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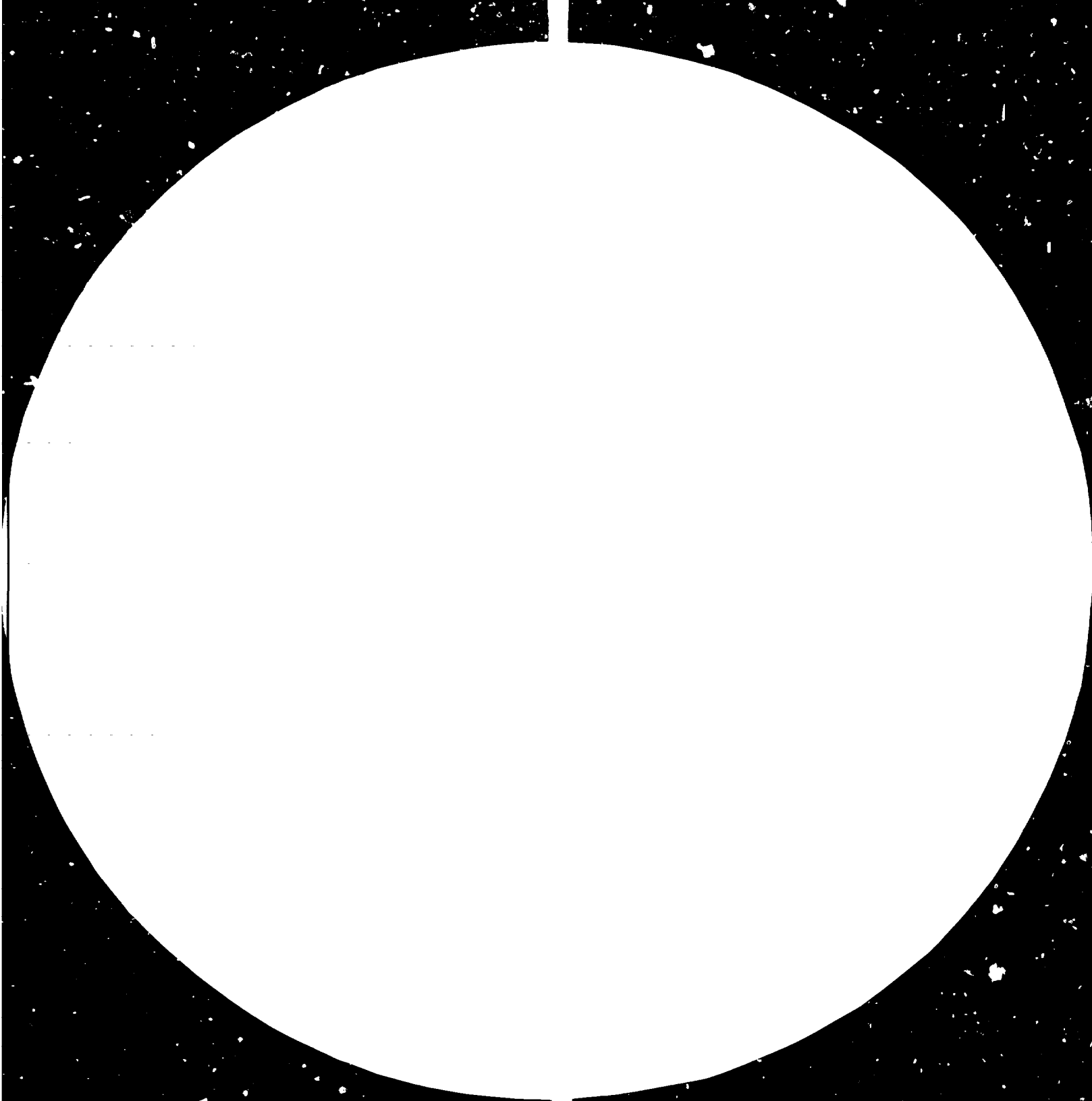

