THE PATTERN OF DEVELOPMENT OF PRODUCTION-MEANS PRODUCING DEPARTMENT AND CONSUMPTION-MEANS PRODUCING DEPARTMENT IN THE UPWARD PROCESS OF THE BUSINESS CYCLE

By KATSUHIKO MATSUISHI*

Introduction

The theory of economic crises should be constructed at a higher, more concrete level than that of Karl Marx's *Capital*. *Capital* has the ultimate task of making clear 'the law of economic movement of modern society'[1] within the theoretical level of 'ideal average'[2]. Yet real crisis is a problem beyond it and calls for a higher, more concrete level of treatment, namely 'Competition of capitals'. Marx himself says:

> "We do not observe the case when it is imposible to sell the volume of produced commodities, crises etc. This belongs to the section of competition."
> "The real crisis can be described only from the real movement of capitalist production, competition and credit."[3]

Here it is clear that the laws and categories obtained in *Capital* on 'ideal average' should be once more put into the real process of 'competition of capitals' and get transformed into more concrete ones. The analysis of the famouse reproduction sheme is not exceptional.

Individual capitals compete with each other very hard in search of higher profits. This cut-throat competition is a determinant motive to lift the business to prosperity and next movement to put it down into a crisis. In the real process upward to boom driven by competition, what would be like the relation between two major departments of production of society, namely the department producing the means of production and the department producing the means of consumption? (We call hereafter the former Department I and the latter Department II only for the sake of simplicity.) Department I produces goods which enter reproduction processes in the form of factories, plants, equipments, machinery and materials. In the modern terminology, Department I consists of capital goods and producers' goods. Here it should be noted that producers' goods (materials, semifabricated goods, semifinished goods) are included only in Department I. Department II produces goods which

---

* Lecturer (*Kōshi*) of Economics, Hitotsubashi University.
[1] K. Marx, *Das Kapital*, Erster Band, Marx-Engels Werke, Bd. 23, Dietz Verlag, Berlin, 1962, S. 16. Preface to the first edition.
[2] K. Marx, *Das Kapital*, Dritter Band, Werke 25, S. 839.
[3] K. Marx, *Theorien über den Mehwert*, Teil 2, Dietz Verlag, 1959, S. 481 und 509.

directly enter final consumption of people.)

Department I would develop alone at a high speed independently of Department II and the latter would stagnate or shrink independently of fast developping Department I? Or, the two would develop just in pararel, in the closest relation, depending upon each other directly? Or, Department I would proceed only at a somewhat higher tempo than Department II, though the both two develop in the same direction and comparatively in closer relation? What would be the real upward process like? What kind of a pattern would the two departments draw during the upward swinging phase of business? The main task of my present paper is to clarify this point.

CHART 1   THE POSSIBLE RELATIONSHIP BETWEEN DEPARTMENT I AND II

Case 1   Case 2   Case 3
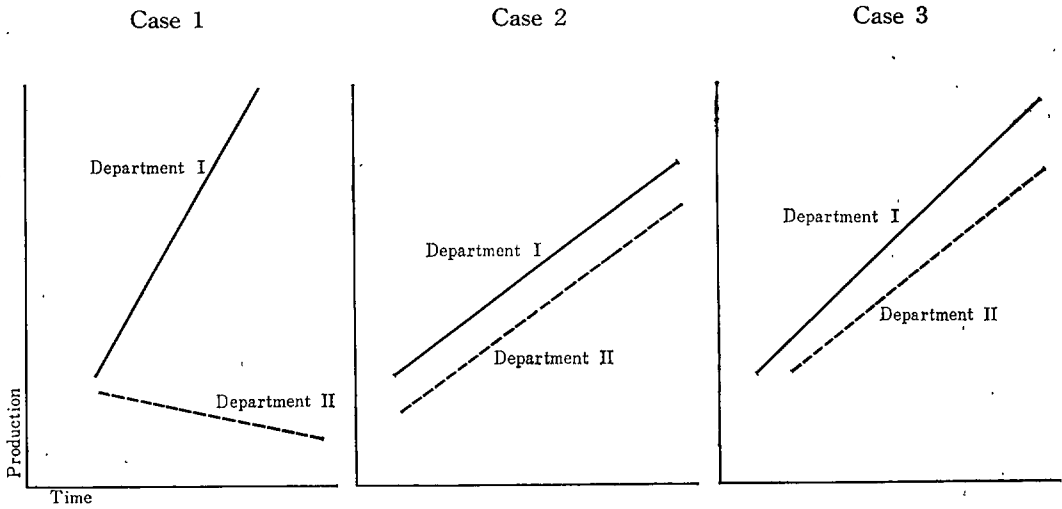
Tougan-Baranowsky once insisted the independent development of Department I (Chart 1, Case 1). So we get started with examining his theory.

I.   Tougan-Baranowsky's Paradox

Tougan-Baranowsky, 'Father of the modern theory of business cycles', once asserted that Department I could develop independently of Department II, no matter how the latter stagnated or rather shrank, if the equilibrium between the two departments is maintained. He developed his thought to such an extreme in the opposition to Simonde de Sismondi. As well known, Sismondi argued in his famous book,[4] that if capitalists should adopt machinery and eliminate labourers instead, final demand would decrease, and consequently the shortage of market and an economic crisis would inevitably occur. Tougan-Baranowsky challenged this crude under-consumption theory of a crisis, making the best use of 'reproduction sheme' left by K. Marx. He refuted saying that *if* the demand for machinery would increase so much as to make up for the decrease of demand for consumer' goods, there would be no change

---

[4] Simonde de Sismondi, *Nouveaux Principes d'Economie politique*. The first edition, 1819.

in the total demand of society, therefore no shortage of market and no economic crisis.[5] This is merely a tautology, since the answer is hidden in the subjunctive premise. His preposition is perfectly right as far as it touches the weak points of Sismondi who fell into the fallacy of $v+m$ dogma and ignored the important role of productive consumtion c.

But Tougan-Baranowsky steps out of this correct proposition and swings to the extreme. He takes off '*if*', the subjunctive condition in his proposition and refashions it into such an absolute dogma that productive consumption can *always, any time, at any process of the business cycle*, replace final demand, so the decrease of social demand, the lack or shortage of market, and consequently a crisis *never* happens. But can productive consumption *always, at any time* cover the decrease of final consumption? It is true that in the upward process of business cycles productive consumption is very active and sometimes gets enlarged violently at the sacrifice of final consumption. Yet, this is only one aspect of prosperity. One cannot regard it as absolute and last for ever.

