provide

estimates of GDP expenditure trends which are relatively independent of estimates based on output statistics and which can therefore be used as a check or verification of other results. The study will emphasize the four most basic areas: public consumption, household consumption, depreciation, and investment. In addition it will attempt a first cut at correcting the valuation of net exports.

17. For public consumption, the study will focus on adjustments resulting from treating government subsidies as government purchases of goods and services for distribution to household consumers.

18. For household consumption, there are 4 major areas where adjustments will be significant: housing services, grain consumption, rural services, and services supplied in kind by state enterprises and government agencies to employees. Such expenditures are akin to compensation of employees in kind.

19. For investment, the major issue is the valuation of inventory kept on the books even though its value is almost zero. The SSB confirmed that while old inventory deemed useless is disposed of, no corresponding correction is made in output or investment. The study will give a best estimate of what these losses are and make corresponding adjustments.

20. Finally, adjustments to depreciation will be important in the study because Chinese GNP data are based in part on additions of depreciation to the Chinese equivalent of NNP (Net National Product). Depreciation is undervalued for two reasons: the Chinese use very low historical valuations for capital stock, and they assign long lifetimes and hence small depreciation rates to most capital stock.

21. Without any directly reported statistics on trade at actual domestic cost, valuation of net exports in local currency is difficult, but the study will present estimates based on the best information available.

Estimates of GDP from the Income Side

22. The study will make summary estimates of adjustments needed to profits, taxes, subsidies, and household remuneration--after allowing for savings--so as to remain consistent with the expanded consumption components of final expenditure. To the degree that the results in this section reflect labor force statistics, enterprise financial reports, and household survey data on wages and other income sources, they will also be useful as an independent check or verification of GDP results based on output data and expenditure estimates. What is more, Chinese statistical practice treats systematic long-term subsidy of basic urban necessities as part of enterprise losses and hence a negative component in GDP, when in fact they are more

usefully interpreted as government provision of goods and services consistent with national policy. Under this interpretation, profits and losses from the income side of China's national accounts need to be adjusted upward at the same time that government demand in expenditure estimates is expanded. In general, the study will use 1987 input-output information as a guide for generating benchmark relationships which it will then apply to other years in the decade since 1978.

Growth rate adjustments

23. The major issue in adjusting historical growth rates is China's GNP deflators, which many sources indicate are seriously under-estimated. The study will make revised estimates of growth deflators, by modeling the SSB's own calculation procedures and adjusting them for a variety of biases identified in the mission's report. China's methodology for calculating GDP deflators is unusual. Rather than obtaining sample survey data of representative price changes to estimate a deflator for converting current-priced reports to their real equivalent, China collects administrative data on gross output in both current prices and "constant" prices (officially published accounting reference prices). These results are then used to calculate a gross output deflator which is then applied to net GDP output components (net of intermediate inputs). The mission learned that there are inconsistencies both in the generation of these deflators and in their application to GDP components. The study

will make corrections based on a range of reasonable estimates for the most significant inconsistencies.

24. In addition, the study will also correct TVE (Township and Village Enterprise) output trends for the practice of using current-priced results in the place of constant-price data. Many TVE managers and statisticians were unfamiliar with the MPS system of constant-price reporting (which during this period were based on low 1980 valuations) and in its place reported current priced output. These current-priced output results in turn were used for official reports of real growth in this sector during periods of significant inflation and rapid growth in TVE output. Corrections in this area, therefore, would reduce growth rates in total industry and overall GDP as well.

25. Finally, overall GDP growth rates will be influenced by the re-valuation of GDP components in other parts of the study. For example, throughout much of the reform period, but especially in the latter half of the 1980s, China's industrial GDP output grew much more rapidly than agricultural output. Because of traditional valuation biases, however, industry's share in GDP is larger than it would be if other sectors were measured more fully. Corrections for such biases would reduce the weight given to high industrial growth rates in calculating overall GDP growth. On the other hand, an upward re-valuation of service output, especially for such rapidly-growing sectors as housing, could result in an increase in the weighting given to service

sector output in calculating total GDP growth. The study would result in alternative GDP growth rate estimates for the last decade in which these various influences were netted out.

Secondary Valuation Shifts from I-O Calculations

26. With the release of China's 1987 I-O (Input-Output) tables and related statistics it is possible to investigate how initial valuation adjustments have secondary impacts on valuations in virtually all other sectors. For example, adjustment in national housing valuation requires adjustment of all salary requirements, which in turn influences prices throughout the economy. The report will use summary input-output relations between basic sectors to estimate the scope of needed secondary adjustments.

Rule-of-Thumb Guidelines for Other Economies

27. The overall results of the study will allow comparisons between adjusted GNP and originally reported MPS output statistics, such as Net Material Product. Such sector-by-sector comparisons will form the basis of general conclusions about how much to adjust similar sectors in other economies which use the MPS framework to arrive at rough estimates of SNA national accounting figures. The Chinese statistical data and estimates in the 1987 I-O table allow more thorough preparation of such

guidelines because of the I-O system's sectoral detail and its expenditure-side estimates.

28. In general, the study would calculate ratios for sectoral output adjustment, based on alternative assumptions about the severity of a variety of biases. For example, based on the severity of under-valuation in housing services as shown by data on floor space, construction costs, and nominal rents, the study would suggest guidelines for correcting housing service output statistics in other economies where similar data are available, even if the scale and pace of housing service provision is different from China's.

Timing, Staffing and Cost

29. The study is to take 6 months and cost \$20,000. It will be conducted by consultants skilled in national accounting and familiar with China's national accounts. They will work closely with the Statistical Advisor in DEC, Mr. Ramesh Chander, who prepared the report on China's National Accounts and with Mr. Shahid Yusuf, Lead Economist of the China and Mongolia Department.

30. While the principal sponsor of the project is the China and Mongolia Department, AS2 has expressed interest in the project and Mr. Larry Summers, Vice President, DEC strongly