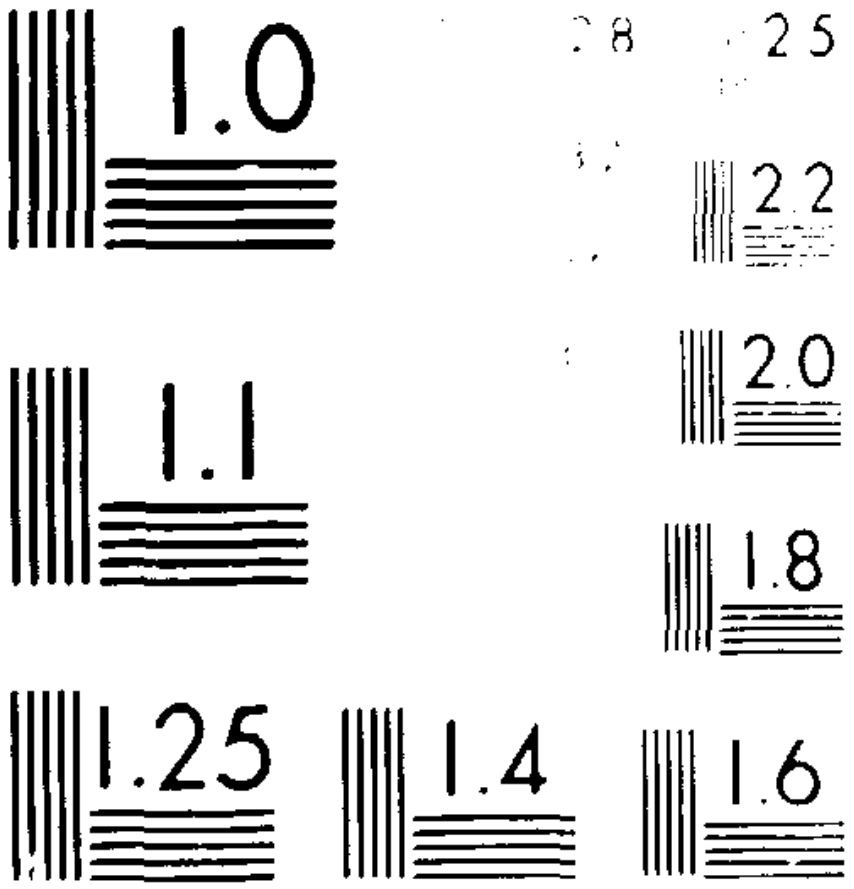
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USE OF INPUT-OUTPUT MODELS IN THE PREPARATION OF A PRICE REFORM IN CHINA*

Prepared by the
Global and Conceptual Studies Branch

World Modelling Working Paper

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Corrigendum

Page 2, footnote 4, line 7

For 117 read 1.7

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I. INTRODUCTION

This report was prepared by Dr. Jiri Skolka of the Wirschaftsforschungs Institut, Vienna, Austria, on the basis of a short individual visit to China. The opinions expressed here are not necessarily those of the Government of China or of UNIDO. Because it is felt to represent an interesting account of activity in economic modelling for planning purposes, the paper is being issued by UNIDO as a World Modelling Working Paper. The author would be grateful for comments and suggestions.

In the late seventies, after almost three decades of strict central planning and after the turbulent period of the Cultural Revolution, the Chinese leadership was faced with serious economic problems. The share of investment and of heavy industry in the domestic product was too high, consumer goods supply low, and there was a housing shortage and lack of modern technology. To overcome these difficulties, policies of "readjustment, restructuring, consolidation and improvement" were inaugurated in 1979. Their short-term effects are impressive: output of agriculture and the consumer goods industry was raised,[1/] equilibrium on the consumer goods market approached and imports and exports balanced. The unemployed in cities are being absorbed in a kind of informal sector of small private and co-operative enterprises. There are still difficulties in the co-ordination and rapid completion of very numerous investment projects, and severe bottlenecks exist in energy and transportation.