Tougan-Baranowsky's dogma is very clear when he assumes the absolute decrease of final demand. He says even in that case:

> One finds no excess of products on the reason that the reduction of demand for objects of consumption is compensated by the augumentation of demand of means of production. One may ask what will be the employ of means of production if the demand for objects of consumption diminishes. The answer is not difficult. *The means of production then would be used more and more for the production of new means of production.* Suppose all the workers but one will be replaced by machinery. Then this single worker move all the colosal mass of machinery and produce with it new machinery and objects of consumption for the capitalist class. The labourer class would disappear, but it does not matter at all for the sale of capitalist products. Capitalists would dispose more and more objects of consumption and the whole of annual social products would be absorbed by the production and consumption by capitalists of the following years.—It is also possible that capitalists want to reduce their proper consumption, driven by their passion to accumulate. In this case, one would see that production of objects of consumption for capitalists should diminish and *still larger part of social production should be constituted by the means of production destined for the future expansion of production. One would produce, for example, coal and iron which would serve to augument future stocks of coal and iron. Every year's enlarged production of coal and iron would absorb the coal and iron produced in the previous year*, and this would continue untill mines get exhausted....
>
> How paradoxical this deduction may appear, one is inevitably brought here with the analysis of circulation of capital in the whole of capitalist economy.[6]

Now, we clearly see that his first proposition is changed into an absolute dogma. We call this Tougan-Baranowsky's paradox. The core of the paradox is well exposed in the phrases italisized by me in the above-quoted part. If the paradox can be approved all right, then all the social products which are more and more increasingly produced in the real process of prosperity could be wholly absorbed as additional means of production and productively consumed. The products of Department I would wholly be put back into the same department and perfectly consumed. Department I would develop completely independently, regardless of the

[5] Tougan-Baranowsky, *Les Crises industrielles en Angleterre*, 1913, pp. 215–216.
[6] *Op. cit.*, pp. 216–217.

·state of Department II, whether the latter stagnates or shrinks. In this way, the production of means of production and productive consumption would have no connection with the consumption of the poor masses limited by the accumulation of capital itself. The contradiction between unlimited enlargement of production and narrowly limited consumption of the masses which we think of great importance, would be no problem. Therefore, capitalist mode of production itself, the exploitation of labourers by capitals would have nothing to do with a crisis theory, though crisis is inherent only in capitalist mode of production and is nothing but the explosion of all the contradictions of the capitalist system. The Tougan-Baranowsky's paradox is indeed a beautiful theory which conceals all the evils of capitalism. The paradox is an apologetic theory of endless development of Department I and hence capitalism itself.

The paradox is the conclusion which one inevitably reaches if he chases Tougan-Baranowsky's logic completely. Therefore he should explain the end of prosperity either by generalization of partial overproduction of one department or by putting up a ceiling of the exhaustion of materials or capital. Tougan-Baranowsky is indeed a 'Father of the modern theory of business cycles' in this sense. The ghost of Tougan-Baranowsky is still roving not only in modern theory but also in *one* field of marxist theory of a crisis which does not take into the consideration the limited consumption of the masses.

II. *Some Problems Involved in Dividing into the Two Major Departments*

Before entering the main subject of this paper, that is to fix the pattern which the two major departments draw during the upswing period, we have to raise some important questions about how to divide a social production into the two major departments, namely means of production producing department and means of consumption producing department.

The first difficulty which faces us at start is that most of statistics (especially official) available are not suitable for our purpose. They are mostly given in the form of *industry classification*. Industry and department are entirely different categories.

Let's take an example of textile industry. It is commonly regarded as a typical representative of consumption goods industry and so should be easily registered as Department II. But textile industry includes spinning, weaving and dying-bleaching industry, too. These industries should not belong to Department II, but should belong to Department I, because they produce materials or unfinished goods destined for further fabrications, not available for immediate consumption. We cannot wear yarns or fibres spun, nor cloth woven. Consumers can only wear finished products like shirts, coats, socks and underwears. Among textile industry, only final products belongs to Department II.

Let us use *Tsusan-Tokei* (通産統計) or *Industrial Statistics Monthly*, given by Ministry of Industry and Trade of Japan. "Indices of industrial production by special groups (production valve weight)" of the *Monthly* serves our purpose here. According to the weights given in the *Monthly*, only 21% of all the textile products (1965), goes to Department II and 89% to Department I.

Machinery industry is also regarded as a typical representative of Department I. But my calculation based on the same datum shows that 74% belongs to Department I and 26% Department II. Among chemical products, camera films, soap, medicines and so on belong to Department II, rather than Department I. Consumer's goods occupies 27% of all chemicals. (See

TABLE 1   DISPERSION OF VALUES OF COMMODITIES (1965—Japan)

A. Investment goods	2511.7	
a. Capital goods		1734.0
a'. Capital goods (excluding transportation machinery)		1059.7
Industrial machinery		483.4
Electric machinery		299.3
Transportation machinery		674.3
Others		277.0
b. Construction materials		777.7
Fabricated metals		186.7
Ceramics, stone & clay products		240.0
Lumber & products		225.3
Others		125.7
B. Consumer goods	3122.9	
a. Durable consumer goods		796.3
Electric machinery		290.3
Transportation machinery		236.1
Precision machinery		108.6
Others		161.3
b. Non-durable consumer goods		2326.6
Chemicals		196.0
Textiles		237.8
Foods & tobacco		1415.4
Others		477.4
C. Producer goods	4365.4	
Mining		101.7
Iron & steel		1316.5
Non-ferrous metals		250.6
Machinery		373.5
Chemicals		531.3
Petroleum & coal products		270.4
Textiles		916.2
Others		605.2
Total: Mining & manufacturing	10000.0	

Source: *Industrial Statistics Monthly* by Ministry of Industry and Trade (Japan).

Table 1)   In the *Monthly*, foods are wholly classified as 'consumers' goods', but the same flour could be producers' goods' if it is used by bakery.

Appendix, Table 1 based on *Interindustry Relation Table for 1965, Japan*, gives different ratios of Department I to II.   Textile industry 57.0% to 43.0%, machinery industry 88.0 to

12.0, chemistry industry 87.6 to 12.4 and food industry 15.0 to 85.0. The ratios of Department I to II greatly differ in the two tables. This is perhaps due to the scope and number of items taken. For one thing all the woven textiles are supposed not to be used by consumers directly, but to be put back again [into reproduction processes as producer goods in the *Monthly*. On the other hand, woven textiles (silk, artificial silk, cotton, spun rayon, synthetic fibres, wool and hemp) are divided into Department I to II in the *Interindustry Relation Table*. The result of calculation is 6376580 (million yen) to 6111000. That is, 51% of textile industry is producer goods and 49% is consumer goods. Here it is not our purpose to fix the exact ratio of Department I to II in each industry.

