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かし実体をもたない，この実体をもたないものが擬制資本となるのは，機能資本家の手にある財のみが資本となりうるように，資本として貨幣が何らかの信用形態を通じて，機能資本家に手渡されたときに，真の資本の対応物として擬制資本となる。それが利子生み資本となるのは，金融市場の市場機構を通じてである。

このように考えるとすれば，何らかの信用形態を通じて，資本として機能資本家に手渡された未決済の過去の貨幣は，すべて擬制資本の筈である。すると，商業信用・銀行信用であろうと，銀行信用と無縁な証券信用であろうと，同じく擬制資本の筈である。その違いは，擬制資本内部での相違を示す信用形態でしかない。

株式は保有者による機能資本家への償還請求ができない。この点が返還期日をもつ普通の借入れと異なる。この点をもって，株式と，社債を含む証券信用とを区別するとするならば，それは利子生み資本の概念と抵触することになるであろう。

擬制資本と擬制的資本との区別を資本還元価格をもつか否かにおくとするならば，それは数学における無限等比級数と有限等比級数の差に根拠をおくのみである。株式資本還元価格を P_S，社債の市場価格を P_B，手形の割引価格を P_n とすれば，次の関係式で表わされる。

$$P_S=\frac{D}{1+r}+\frac{D}{(1+r)^2}+\cdots\cdots+\frac{D}{(1+r)^t}+\cdots\cdots=\frac{D}{r}$$

Dは配当金，r は平均利子率

$$P_B=\frac{R}{1+r}+\frac{R}{(1+r)^2}+\cdots\cdots+\frac{R+F}{(1+r)^T}$$

Rは確定支払利息，r は平均利子率，Fは額面

$$P_n=\frac{1}{(1+r)}\times\frac{x}{12}F$$

r は平均利子率（割引率），x は手形の満期月数，Fは手形の額面

これらの式は，P_S が無限級数であること以外には式として全く質の相違はなく，無限等比級数も，それが収束して和をもつ限り，有限の級数と全く差がないことは，数学的に明らかである。われわれに問題なのは，確定した現在時点の有価証券（手形を含む）の価格を知ることである。その額が機能資本家に，資本として売られる貨幣額だからである。級数の和がそれである。そしてこれらの間に，経済学的な意味をもつ，擬制的資本と擬制資本とを区別する根拠はどこにも見出しえない。

しかしながら，株式会社を信用制度のなかで位置づけた点，信用制度を再生産過程との関連で，言いかえれば貸借対照表の資産の展開と貸方の擬制資本とを関連して，理解すべきことを主張している点，また貸借対照表の貸方側にのみ着目した流通市場偏重の考え方に対して，「所有」の意味を強調している点等，「近代経済学」の立場からしても，貨幣の把握の仕方について多くの示唆をあたえるものであることを否定しえない。

以上の批判は，いずれも本論文の基本的な方向に対するものではなく，さらに展開さるべき論点に関してなされているのである。本論文が，従来の研究史を充分に踏まえて，擬制資本信用形態なる独自の信用形態を措定して，信用論研究を大きく前進せしめた点は，信用論体系構築に理論的基礎をあたえるものとして，高く評価さるべきものと信ずる。経済学博士の学位に充分値するものと判断する。

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A Study on Theory of Social Policy

by Ryuji Komatsu

In recent years, both Social Policy and problems concerning Social Policy have been gathering more and more interest. This tendency is likely to be influenced by the present situation where problems of pollution, social welfare, regaining true humanity and so on have come distinctively to be realized almost in contrast with the former policy of economic growth.

A theoretical study of Social Policy, however, has not only been so actively promoted but is almost in its pause, so to say. Seeing just after the World War II alone despite much argument repeatedly tried against Theory of Social Policy, it only ended in one-way argument without dialogue nor communication, the result of which has thrown influence on the present situation.

A Study on labor problems was in our country developed mainly as Theory of Social Policy. But after 1930's world-widely and after the World War II in Japan, together with Theory of Labor Economics and of Labor Market, there came to be seen an argument almost denying the role of Theory of Social Policy concerning a study of labor problems.

The writer, however, thinks that the role of a study of labor problems from the point of view of Theory of Social Policy is still meaningful, and that, judging from the stand-point of regaining true humanity, the methodological significance is even increasing. Here, I have decided to look back and make a further study on the way Theory of Social Policy should be at present, together with its significance. And one step is this thesis.

A General Equilibrium Model of the Labour Market

——Wages and Employment among Industries and Occupations——

by Yasuhiko Torii

1. The present paper is studying a general equilibrium model of labour market with purely neoclassical assumption. The labour market, especially in the developed countries, tends to be regarded as the social and institutional system on which the neoclassical approach can hardly be

applied.