II. PLANNING IN CHINA

Most of the present economic difficulties of China are due to the existing economic system, which is not an original Chinese design. "China's present system of economic management is modelled after the Soviet one adopted during the Stalin era. It is characterized by overcentralization".[2/] In the coming years, this "highly centralized economic

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1/ The share of heavy industry in total industrial output declined from 56.9 per cent in 1979 to 48.6 per cent in 1981. (F. Levcik: "Die chinesische Wirtschaft nach der Kulturrevolution", Wirtschaft und Gesellschaft, No. 3, 1982, pp. 663-678.)

2/ Xue Muquiao: "China's Socialist Economy", Beijing, 1981, p. 204.

system should be changed into a relatively decentralized"[1] one, in which plan directives and market signals complement each other. The new system is at present only roughly designed. Discussion is still going on, and a full implementation of the reform of economic management is envisaged for the second half of the eighties. Important (and successful) decentralization measures were already adopted in agriculture. In industry rather modest decentralization experiments are carried out in a large number of enterprises.[2] One of the main obstacles to more profound changes are the existing prices, which reflect neither relative costs nor relative scarcities. Enterprise losses or profits say nothing about their efficiency, and relative prices cannot guide decisions on output volumes. Evaluation of investment projects is impossible.

Profound price distortions exist not only among individual products, but also at aggregate sectoral levels, i.e. between agriculture and industry, and, within industry between basic and final products. The terms of trade between agriculture and industry were much worse in 1950 than in the pre-war period. The position of agriculture improved to 1957, but became worse afterwards.[3] It improved again in recent years: prices of agricultural products increased by 4 per cent in 1978 and by 22 per cent in 1979.[4] This price shift, together with a simultaneous decentralization

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1/ Tian Jianghai, Li Guang'an: "How should an Overall Balance be Attained in Planning the National Economy?", Social Sciences in China, No. 3, 1981, p.13.

2/ The experimenting enterprises produce 60 per cent of the total output of the state-owned industry. (H.G.J. Kosta: "Die gegenwärtigen Reformdebatten chinesischer Oekonomen", Johann-Wolfgang-Goethe Universität, Frankfurt, June 1982.)

3/ Huang Da: "Some Problems concerning Pricing", Social Sciences in China, No. 1, 1981, pp.136-156.

4/ Products delivered over planned targets are paid an additional premium (grain 30 per cent, cotton 50 per cent). Consumer prices of the (mostly rationed) cereals remained stable, prices of some other food (for example meat, eggs, milk) were increased by 20 per cent. This increase in the costs of living was compensated by a salary supplement of 5 RMB Yuan per month. (The cost of living index increased according to official figures by 117 per cent in 1979 and by 5 per cent in 1980; it is, however, estimated that the increase in the urban areas was over 10 per cent.) See A. Chieng: "L'inflation en Chine: Un bien ou un mal", Chroniques d'actualité de la S.E.D.E.I.S., No. 10, 1981, pp.641-645.

of decision making in agriculture, had a very positive effect on the level of agricultural production, so that at present Chinese cities have a sufficient supply of food. Large differences between prices of basic and final industrial products are an old Chinese legency.[1/] They are caused mainly by profound differences in the profit (and also tax) rates. In the state owned industry profits and taxes amount, in average, to about two-thirds of value-added, wages to about one quarter. In 1979, the average rate of profit on capital in the state industry was 12.3 per cent, but deviations from this average were large. For example, the profit rate for watches was 61.1 per cent and for chemical fertilizers 1.4 per cent.[2/]

A few changes in this irrational price structure were already carried out, for example prices of coal and of steel were increased in 1979. But prices of industrial products are interdependent, and unco-ordinated price shifts may not always give the expected results and may even start an inflationary spiral. It was soon clear that a systematic price reform must be carried out. In the broad discussion[3/] of both theoretical and practical aspects of such large scale adjustment of prices two topics are of particular interest: shadow prices and input-output.

Decisions on investment cannot be postponed until the new price system is put into operation. In the meantime shadow prices (at least for key items like labour, building materials, energy, large machines, etc.) should be used in the evaluation of investment projects, but it is not clear how to determine them. Methods applied by international organizations in

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1/ Huang Da, op.cit.