From the reason stated above, we cannot use for our purpose the Hoffmann's and Wagemann's indices, which have long been regarded as precious statistical data for two branches analysis. W. Hoffmann defines the industries which produce metals, vehicles, machinery and chemicals as capital-goods industries, while the industries which produce foodstuffs, clothing, leather goods and furniture as consumer-goods industries[7], and gives time series of each indices from 1700 to 1950[8]. But this classification is conceptionally different from that of Marx's reproduction sheme. E. Wagemann also gives long series of producer's goods indices, covering 1860 to 1931[9]. But Wagemann's indices shares the same faults as Haffmann's. Both are no good for our division of departments.

The Hoffmann's indices, nevertheless, is adopted uncritically in the supplementary data of *The theory and history of crises* or «Теория и История Экономических Кризисов» 1959, written by a great Russian economist, Мендельсон or Mendelison. It is also utilized unconditionally in Dr. J. Kuczynsky's work.[10] Wagemann's indices are utilized by Mendelison and E.G. Varga in his famous book, *History of world economic crises*. Dr. Kuczynski also uses this indices in his paper.

Both of Hoffmann's and Wagemann's indices only represent the ratio of heavy and chemical industries to light industries, or the high degree of industrialization. So they have nothing in common with our division of the two departments.[11]

---

[7] W. Hoffmann, *The Growth of Industrial Economies*, translated by W. O. Henderson & W. H. Chaloner, 1958, p. 16.

[8] W. Hoffmann, *Wachstum und Wachstumformen der englischen Industriewirtschaft, von 1700 bis Gegenwart*, 1940.

[9] Vierteljahrshefte zur Konjunkturforschung, *Sonderheft* 31, 1933, S. 56 und SS. 58–61. Producers goods here include capital goods, too.

[10] J. Kuczynski, Zur Geschichte der erweiterte Reproduktion unter dem Kapitalismus, *Probleme der politischen Ökonomie*, 1957.

[11] Dr. Simon Kuznetz criticizes that Hoffmann's indices are doubtful even if indices are showing the trend of rising industrial structure. "Since the chemical industries, with their concentration on fertilizers, drugs, textile dyes, gasoline, and residual fuel oil, and the industries omitted from Hoffmann's comparison (such as paper and printing, and other wood products) are essentially consumer goods branches, adjustment for them would materially change the level and trends of the ratio of consumer to producer goods. Therefore the coefficients and the formulation of the "law" propounded by Hoffmann would have to be drastically revised." (Simon Kuznets, *Modern Economic Growth*, 1966, p. 142.) Prof. Y. Shionoya also says that Hoffmann's division is 'misleading as a measure of consumption goods and investment goods sectors'. (Yuichi Shionoya, "Pattern of Industrial Growth in the United States and Sweden—A Critique of Hoffmann's Hypothesis," *Hitotsubashi Journal of Economics*, Vol. 5, No. 1, June 1964, p. 53.) The latter's paper, however, divides *Unfinished* further into Department I and II according to the form of producers' or consumers' goods they take after having turned into *finished*, so is not good for our purpose.

III. *Statistical Analysis (U.S.A.)*

Now, this is high time for us to find the relationship which lies between the two major departments in the real upward process when the accumulation of capitals goes progressively, driven by hard competition. Statistics available are very limited and mostly belong to the period of state monopoly capitalism. But I believe even in that stage trade cycles could be

TABLE 2   RECLASSIFICATION OF KUZNETS' INTO TWO DEPARTMENTS

S. Kuznets' classification of commodities	Two departments

A. Finished
    Perishable
    Semidurable
    Consumers' durable
	Department II
	(Means of consumption)

Producers' durable B. Unfinished C. Construction materials	Department I (Means of production)
D. Mixed	again divided into A, B, C
E. Service and repairs goods	ignored

Hitotsubashi Journal of Economics recently issued contains a very interesting contribution from Prof. W.G. Hoffmann, "The Growth of Industrial Economies", which refutes Prof. Shionoya's criticism, and "A Reply to Professor Hoffmann" from Shionoya. Hoffmann argues that the difference between the two mainly lies in the treatment of intermediate goods. He says: "In my book I have used only the final or ultimate demand, but Shionoya and Lago include the intermediate demand" (p. 113). In spite of this statement, he obviously includes the intermediate goods in each of his two sectors in his book, *Wachstum und Wachstumformen der englischen Industriewirtschaft von 1700 bis zur Gegenwart*, 1940, S. 16 und SS. 21-22 (*British Industry, 1700-1950*, translated by W.H. Chaloner and W.O. Henderson, 1965, pp. 11-12, pp. 18-19). The intermediate goods such as iron and steel goods, copper goods, timber products and dyestuffs are included in producer-goods industries, while cotton yarn, wool yarn, silk yarn, linen yarn, flour, sugar, malt, paper and leather, which are surely the intermediate goods, are included in consumer-goods industries. Whatever he says, as far as he uses *industries* as indices of two sectors, it is inevitable that the intermediate goods are also involved. It is because *industries* includes intermediate goods in question. He wisely tried to elude this difficulty by omitting those industries most products of which are intermediate goods. For one thing, textile yarns (intermediate goods), occupies large percentage of value produced in the textile industry, so he 'leaves out textile industries' (p. 113). But think of food and chemical industry. They sure contain intermediate goods, as distinctly shown in the text of my paper. All the confusions have come about inevitably by using industries for two sectors analysis. Shionoya criticizes sharply Hoffmann's weak points. But he himself breaks down intermediate goods into two sectors. Then textile yarns, small sized automobile engines and thin steel plates are consumers' goods. Can we consume them ? If we can, why can we not consume the same engines and steel plates which will get into the fabrication of trucks and machines ? The engines and steel plates are goods destined for further fabrication and are put back again into production processes. They are means by which pro-duction is operated. Therefore, they are just the same as machinery in this respect. So we assign the intermediate goods to Department I. We do not agree to Shionoya's treatment of the intermediate goods. Besides the aim of analysis is entirely different between Shionoya and us. His aim is clarify the real phase of industrialization of economy through revising Hoffmann's concept, while ours is clarify the close interrelation between the two departments and consequently between production and consumption in the course of a business cycle.