For example, the differentiation of wages among industries and/or occupations have traditionally been explained by the institutional assumptions such as the incompetitive labour market theory. The present study is challenging the problem of wage differentials with purely neoclassical scheme, and has succeeded in describing them with detailed classification of industries and occupations.

2. The model includes the labour demand scheme of seven industries; (1) agriculture and forestry, (2) mining, (3) construction, (4) manufacturing, (5) wholesale and retail, (6) finance, insurance and real estate, (7) communication, transportation, electricity, gas and water supply. (Service industry and government sector have been tentatively ommitted because of the poor availability of data.) Each industry is assumed to have a specific production function and to minimize the cost equation under the restraint of the production function. Each production function carries different types of labour inputs classified by crafts; such as (1) professional and clerical workers, (2) sales and service workers, (3) agricultural and forestry workers, (4) miners and related workers, (5) transportation and communication workers, (6) skilled, semi-skilled and ordinary workers, so that, the cost minimizing process of each industry gives the labour demand function for each type of occupations and crafts, for each industry.

3. Each production function is specified by Cobb-Douglas type, so that it gives the complicated non-linear form of labour demand functions. This raises the estimation problems of non-linear models. We have got the breakthrough not by degenerating the model to a simplified linear form, but by estimating the original non-linear form with computer techniques of a kind of pattern search method.

4. The model includes two groups of labour force who supplies labour to the six different types of occupations listed above. Each group is assumed to maximize the utility function under the budget constraint to allocate the total hours among leisure and working hours in each occupation. The utility maximizing process gives six different labour supply functions. In order to characterize the labour supply curve with more precise and autonomous parameters, we have introduced the term of maximum labour supply hours.

5. Labour supply functions are of more complicated non-linear form because the utility functions are of non-linear form of the Stone type. Thus, our labour market model is composed of the six simultaneous non-linear equations, each of which is equating the labour demand function and the labour supply function for the respective type of occupation. As has been stated above, the simultaneous equations are of very complicated non-linear form. To solve them and to get equilibrium wage rates for six occupations are far from possible solution if we try with ordinary way of calculus. We have introduced a specific computer techniques to solve them. The techniques is a sort of steepest ascent method, namely, KEO Pattern Search Method.

6. The estimated labour market models are shown below.

(1) Estimated labour demand functions.

A agriculture and forestry

$$L_{A_3} = 49053.508\ Y_A^{0.808}\ w_3^{-0.557}\ rp^{-0.106}$$
(1.67) (0.80) (3.05) (0.34)

$\bar{R}^2 = 0.9764$ D. W. = 2.7629

B mining

1. (professional and clerical workers)

$$L_{B_1} = 5626169700000\ Y_B^{-2.243}\ w_1^{-1.283}\ w_4^{2.546}\ w_6^{7.167}\ rp^{-13.454}\ \mathrm{EXP}^{(-0.562t)}$$
(6.78) (4.81) (0.85) (1.83) (4.74) (3.45) (2.11)

$\bar{R}^2 = 0.9711$ D. W. = 3.2804

4. (miners and related workers)

$$L_{B_4} = 103300280000\ Y_B^{-1.190}\ w_1^{2.230}\ w_4^{-0.433}\ w_6^{4.082}\ rp^{-6.458}\ \mathrm{EXP}^{(-0.601t)}$$
(3.36) (1.53) (0.32) (2.79) (1.72) (2.34)

$\bar{R}^2 = 0.979595$ D. W. = 3.2786

4. (miners and related workers)

$$L_{B_5} = 15143890000\ Y_B^{-1.462}\ w_1^{1.777}\ w_4^{-3.17}\ w_6^{2.710}\ rp^{-2.502}\ \mathrm{EXP}^{(-0.156t)}$$
(0.98) (0.66) (0.21) (0.41) (0.33) (0.12) (0.11)

$\bar{R}^2 = 0.4167$ D. W. = 3.2747

C construction

1. (professional and clerical workers)

$$L_{C_1} = 4510.9362\ Y_C^{-0.335}\ w_1^{-0.810}\ w_6^{-1.000}\ rp^{1.573}\ \mathrm{EXP}^{(0.281t)}$$
(2.06) (1.70) (0.44) (0.63) (0.45) (1.06)

$\bar{R}^2 = 0.8254$ D. W. = 2.6342

6. (skilled, semi-skilled and ardinary workers)

$$L_{C_6} = 58825.928\ Y_C^{0.007}\ w_1^{0.672}\ w_6^{-0.539}\ rp^{0.643}\ \mathrm{EXP}^{(0.176t)}$$
(5.72) (2.68) (0.78) (0.72) (0.39) (1.41)