2/ A few other examples: the profit rate was high also for industrial rubber (49.4 per cent), knit goods (41.1 per cent), bicycles (39.8 per cent), paints and dye stuffs (38.4 per cent), petroleum (37.7 per cent), crude oil (34.1 per cent), sewing machines and pharmaceuticals (33.1 per cent for both). On the other hand, the profit rate was low also for coal (2.1 per cent), shipping (2.8 per cent), cement (4.4 per cent), semi-mechanized agircultural tools (3.1 per cent), lumber (4.8 per cent) or farm machines (5.1 per cent). (He Jianzhang, Kuang Ri'an, Zhang Zhouyuan: "Reform of the Economic Structure Requires Industrial Pricing Based on Production Price", Social Sciences in China, No. 1, 1981, p.121.

3/ Wang Zhenzi, Wang Yongzhi, Jia Xiuyan: "A Summary of the Discussion on Price Theory During the Past Few Years", Social Sciences in China, No. 3, 1982, pp.16-34.

developing countries[1/] assume that the country is a market economy and that price distortions are due to government interventions in foreign trade relations. But this is not the case of China, where distortions are caused by the command economy system in fixing domestic prices. Another type of shadow prices could be provided by an economy-wide systemization model, but this cannot be constructed quickly for lack of both data and experience in this field. China could borrow prices from other countries and recalculate them by a (shadow) exchange rate into domestic prices. But price relations are different in different countries[2/] and it is not clear which foreign prices would best reflect the relative production costs and the relative scarcities in China.

The approach to price reform follows roughly the lines of similar actions carried in the past in some countries in central Europe, in particular in 1967 in Czechoslovakia and during the seventies in Hungary. Discussion concentrates now on the choice of theoretical "price formula", that is on the choice of a rational principle according to which value-added, or surplus value, or profits, should be distributed among industries. Attention is given in particular to the so-called "production price" (the terminology used is based on Marx' treatment of the transformation problem[3/]), i.e. to a price in which the rate of profit on capital is uniform in all industries[4/] (the production price is also an equilibrium price in a market economy in which all markets are cleared and capital is the only scarce factor). In order to see what would be the consequences of the introduction (implementation) of a price determined according to a certain theoretical principle, it was decided to estimate them quantitatively. Artificial input-output prices, used under similar

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1/ See, inter alia, L. Squire, H. van der Tak: "Economic Analysis of Projects", John Hopkins University Press, Baltimore and London, 1976; or W.W. Schohl: "Estimating Shadow Prices for Colombia in an Input-Output Framework", World Bank Staff Working Paper No. 357, IBRD' Washington, D.C. September 1979.

2/ See I.B. Kravis, A. Heston, R. Summers: "World Product and Income: International Comparisons of Real Gross Product", John Hopkins University Press, Baltimore-London, 1982.

3/ K. Marx: "Capital", New York, Random House 1906.

4/ He Jianzhang, Kuang Ri'an, Zhang Zhouyuan, op. cit.

circumstances in a few centrally planned economies, are well suited for this purpose. In order to understand the nature and the purpose of research which is now going on in China, the theory of artificial input-output prices will be briefly explained in the following paragraph.

III. ARTIFICIAL INPUT-OUTPUT PRICES

The input-output model has the following two basic forms:

a) A primal model for volumes:

$$(I-A)X = Y \qquad (1a)$$

or $$(I-A)^{-1}Y = X \qquad (1b)$$

b) A dual model for prices:

$$p'(I-A) = f'A_v \qquad (2a)$$

or $$f'A_v(I-A)^{-1} = p' \qquad (2b)$$

where:

X = a vector of gross output values

Y = a vector of final demand

p = a vector of product prices

f = a vector of prices of production factors

A = a matrix of input coefficients

A_v = a matrix of input coefficients for production factors

For the calculation of various types of artificial input-output prices, additional data is needed:

a) A matrix B of capital-output ratios which are defined as:

$$b_{ij} = \frac{B_{ij}}{X_j} \qquad (3)$$

where B_{ij} = capital goods produced in industry i and used in industry j.

b) A vector l of labour-input coefficients, which are defined as:

$$l_j = \frac{L_j}{X_j} \qquad (4)$$

where L_j = employment in industry j.