TABLE 3   THE RELATION BETWEEN DEPARTMENT I AND II (1919–1933, U.S.A.)

thousand dollars (current prices)

Dept.	Commodity	1919	1921	1923	1925	1927	1929	1931	1933
I	Producers' durable	5,641,006	3,222,824	4,682,083	4,634,247	4,756,124	6,230,785	2,878,708	1,622,864
	Construction materials	3,704,876	3,063,085	4,807,036	5,094,748	4,956,083	5,010,740	2,528,120	1,533,255
	Unfinished	23,545,750	15,348,972	23,294,268	24,172,402	23,591,707	27,256,073	15,323,819	12,102,252
	Total	32,891,632	21,634,881	32,783,387	33,901,397	33,303,914	38,497,598	20,730,647	15,258,371
II	Perishable	14,440,626	10,244,450	11,545,943	13,104,839	13,315,895	14,594,943	10,650,604	8,742,016
	Semidurable	7,435,033	5,872,493	7,519,837	7,411,745	7,637,898	7,683,276	5,055,550	3,905,406
	Consumers' durable	3,897,157	3,162,598	5,251,446	5,760,510	5,432,685	6,319,054	3,196,031	2,269,215
	Total	25,772,816	19,279,541	24,317,226	26,277,094	26,386,478	28,597,273	18,902,185	14,916,637

INDICES

1921=100

		1919	1921	1923	1925	1927	1929	1931	1933
Department I		152	100	152	157	154	178	96	71
Department II		134	100	126	136	137	148	98	77

Source : Simon Kuznets, *Commodity Flow and Capital Formation*, Vol. 1, 1938, Table I–4, I–5, I–7. Servicing and repairing goods excluded. Unclassified ignored. Only manufactured products.

observed and only its forms of manifestation change.   Especially this change appears in crises, whereas there is not substantially a big change in prosperity of which analysis is our task.

The 1929 crisis shoock the United States so severely and unprecedently.   In this typical model, what was the relation between Department I and II?

To think it over, let's utilize Dr. Simon Kuznetz study.   He first classifies all manufactured goods into five major categories; *finished, unfinished, construction materials, service-repairs and mixed*.   Secondly he divides *finished* into *perishable* (durable within six months), *semidurable* (six months to three years), *consumers' durable* and *producers' durable*.   *Mixed* is further divided into *finished, unfinished* and *construction material* according to its use. Here *unfinished* is mostly materials, correspoding to *constant circulating capital* in the term of marxist economics.   If we rearrange Kuznets classification as shown in Table 2, then we can get the value of commodities produced by Department I and II every two years from 1919-1932 (Table 3).

What can we say from Table 3 and Chart 2?   How do the two departments develop during 1919-1933, especially in the upward swinging process, 1921-1929?

CHART 2
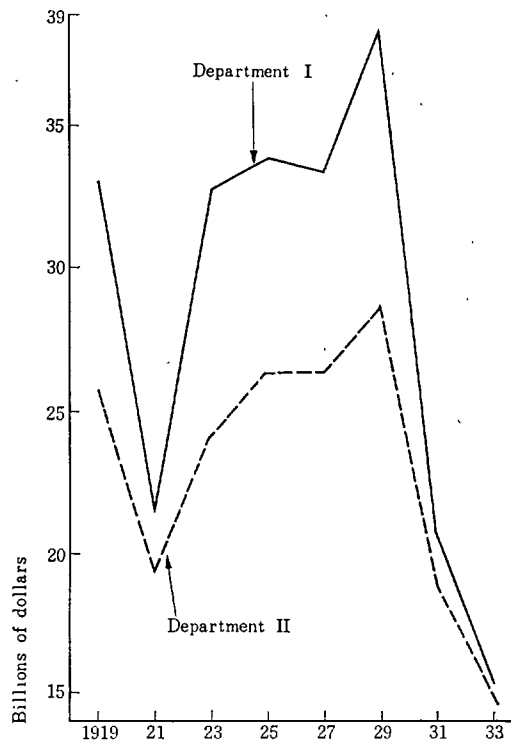
American economy, as shown in Table 3 and Chart 2, makes a remarkable recovery and growth after the 1920 crisis.   It takes a rest for a while in 1925-27 and again makes last spurt untill it falls into a great crash in 1929.

In the period of the upward swing of business, 1921-29, the growth of Department I is really great. It developed 52 points in 1921-23, and 24 points in 1926-29. The average annual rate of growth between 1921-29 is 7.5%. On the other hand, Department II developed 34 points in 1921-23 and 11 points in 1927-29. The average annual rate of growth between 1921-29 is 5.0%. So the rate of growth of the Department I is 1.5 times as much as that of Department II.

From the discription one can get the following conclusion about the prosperous process.

(1) The rate of growth of Department I is higher than Department II and the unproportionate development of Department I can be clerly observed.

(2) Yet, Department II also develops very rapidly, though not so rapidly as Department I. Department II follows steadily Department I, though Department II somewhat lags.

(3) Consequently, the development of two departments are very closely stuck.

(4) Therefore, Tugan Baranowsky's paradox which we saw in the previous section is really a product of his phantasy and stands up to no testing of the reality. Department II never stagnates, nor shrinks.

After the 1929 crisis, the two departments fall down to great extent hand by hand. This falling process is just a reverse of the rising process. The rate of falling down of Department I is surely greater than that of Department II, but there is no change in the fact that Department II shares a destny with Department I. The difference in the movement of Department I and II lies only in that Department I moves more violently than Department II.

Next, let's utilize W. H. Shaw's work. His classification of commodities corresponds to Kuznets' (p. 5). To our great regret, statistics taking *unfinished* into consideration is only given in the Census year 1869, 1879, 1899, 1904, 1909, 1914 and 1919. But he gives the annual statistics of value of commodities from 1889 to 1939 excluding *unfinished*.

Look at Table 4. Here is given the ratio of the value of *unfinished* to the total value of *producer durable and construction materials* in the census year from 1869 to 1933.

TABLE 4   THE RATIO OF *UNFINISHED* TO *PRODUCER DURABLE*
AND *CONSTRUCTION MATERIALS*

Year	Ratio	Year	Ratio
1869	2.4	1919	2.5
1879	2.9	1921	2.4
1889	2.4	1923	2.5
1899	2.8	1925	2.5
1904	2.7	1927	2.4
1909	2.8	1929	2.4
1914	2.9	1931	2.8
1919	2.8	1933	3.8
Average	2.69		

Source : For 1869-1914, W. H. Shaw, *Value of Commodity Output since 1869*, 1947, Table II₁. For 1919-1933, see Table 3.