$\bar{R}^2 = 0.9775$ D. W. = 2.4906

D manufacturing

1. (professional and clerical workers)

$$L_{D_1} = 222693.79\ Y_D^{-0.036}\ w_1^{-0.382}\ w_2^{-0.559}\ rp^{0.777}\ \mathrm{EXP}^{(0.100t)}$$
(8.72) (5.83) (0.55) (0.86) (0.58) (0.91)

$\bar{R}^2 = 0.9912$ D. W. = 2.8727

2. (sales and service workers)

$$L_{D_2} = 108196.179\ Y_D^{0.316}\ w_1^{-0.460}\ w_6^{-0.416}\ rp^{0.335}\ \mathrm{EXP}^{(0.093t)}$$
(9.45) (4.44) (0.76) (0.73) (0.29) (0.97)

$\bar{R}^2 = 0.9894$ D. W. = 2.6173

E wholesale and retail

1. (professional and clerical workers)

$$L_{E_1} = 1018.0008\ Y_E^{0.669}\ w_1^{0.329}\ w_2^{-1.206}\ rp^{1.754}$$
(4.79) (1.36) (0.83) (2.33) (2.07)

$\bar{R}^2 = 0.9930$ D. W. = 2.1931

2. (sales and service workers)

$$L_{E_2} = 403615.10\ Y_E^{0.287}\ w_1^{0.243}\ w_2^{0.213}\ rp^{-1.697}$$
(6.33) (2.27) (0.43) (0.29) (1.41)

$\bar{R}^2 = 0.9879$ D. W. = 2.6889

F finance, insurance and real estate

1. (professional and clerical workers)

$$L_{F_1} = 40972.647\ Y_F^{-0.021}\ w_1^{0.692}\ w_2^{-0.366}\ rp^{-0.186}$$
(8.02) (0.08) (1.05) (0.62) (0.26)

$\bar{R}^2 = 0.9442$ D. W. = 2.5246

2. (sales and service workers)

$$L_{F_2}=930087.54\,Y_F^{-0.586}\,w_1^{-1.506}\,w_2^{-0.116}\,rp^{-2.380}$$
(12.72) (2.55) (2.81) (0.24) (4.07)

$\bar{R}^2=0.9542$ D. W.=2.6379

G communication, transportation electricity, gas and water supply

1. (professional and clerical workers)

$$L_{G_1}=24735.803\,Y_G^{0.166}\,w_1^{-0.259}\,w_5^{-0.323}\,w_6^{0.280}\,rp^{1.129}$$
(5.18) (2.35) (0.63) (0.91) (1.21) (2.00)

$\bar{R}^2=0.9798$ D. W.=3.4513

5. (transportation and communication workers)

$$L_{G_5}=19995.389\,Y_G^{0.305}\,w_1^{0.026}\,w_5^{-0.629}\,w_6^{0.762}\,rp^{-0.241}$$
(1.16) (4.48) (0.14) (4.03) (7.00) (0.98)

$\bar{R}^2=0.9919$ D. W.=3.6603

6. (skilled, semi-skilled and ardinary workers)

$$L_{G_6}=21585.692\,Y_G^{0.145}\,w_1^{-0.815}\,w_5^{0.088}\,w^{60.595}\,rp^{0.668}$$
(2.73) (2.74) (2.25) (0.28) (2.72) (1.35)

$\bar{R}^2=0.9864$ D. W.=3.3117

(2) Estimated labour supply functions

1. (professional and clerical workers)

$$(1310-L_1)=1588.4164-0.4276\,(V_I+1310w_1+1810w_2)/w_1$$
(4.20) (3.22)

$\bar{R}^2=0.572$ D. W.=1.417

2. (sales and service workers)

$$(1810-L_2)=-359.285+0.223\,(V_I+1310w_1+1810w_2)/w_2$$
(0.62) (1.45)

$$+75.434\,\mathrm{DUM1}$$
(3.02)

$\bar{R}^2=0.64$ D. W.=1.859

3. (agricultural and forestry workers)

$$(985-L_3)=0.08239\,(V_{II}+985w_3+25w_4+202w_5+1908w_6)/w_3+\mathrm{COR.\ COEF.}=0.797$$ D. W.=1.306

4. (miners and related workers)

$$(25-L_4)=-49.5720+0.01960\,(V_{II}+985w_3+25w_4+202w_5+1908w_6)/w_4+6.264\,\mathrm{DUM2}+12.578\,\mathrm{DUM3}$$
(2.41) (2.89) (3.03) (4.73)

$\bar{R}^2=0.777$ D. W.=2.592

5. (transportation and communication workers)

$$(202-L_5)=-119.9965+0.08424\,(V_{II}+985w_3+25w_4+202w_5+1908w_6)w_5+43.1862\,\mathrm{DUM4}$$
(1.94) (3.15) (4.77)