(c) A vector c of consumption per unit of labour, the elements of which are defined as:

$$c_i = \frac{\bar{C}_i}{L} \qquad (5)$$

where:

$\bar{C}_i$ = private consumption of the output of industry i

L = total employment

d) A matrix C combining the data on the pattern of private consumption and on labour inputs by industry, defined as follows:

$$C = c.l' \qquad (6)$$

e) A scalar ω, which is the wage rate, uniform in all industries.

These elements are sufficient for the calculations of most types of the artificial input-output prices, which will be demonstrated with some details on the example of the production price.[1/] The production price assumes a uniform rate of profit on capital in all industries. A few slightly different formulations (depending on the definition of capital, in particular of the circulating capital), are possible. One of them is as follows:

$$p' = p'A + \omega l + \gamma p'B \qquad (7)$$

1/ The presentation follows closely that used by G. Fink in "Preisverzerrungen und Unterschiede in der Produktionsstruktur zwischen Osterreich und Ungarn", Springer Verlag, Wien-New York, 1982.

the production price is thus composed of:

i) material costs $p'A$

ii) wage costs $\omega l'$

iii) profits, defined as the value of capital $p'B$ multiplied by the profit rate γ.

It is assumed that material inputs, consumer goods and capital are valued at the new artificial input-output prices p'.

There should be an equilibrium between employment, wages and total private consumption in the given commodity composition. This assumption means that:

$$\omega = p'c \tag{8}$$

This product is inserted into the formula (7), and one gets:

$$p' = p'A + p'C + \gamma p'B \tag{9a}$$

or

$$\gamma p'B = p' - p'A - p'C \tag{9b}$$

$$p' = \gamma p'B\,(I-A-C)^{-1} \tag{10}$$

One can then define:

$$\lambda = \frac{1}{\gamma} \tag{11}$$

so that:

$$\lambda p' = p'B\,(I-A-C)^{-1} \tag{12}$$

One has then to solve the following equation system:

$$I\lambda - B\,(I-A-C)^{-1} = 0$$

the solution for λ is the maximum left-hand characteristic root (eigenvalue) of the matrix $(I-A-C)^{-1}$. The related eigenvector is the vector p

of the price indices for repricing the original flow table into the artificial input-output production prices. If these price indices are used directly for such repricing, levels of various aggregate measures of economic activity are changed. The general price level can be then fixed by an additional exogenous rule. One can, inter alia, require that:

i) total gross output; or

ii) total value added (GDP); or

iii) total private consumption;

have after repricing with the artificial input-output prices the same level as in the input-output table before repricing.

Several different types of artificial input-output prices can be derived by this procedure. Since material, labour and capital are the basic inputs into the production, the following three types of artificial input-output prices are building elements, from which various solutions can be:

a) Material value price: in this type of price, the profit rate is distributed among industries according to the material inputs. (One could imagine such pricing in a small family enterprise, where profit is surcharged on material costs and includes also the income of the self-employed and return on capital). The formula of the material value price is as follows:

$$p'_1 = (1 + \alpha) p'_1 A \qquad (14)$$

the equation is solved for λ_1, which is the maximum eigenvalue of the matrix A, and the profit rate is given by:

$$\alpha = \frac{1}{\lambda_1} - 1 \qquad (15)$$

b) Labour value price: the profit rate is distributed among industries according to the wage costs. The formula of the value price is as follows:

$$p'_2 = p'_2 C(I-A)^{-1} \qquad (16a)$$

or if:

$$\omega = p'_2 \cdot c \qquad (16b)$$
$$p'_2 = p'_2 A + \beta\omega l'$$

The equation is solved for λ_2 which is the maximum eigenvalue of the matrix $C(I-A)^{-1}$. The profit rate is then given by:

$$\beta = \frac{1}{\lambda_2} \qquad (17)$$

c) Capital value price: the profit rate γ is distributed according to the capital used by industries, it includes also wages. The formula of the capital value price is as follows:

$$p'_3 = p'_3 A + \gamma p'_3 B \qquad (18a)$$

or

$$p'_3 = \gamma p'_3 B (I-A)^{-1} \qquad (18b)$$

The equation is solved for λ_3, which is the maximum eigenvalue of the matrix $B(I-A)^{-1}$. The profit rate is given by:

$$\gamma = \frac{1}{\lambda_3} \qquad (19)$$

The general form of the artificial input-output price considers the three alternative bases for the distribution of profits simultaneously: a part of the profits is proportional to the material costs, a part to the wage costs and a part to the capital value. This artificial input-output price is also called the "three-channel price"[1/] and is defined by the following equation:

$$p'_0 = \alpha p'_0 A + \beta p'_0 C + \gamma p'_0 B \qquad (20)$$

1/ See e.g., B. Sekerka, O. Kyn, L. Hejl: "Price Systems Computable from Input-Output Coefficients", in A.P. Carter, A. Bródy (eds.): "Contributions to Input-Output Analysis", North Holland Publishing Company, Amsterdam-London, 1970, pp.183-203.

The values of the parameters α, β, and γ must be in the intervals between zero (or one, respectively) and their maximum values, which are given by the formulae (15), (17) and (19) above. If one of the three parameters has its maximum value, the other two parameters must be equal to zero. Two values of the parameters can be fixed exogenously within the given intervals, and the third one calculated (but not all combinations of the two exogenous parameters allow for a positive value of the third one).

A variant of the three channel prices, which can be frequently found in the literature of several centrally planned economics, is the two-channel price. One of the three parameters is exogenously fixed at its minimum level (zero or one), one is exogneously choosen and the third one calculated. Among the six possible combinations for the three paramenters, the following one, in which profits are distributed partly in a uniform relation to the value of wages and partly in a uniform relation to capital, is the most interesting one:

$$p'_{23} = p'_{23} A + \beta p'_{23} C + \gamma p'_{23} B \qquad (21)$$

If the value of β is fixed exogenously, the equation can be then solved for its given value:

$$p'_{23} = \gamma p'_{23} B (I-A-\beta C)^{-1} \qquad (22)$$

the solution for λ_{23} is the maximum eigenvalue of the matrix $B(I-A-\beta C)^{-1}$ and

$$\gamma = \frac{1}{\lambda_{23}}$$

If β is fixed equal to 1.00, γ reaches its maximum value given by (19), so that the two channel price is a pure capital value price as defined by (18). If a profit rate on wages, however small, is introduced, the value of γ declines sharply. Wages, not considered in the capital value price, enter into the production costs. As β increases, γ declines. When β reaches its maximum value as given by (17), γ is equal to zero and the two channel price degenerates into pure labour value price. The general formula of the three-channel price thus opens a wide space for simulations or various artificial input-output prices. In such calculations, the assumptions about the parameters α, β, and γ can be related to tools of economic management reflected in various profit or tax rates.

IV. PREPARATIONS FOR CALCULATION OF ARTIFICIAL INPUT-OUTPUT PRICES IN CHINA

The theory of artificial input-output prices, as outlined in the preceding paragraph, is the basis for the empirical work which is now going on in China. Its centre is a team of around 40 economists at the Price Research Institute of the State Council,[1/] which was established in mid 1981. The ultimate goal is to prepare an economy-wide price reform (which, as seems at the moment, will be probably implemented by successive steps and not as an instantaneous reconstruction of the whole price system). The immediate goal of the work which is now under way is to analyse empirically the likely consequences of the choice of a certain type of price.

The work is severely restricted by data availability, China does not have an input-output table suitable for the construction of theoretical price models. The relatively outdated input-output table for 1971 is in physical terms and is broken down by 61 product groups,[1/] a more recent input-output table in value terms is too small for such a purpose.[2/] A special compilation of data needed for the price calculations was therefore organized. Information was obtained on special questionnaires from accounting files of about 10,000 enterprises (a sample from about 350,000 medium-size and large enterprises, i.e., independent accounting units, in China). A detailed breakdown of costs was requested , in particular of material costs, for 1000 products or product groups. Financial reports of the enterprises provided data on the gross and net value of fixed capital and on the circulating capital. (Fixed capital was allocated to particular products according to the depreciation allowances, and circulating capital according to the breakdown of stocks of unfinished products.) The data were collected in the autumn of 1982 by the Price Research Institute and

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1/ See Chen Xikang, Sun Shizeng: "A Non-Linear Input-Output Model in Physical Units and its Application in China", Proceedings of the Seventh International Input-Output Conference on Input-Output Techniques, United Nations (in print).