The ratio is pretty stable except 1933 when both replacement and new investment fall to minimum and the existing capacity was excessively used. The stability owes to the fact that materials, *unfinished* is in good propotion to capital equipments. So the value of *unfinished*

TABLE 5   THE RELATION BETWEEN DEPARTMENT I AND II (1889-1939, U. S. A.)

(thousand dollars of 1913 prices)

Year	Department I				Department II			
	Producer durable	Construction materials	Unfinished	Total	Perishable	Semi-durable	Consumer durable	Total
1869	177,618	351,389	1,423,029	1,952,036	1,129,064	419,813	220,016	1,768,893
1879	328,118	545,742	2,350,683	3,224,543	2,303,691	810,038	365,501	3,479,230
1889	615,364	986,891	4,310,066	5,912,321	3,290,653	1,184,988	608,745	5,084,386
1890	640,795	1,443,095	5,605,664	7,689,554	3,143,362	1,259,798	654,255	5,057,415
1891	697,416	1,341,613	5,484,988	7,524,017	3,496,960	1,291,852	677,687	5,466,499
1892	734,098	1,759,617	6,708,093	9,201,808	3,645,850	1,355,582	730,910	5,732,342
1893	721,387	1,424,857	5,773,396	7,919,640	3,912,103	1,242,822	662,657	5,817,582
1894	556,914	1,402,353	5,270,428	7,229,695	3,821,527	1,206,774	593,248	5,621,549
1895	686,678	1,461,338	5,778,163	7,926,179	4,157,741	1,446,181	737,291	6,341,213
1896	786,556	1,226,032	5,413,862	7,426,450	4,150,606	1,410,365	743,988	6,304,959
1897	649,171	1,435,814	5,608,610	7,693,595	4,475,811	1,527,764	803,307	6,806,882
1898	692,966	1,341,569	5,472,899	7,507,434	4,581,338	1,521,037	782,357	6,884,732
1899	858,517	1,246,964	5,663,744	7,769,225	5,069,384	1,697,584	904,760	7,671,728
1900	994,916	1,425,045	6,509,695	8,929,656	5,114,234	1,690,099	854,241	7,658,574
1901	1,028,400	1,618,673	7,120,626	9,767,699	5,802,119	1,865,397	926,443	8,593,959
1902	1,184,506	1,810,440	8,056,405	11,051,351	5,668,055	1,932,784	983,157	8,583,996
1903	1,310,297	1,712,873	8,132,327	11,155,497	6,020,863	2,016,383	997,868	9,035,114
1904	1,118,275	1,706,553	7,598,787	10,423,615	6,042,079	2,030,603	989,217	9,061,899
1905	1,300,856	1,813,889	8,378,664	11,493,409	6,216,080	2,128,275	1,117,864	9,462,219
1906	1,617,595	1,978,363	9,673,127	13,269,085	6,967,960	2,285,876	1,266,422	10,520,258
1907	1,691,259	2,090,592	10,173,179	13,955,030	7,190,138	2,250,964	1,206,267	10,647,369
1908	1,160,957	1,950,846	8,370,750	11,482,553	6,488,312	2,246,420	1,046,477	9,781,209
1909	1,318,303	2,101,797	9,200,069	12,620,169	7,141,057	2,464,650	1,341,126	10,946,833
1910	1,599,720	2,100,132	9,952,602	13,652,454	7,389,081	2,395,635	1,423,939	11,208,655
1911	1,359,270	2,002,890	9,044,210	12,406,370	7,785,026	2,638,988	1,397,801	11,821,815
1912	1,674,177	2,200,307	10,422,362	14,296,846	7,879,202	2,794,256	1,598,614	12,272,072
1913	1,827,342	2,384,390	11,329,559	15,541,291	8,230,180	2,900,185	1,675,078	12,805,443
1914	1,473,560	2,195,323	9,869,295	13,538,178	8,184,088	2,806,904	1,663,597	12,654,589
1915	1,475,334	2,125,457	9,686,128	13,286,919	7,792,652	2,732,014	1,883,365	12,408,031
1916	2,096,268	2,208,197	11,579,011	15,883,476	8,203,579	3,039,790	2,650,887	13,894,256
1917	2,599,552	1,974,536	12,304,297	16,878,385	8,178,946	2,975,566	2,777,266	13,931,778
1918	3,101,672	1,843,811	13,303,349	18,248,832	8,649,486	2,947,274	2,171,360	13,768,120
1919	2,896,146	1,826,917	12,705,039	17,428,102	8,612,217	3,187,572	2,874,589	14,674,378
1919	3,012,164	1,730,686	12,758,267	17,501,117	8,849,886	3,206,116	3,030,515	15,086,517
1920	2,916,240	1,823,321	12,749,419	17,488,980	9,013,835	2,964,235	3,104,642	15,082,712
1921	1,786,661	1,717,015	9,424,888	12,928,564	9,574,085	3,239,785	2,339,592	15,153,462
1922	2,192,158	2,090,217	11,519,589	15,801,964	9,959,226	3,867,785	3,577,125	17,404,136
1923	3,169,567	2,440,809	15,091,911	20,702,287	10,273,685	4,071,706	4,961,515	19,306,906
1924	2,928,738	2,487,632	14,570,035	19,986,405	10,853,682	3,882,111	4,639,409	19,375,202
1925	3,152,318	2,773,333	15,940,001	21,865,652	10,935,858	4,458,398	5,598,385	20,992,641
1926	3,373,515	2,910,877	16,905,014	23,189,406	11,527,895	4,850,306	6,184,118	22,562,319
1927	3,118,898	2,908,283	16,213,117	22,240,298	11,754,991	5,377,088	5,227,108	22,359,187
1928	3,416,536	2,894,807	16,977,513	23,288,856	11,944,154	5,604,692	5,634,110	23,182,956
1929	4,293,660	2,984,207	19,577,462	26,855,329	12,472,286	5,706,908	5,932,335	24,111,529
1930	3,462,926	2,386,237	15,734,248	21,583,411	12,278,857	4,973,552	4,095,872	21,348,281
1931	2,241,649	1,820,328	10,926,718	14,988,695	11,774,381	4,517,246	3,257,012	19,548,639
1932	1,239,052	1,074,685	6,223,952	8,537,689	11,123,825	3,765,243	2,089,681	16,978,749
1933	1,421,070	1,129,485	6,860,993	9,411,548	11,444,523	3,593,708	2,397,700	17,435,931
1934	2,203,300	1,261,493	9,320,293	12,785,086	12,046,755	3,732,700	3,357,600	19,137,055
1935	2,991,719	1,585,447	12,312,577	16,889,743	11,901,835	4,142,947	4,548,044	20,593,826
1936	4,005,200	2,118,896	16,473,818	22,597,914	13,245,369	3,960,000	5,680,600	22,885,969
1937	4,493,690	2,358,518	18,432,440	25,284,648	13,684,520	4,216,819	6,250,082	24,151,421
1938	3,345,400	1,986,792	14,343,596	19,675,788	13,666,337	3,859,300	4,185,300	21,710,937
1939	4,167,400	2,328,050	17,472,761	23,968,211	14,470,300	4,205,300	5,414,800	24,090,400

Source: William H. Shaw, *Value of Commodity Output since 1869*, 1947, Table l₃. Manufactured products only.