$\bar{R}^2=0.748$ D. W.=1.615

6. (skilled, semi-skilled and ordinary workers)

$$(1908-L_6)=-61.2886+0.2206\,(V_{II}+985w_3+25w_4+202w_5+1908w_6)/w_6+167.1229\,\mathrm{DUM5}$$
(0.26) (2.81) (9.63)

$\bar{R}^2=0.956$ D. W.=1.735

(3) Estimated Labor market equilibrium model

1. $$5626169700000Q_B^{-2.2243}\,w_1^{-1.283}\,w_4^{2.546}\,w_6^{7.167-1}\,rp^{3.454}\,e^{-0.562t}$$
$$+4510.9362Q_C^{-0.335}\,w_1^{-0.810}\,w_6^{-1}\,rp^{0.643}\,e^{0.176t}$$
$$+222993.79Q_D^{-0.036}\,w_1^{-0.382}\,w_6^{-0.557}\,rp^{0.777}\,e^{-0.011t}$$

$$+1018.0008Q_E^{0.699}\,w_1^{0.329}\,w_2^{-1.206}\,rp^{1.754}$$
$$+40972.647Q_F^{-0.0217}\,w_1^{0.692}\,w_2^{-0.367}\,rp^{-0.186}$$
$$=0.42764717\,(V_I+1310w_1+1810w_2)/w_1-278.4164$$

2. $$403615.1Q_E^{0.287}\,w_1^{0.243}\,w_2^{0.213}\,rp^{-1.697}$$
$$+930087.54Q_F^{-0.586}\,w_1^{1.506}\,w_2^{-0.116}\,rp^{-2.380}$$
$$=-0.223\,(V_I+1310w_1+1810w_2)/w_2+2169.285-75.434\,\mathrm{DUM1}$$

3. $$49053.508Q_A^{0.808}\,w_3^{-0.557}\,rp^{-0.106}$$
$$=-0.082393192\,(V_{II}+985w_3+25w_4+202w_5+1908w_6)/w_3+985$$

4. $$103300280000Q_B^{-1.19}\,w_1^{2.23}\,w_4^{-0.433}\,w_6^{4.082}\,rp^{-6.468}\,e^{-0.601t}$$
$$=-0.01960137\,(V_{II}+985w_3+25w_4+202w_5+1908w_6)/w_4$$
$$-6.264\,\mathrm{DUM2}-12.578\,\mathrm{DUM3}+25.572079$$

5. $$19995.389Q_G^{0.305}\,w_1^{0.026}\,w_5^{-0.629}\,w_6^{0.762}\,rp^{-0.241}$$
$$=-0.084243902\,(V_{II}+985w_3+25w_4+202w_5+1908w_6)/w_5$$
$$-43.186222\,\mathrm{DUM4}-82.00342$$

6. $$15143870000Q_B^{-1.462}\,w_1^{1.777}\,w_4^{-3.171}\,w_6^{2.710}\,rp^{-2.502}\,e^{-0.156t}$$
$$+58825.928Q_C^{0.007}\,w_1^{-0.672}\,w_5^{-0.539}\,rp^{0.643}\,e^{0.176t}$$
$$+108196179Q_D^{0.316}\,w_1^{-0.45}\,w_5^{-0.416}\,rp^{0.335}\,e^{0.093t}$$
$$+21585.692Q_G^{0.145}\,w_1^{-0.815}\,w_5^{0.088}\,w_6^{0.595}\,rp^{0.668}$$
$$=-0.22068033\,(V_{II}+985w_3+25w_4+202w_5+1908w_6)/w_6$$
$$-167.12298\,\mathrm{DUM5}+1969.288687$$

7. Another effort has been made in the present study. The data, in the suitable form for our model, are not available. Almost part of our data base was to be interpolated and estimated by ourselves. The detailed procedures are ommitted in this resume.

8. Finally we have the total operation of our model. The result of the test is shown below as Table-1. The estimated wage rates may be said to be of high precision, compared with the observed ones.

Table 1 Estimated Wage Rates

(yen/hour)

年	Professional and classical workers		Sales and service workers		Agricultural and forestry workers		Miners and related workers		Transportation and communication workers		Skilled, semi-skilled and ordinary workers	
	observed	estimated	observed	estimated	observed	estimated	observed	estimated	observed	estimated	observed	estimated
1964	133	134	103	103	102	114	149	151	200	202	135	136
1965	146	154	110	121	122	123	171	152	209	187	162	150
1966	159	157	117	120	141	143	181	217	231	248	179	197
1967	178	180	129	132	173	164	181	188	254	255	195	191
1968	211	214	161	161	172	173	228	206	300	288	235	220
1969	241	234	178	176	185	186	276	281	347	363	263	276
1970	291	291	228	228	191	183	332	324	411	404	312	310
1971	345	347	266	266	191	181	374	355	449	454	352	347