2/ A small version of this table, classified by the 8 sectors of the UNITAD World Model, adjusted to the output levels of 1975 and valued at US dollars, was prepared for UNIDO at the end of 1981 by a team of Chinese economists.

checked. Some minor methodological problems still remain open. It is not yet decided whether items such as interest on bank loans, bonuses of workers and staff, welfare fund contributions or insurance premiums should be included into production costs or into profits, or if the artificial input-output prices should include taxes or not.

Once the data are checked, a matrix of input coefficients A, a matrix of capital-output ratios B and a vector of labur input coefficients l, reflecting a recent (more or less 1981) production technology, broken down by 1000 product groups, will be constructed. The products covered by the matrix represent a substantial part of the output of the Chinese economy (goods for own consumption were, however, systematically excluded). This data will then allow calculation of alternative artificial inputoutput prices. One focus will be on the production price, and others on variants of the two channel price and the consequences of alternative profit and tax rates related to capital and also to labour inputs (for example, a two-channel wage capital price will be tested under the constraint that 30 per cent of total profits is related to wages and 70 per cent to capital). The labour value price will be investigated for agriculture, which is labour intensive and uses little capital. Little attention will be given to the material value price. The calculations are planned for the first half of 1983.

V. FUTURE PROBLEMS IN THE PREPARATION OF THE PRICE REFORM

Calculations of several types of artificial input-output prices will be an important phase in the preparation of the general price reform in China. The use of models and computers will make the discussion abut prices more realistic and future decisions on changes of prices better founded. But artificial input-output prices cannot solve all problems of price formation.

In China, the revision of the whole price system will be an important element of the general reform of the system of economic management. Parameters used in calculations of artificial prices must be consistent with economic policy tools like tax or profit rates, which the reform of the management system intends to introduce. But economic reform is now under discussion and its final shape is not yet fixed. The work on price and

management reform should therefore be co-ordinated: calculation of artificial input-output prices may help for example to select some tools of economic policy.

The validity of data used in the calculations can be limited. Even if data submitted in 1982 by enterprises are accurate, they still may not at all reflect those production costs which in the marxist literature are called socially "determined" (or "socially appropriate") costs. If incentives are changed by economic reform, then enterprises could put much more effort into the reduction of material inputs, raise the productivity of labour or improve capacity utilization. Reductions of various inputs per unit of output will probably be different in various industries and could be increased by shifts in relative prices caused by the price reform (for example energy savings may be stimulated by higher energy prices at one hand and wage bonuses related to cost reductions on the other). Most of such effects would no doubt be beneficial for the economic development of China, but would quickly outdate the coefficients used in price calculations and thus create conditions for relative prices different from those originally calculated.

Two other open questions are also related to the concept of socially determined costs. One is the choice between marginal and average costs (the input-output price model considers average costs only), and consequently price differentiation among enterprises (e.g. between small, middle and large ones) and, what is very important in a country of the size of China, by regions. Another problem is the relation between domestic prices and prices earned for Chinese exports or paid for Chinese imports. Although the volume of Chinese foreign trade is small in relation to the total output, China may soon increase its involvement in joint ventures with foreign firms or participation in certain stages of processing of manufactured products.[1/] It would be therefore useful to fix a uniform realistic exchange rate for the Chinese currency and to apply it generally in the pricing of traded goods. However, the foreign trade prices may

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1/ Such experiments are carried out in four "special" zones. Three of them are close to Hongkong (the largest one is the Shenzen zone, the other two are the Zhouhai and Shanton zones). The fourth zone is Xamen in Fujian province. (See also H.G.J. Kosta, op.cit.)

differ strongly from the domestic prices (this is at least the present situation and it is not clear how far the future price reform will reduce discrepancies between domestic and world market prices).