Note: *Unfinished* is obtained by multiplying the total of *Producer durable* and *Construction materials* by 2.69. The values given here and Table 3 differ very greatly. For the explanation given by Shaw of this difference, see Shaw, *op. cit.*, pp. 83-89.

CHART 3
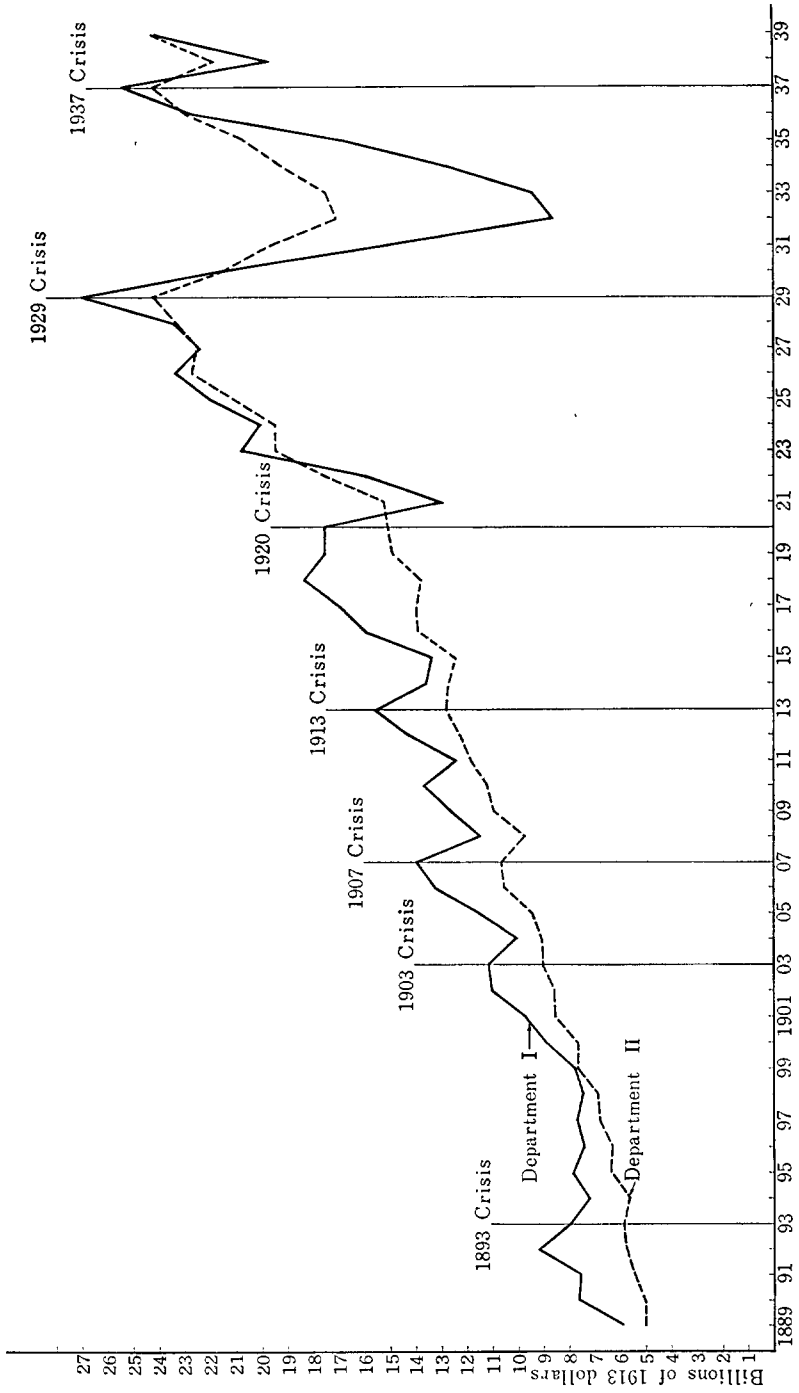
can be obtained by multiplying the total of producer's durable and construction materials by 2.69 (Table 5).

First of all, let's have a look at the upward process of 1921-29. Obviously, the same thing could be said as before. In 1921-29 Department I grew 90 points, while Department II 70 points. The tempo of Department I is indeed greater, but Department II also makes a rapid growth and steadily follows the pattern of developing Department I. The unpro- protionate development of Department I can certainly be affirmed, but the stagnation or shrinkage of Department II is false. Both departments fly hand by hand, though Department II is a little delayed.

The pattern which the two draw during the crisis and depression of 1929-33 is symetric with the prosperity. Department I fell 112 points, Department II 55 points. This means the relative unproportionate development (minus, this case) of Department I and delayed develop- ment in somewhat slow tempo of Department II.

In brief, Tougan Baranowsky's paradox is really a nonsense. Tougan Baranowsky insisted that economy would develop endless unless there's unbalance between the two departments, since productive consumption would take the place of final consumption and Department I would put its own products into itself and increase automatically, independently, whatever condition Department II might be, stagnating or shrinking. Our analysis clearly shows this assumption is entirely false.

The pattern which Department I and II draw in the course of prosperity is not particular in 1920's. In other business cycles of American economy, the same pattern can be observed so distinctly. Based on Varga's and Mendelison's research, let's mark the years when crises occured in Chart 3. In the expanding processes, prior to crises, namely 1881-1892, 1898- 1903, 1904-1907, 1908-1913, 1915-1920, 1934-1937, Department I develops preferablly in com- parison with Department II, and Department II develops relatively delayed. The same pattern which we hitherto confirmed is true with each prosperous process of a business cycle.