The input-output price model does not properly consider equilibrium between supply and demand. It assumes that it exists and that new prices would not change the structure of demand, both final and intermediate. In the substantial price reform, short term market disequilibria will not, of course, be taken into account: they will probably be left to the market to be removed. But certain bottlenecks are real obstacles to futher economic growth (e.g. in energy and transportation) and will need more time to be overcome. Some permanent disequilibria on the consumer goods market could be solved by differentiation of the tax rates. The Chinese tax system has all important elements used in other countries. An indirect turnover tax is paid by enterprises. Its rates differ, they are low (around 5 per cent) for raw material and energy, and high (between 10 and 20 per cent) for manufactured products. Because the burden of the turnover tax accumulates over stages of manufacturing, as semi-finished products pass from one enterprise to another, the advantages of the value-added tax are being studied. Cigarettes are taxed by 40 per cent and alcohol by 50 per cent. Progressive income tax is levied on the net income of small private and co-operative shops.

Taxes, however, cannot alone secure long-term equilibrium between supply and demand for exhaustible energy or raw materials. Prices of products should take into account not only the existing situation, b future markets, future technology and future substitution possibilities. Determination of prices of exhaustible resources is a typical problem for long-term planning, which can be based on solid theoretical foundations.[1/] Scarcity may also be considered in the formation of prices of agricultural products: land in China is in short supply (0.09 hectares per capita).[2/]

1/ See, inter alia, H. Hotelling: "The Economics of Exhaustible Resources", Journal of Political Economy, April 1931,; or R.M. Solow: "The Economics of Resources or the Resources of Economics", The American Economic Review, May 1974.

2/ It should also be mentioned that at present prices of raw materials do not cover the prospecting costs and that no rent is charged for the use of land in urban areas.

Again, the input-output model cannot help in understanding price dynamics. Like other countries, China would like to have stable prices, but some Chinese economists, who are aware of the price effects of differential productivity growth rates, of the dangers of structural disequilibria (in particular in the readjustment period), of the consequences of deficits of state budgets and of excessive money creation, admit that a slow increase in the overall price level cannot be avoided. Price stability will also depend on the mix of various levels of freedom in the price formation. Most prices are now fixed by administrative decisions, which may also define intervals in which prices of some products may fluctuate (floating prices). Some prices are agreed upon in consultations among enterprises, some are negotiated between the seller and the buyer. Prices on local markets (rural fair prices) are free.

Overall price reform in China will be most probably implemented in several steps. At any rate it will be an integral part of the profound reform of the system of economic management which should be finalized in the second half of the eighties. Only after a few years of working of the new system will it be possible to judge if China has succeeded in solving the contradiction between central administration of prices, on one hand, and a flexible and rational price development on the other. Until now no centrally planned economy has been able to create a system of economic management which would endogenously create prices which could serve as a reliable basis for economic decisions.[1/] In trade among the centrally planned economies the reference price bases are not their internal prices, but five-year moving averages of the world market, i.e., capitalist prices. Hungary, which has been rather successful in improving its system of economic management by a skillfull combination of planning and market, at first relied on input-output calculations in shaping its prices. But they are now becoming more and more dependent on foreign trade prices and less on internal factors. (In 1980 Hungary introduced a uniform and realistic

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1/ The Soviet economist Belkin has applied the input-output price model to the 1966 Soviet and to the 1947 and 1958 U.S. input-output data. The U.S. prices, which are of course not shpaed according to any theoretical price formula or based on input-output calculations, have proved to be much closer to the relations of the artificial input-output producer price than the Soviet prices, which are centrally administered.

exchange rate for its currency and is using it consequently in recalculations between domestic and foreign prices). Any small country depended on foreign trade must adjust its prices to developments on the world market. But such a wide import of prices as that practiced by Hungary is hardly possible for a country of the size of China. China faces the problem, unresolved until now, of how to design a system of economic management which would combine planning and market and would also produce endogenously, in daily economic life, prices which would meet both the requirements of economic theory and the practical needs of economic policy making.