By the way, just only for reference, let's have a glimpse at the 1950-57 prosperous pro- cess of West Germany. Rudi Gündel makes a study on the same theme (see Table 6 and Chart 4).

TABLE 6   THE RELATION BETWEEN DEPARTMENT I AND II
(1951-57, WEST GERMANY)

Year	Department I	Department II
1950	100	100
1951	139	122
1952	154	132
1953	160	143
1954	178	156
1955	213	181
1956	232	200
1957	248	218

Source: Rudi Gündel, Zur Entwicklung des Widerspruches zwischen Produktion und Konsumtion im Verlauf der Aufschwungs- phase des westdeutschen Nachkriegszyklus, Konjunktur und Krise, Heft 4, 1958, S. 25.

CHART 4
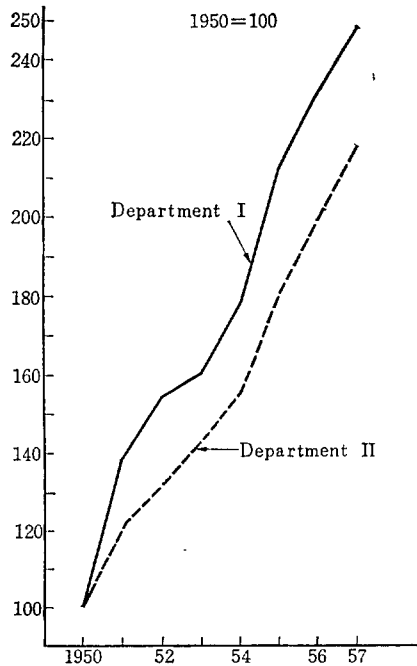
TABLE 7   THE RELATION BETWEEN DEPARTMENT I AND II
(1922–29, U. S. A.)

Year	Department I Consumption goods, total, including residential construction	Department II Capital equipment, total, including non-residential construction and public works	Total Total production of finished goods
1922	100	100	100
1923	125	111	113
1924	112	110	110
1925	132	120	122
1926	147	125	128
1927	143	124	127
1928	145	130	132
1929	170	131	137
Average annual rate of change	6. 4	3. 7	4. 1

Source : Frederick C. Mills, *Economic Tendencies in the United States*, 1932, p. 280.
Note : Index numbers of physical volume of production of finished goods, 1922–29. *Unfinished* excluded.

In 1950–57, Department I rose 148 points, while Department II 118 points. The tempo of growth of Department I is 1.3 times greater than that of Department II. Here also it is very clear that Department I does not grow independently apart from Department II, but grows in a certain relation with Department II.

In this study Mr. Gündel is very aware of the difficulty of dividing into two departments, which we discussed in the section II. He cuts off about 10%, 8%, 23% of mining, raw materials, investment industry which is commomly regarded as Department I and gives them to Department II. Also he includes 60% of consumers industry, 25% of food and taste industry, which are regarded as a typical representative of Department II, into Department I.

Finally let's give another glimpse at Table 7 and Chart 5.

CHART 5
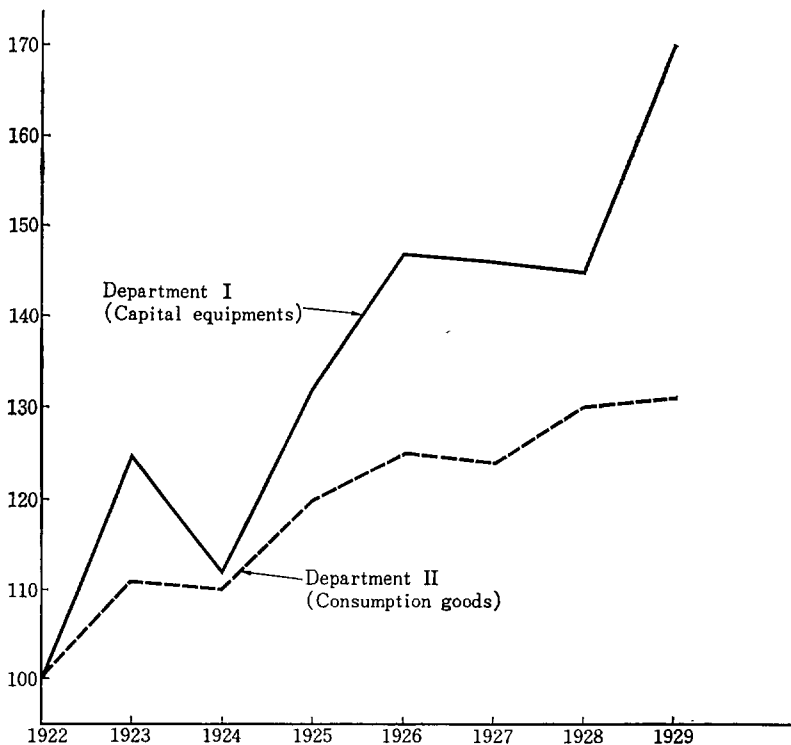
Only *finished goods* are taken into account and *unfinished and construction materials* are excluded. Yet, we can say same thing again here, too. In the upwardswing period of 1922–29, Department I rose 70 points at the average annual rate of 6.4%, while Department II rose only 31 points at the rate of 3.7%. So the tempo of growth of Department I is about 2.3 times as great as that of Department II. This fact clearly indicates the lead of Department I in growth and the relatively delayed follow of Department II. Department I never grows leaving Department II far behind. Department II also makes a rapid growth. Both of the two grow in the same direction. The only one difference existing is the tempo of growth in the two departments.

IV. *Statistical Analysis (Japan)*

Now let's examine what pattern the two major departments drew during the so-called 'high growth period' of postwar Japan. We use "Indices of Industrial Production by Special Groups" given every month by Ministry of Industry and Trade. According to it, all the products of mining and manufactures are divided into two major categories, *Finished goods* and *Producer goods* (*unfinished goods* in Dr. Kuznets' classification), and the former divides itself into *Investment goods* and *Consumer goods*. *Investment goods* consists of *Capital goods* and *Construction materials*. Table 8 shows how this classification of MIT could be rearranged into our two departments classification.

TABLE 8   RECLASSIFICATION OF 'INDICES OF INDUSTRIAL PRODUCTION
BY SPECIAL GROUPS' INTO DEPARTMENT I AND II

MIT's classification of commodities	Division of two departments
A. Finished goods	
Investment goods	
Capital goods	⎫
Construction materials	⎬ ·········· Department I
Consumer goods	⎭
Durable consumer goods	⎫
Non-durable consumer goods	⎬ ·········· Department II
B. Producer goods ·············	·········· Department I

In the indices, for example, products of chemical industry and textile industry are sub-divided into producer goods and consumer goods according to their use, that is whether they are used directly to satisfy human wants or not. Therefore, the difficult problem which I mentioned in Section II is somehow avoided and the indices surely provides us with good means for our two departments analysis.

But, we cannot say all the problems are solved. If we look into details, some faults come up. I give several examples here. Coal is classified as Producer goods. But it is also used as consumer goods, heating water for bath and heating houses. Air-condioners, electric fans, cleaners, lamps are classified consumer goods, though they are also used in corporations as capital goods. Passenger cars below 1500 cc and motorbycicle below 125 cc are classified as durable consumer goods. But they are also used in taxi and ordinary corporations as capital goods. Paper is classified as consumer goods. But if they are used by publishing companies, newspaper corporations, note-book producers, they will be producer goods. All the woven goods are classified consumer goods, though some of them are really used by homes.

What is more important, all the foods are classified as consumer goods. But in reality, butter, powdered and condensed milk, cheese, glutamin soda, wheat flour, sugar, margarine, vegetable oil and so on are put into reproduction process again and used as materials (producer goods) to make new products.

Flour is consumer goods if used by a housewife to prepare dinner. But it will be producer goods if used by bakers to make bread. In this country mono-sodium glutamate is

used in the producing process of soybean sauce (or Syoyu) as seasoning.

According to Dr. Kuznets, unfinished (producers' goods) occupies 21.9% on average of food industry (see Table 9).[12]

TABLE 9   THE RATIO OF *UNFINISHED* TO ALL FOODS

Year	Ratio	Year	Ratio
1919	16.6	1927	22.2
1921	22.7	1929	23.8
1923	20.4	1931	24.4
1925	21.5	1933	23.3
	Average	21.9%	

Source : S. Kuznets, *op. cit.,* Table 1-3.

Of course the selection and coverage of goods are different, so we can not use this ratio to divide foods in Japanese Statistics. Mr. Gündel gives 25% of foods and tastes to Department I[13].

Let us use the *Interindustry Relation Table* for 1965 and break down all the value of output of food industry (including tobaccoo, beer etc.) into the two major departments. Table I-1 of Appendix shows that 866,096 million yen belongs to Department I and 4,924,803 million yen to Department II. The ratio is 15.0% to 85.0%. So clearly we cannot take it for granted that foods are wholly consumer goods.

Here we are on the deadlock. We want to use MIT's statistics, but they have many faults. Should we abandon these data, blaming this is 'Bourgeois Statistics', no good for Marxist analysis. We did so for many years in the past. We were apt to bury the capitalist realities with 'Burgeois Statistics'. We were too sensitive to faults of 'Burgeois Statistics, and gave it up to endeavour to find the truths hidden behind the Statistics.

We have to be generous to the smaller faults which MIT's statistics have, since they

---

[12] И.И. Никонова estimates that from 11.5 to 16.1% of all foods belongs to Department I. She gives the following table.

The ratio of Department I and II, U.S.A.

	1947		1954		1958	
	I	II	I	II	I	II
All industry	62.1	37.9	65.5	34.5	63.4	36.6
Machinery building and metal fabrication	75.6	24.4	78.3	21.7	78.0	22.0
Chemical	83.4	16.6	85.2	14.8	83.4	16.6
Lumber and paper	80.7	19.3	79.3	20.7	77.8	22.2
Glass and ceramics	50.5	49.5	54.0	46.0	57.7	42.3
Light industry	24.8	75.2	18.9	81.1	18.8	81.2
Foods	16.1	83.9	13.9	86.1	11.5	88.5

Source : И.И.Н иконова, О Соотношении пройзводства средств производства и предметов потребления в сша, в «Очерки по современной советской и зарубежной зкономике, Выпуск II, под редакцией Н.М. Ознобина», Москьа, 1961, смр. 275.

[13] His source is *Wirtschaft und Statistik*, 4 Jhg., 1952, S. 15.

TABLE 10   THE RELATION BETWEEN DEPARTMENT I AND II
IN 'THE HIGH GROWTH PERIOD' (JAPAN)

1965=100

| Year | Department I | | | Department II |
	Investment goods	Producers goods	Weighted average	Consumers goods
1953	19.7	24.2	22.5	25.4
1954	21.5	25.9	24.2	28.0
1955	21.3	28.1	25.5	31.6
1956	28.2	35.3	32.6	36.1
1957	36.4	39.3	38.2˙	41.9
1958	34.0	37.5	36.2	45.0
1959	39.9	46.9	44.2	52.2
1960	53.2	59.0	56.8	60.0
1961	66.7	70.0	68.7	68.2
1962	72.7	73.8	73.4	76.7
1963	78.5	82.7	81.1	88.4
1964	96.1	95.8	95.9	97.5
1965	100.0	100.0	100.0	100.0
1966	112.2	114.1	113.3	113.2
1967	140.7	135.7	137.6	129.6
1968	172.6	156.4	162.5	150.1
1969	204.8	183.5	191.6	171.5

Source :   Industrial Statistics Monthly (Tsusan-Tokei or 通産統計) and General View
of Mining and Industrial Indices (Kokogyo Shisu Soran or 鉱工業指数総覧), March 1969.
Notes : The indices are of mining and manufacture only.

are only one data available for two departments analysis and these faults do not necessarily
hinder a right reasoning.   We should be only aware of the limits which data have and try
to get conclusions.

So far we have checked MIT's statistics.   Now we turn to our main task.   Let's have a
look at Table 10 and Chart 6.

Department I and Department II make a remarkably steady flight.   This really surprises
us, because Department I is more closely connected with Department II than we expected.
But if we look into details, the same thing as before can be said.   In the period from 1957
crisis to 1961 characterized by 'high growth', Department I rose 32.5 points and Department
II 23.2 points.   The tempo of growth of Department I to II is 32.5:23.2=1.4.   In the next
period 1961-65, Department I grew 43.2 points, Department II 40 points.   The tempo of
Department I to 11 is 43.2:40=1.08.   In 1957-1965 together, Department I grew 75 points,
while Department II grew 74.6 points.   After 1965 crisis, up to 1969, Department I developed
91.9 points and Department II 71.5 points.   Here the tempo of development of two branches
is obviously different.   But, it is also clear that Department II makes a great advance for-
ward and follows Department I, though relatively delayed.

After all, here is also confirmed that Department I goes relatively ahead, but Department
II tries to catch up with Department I.

CHART 6
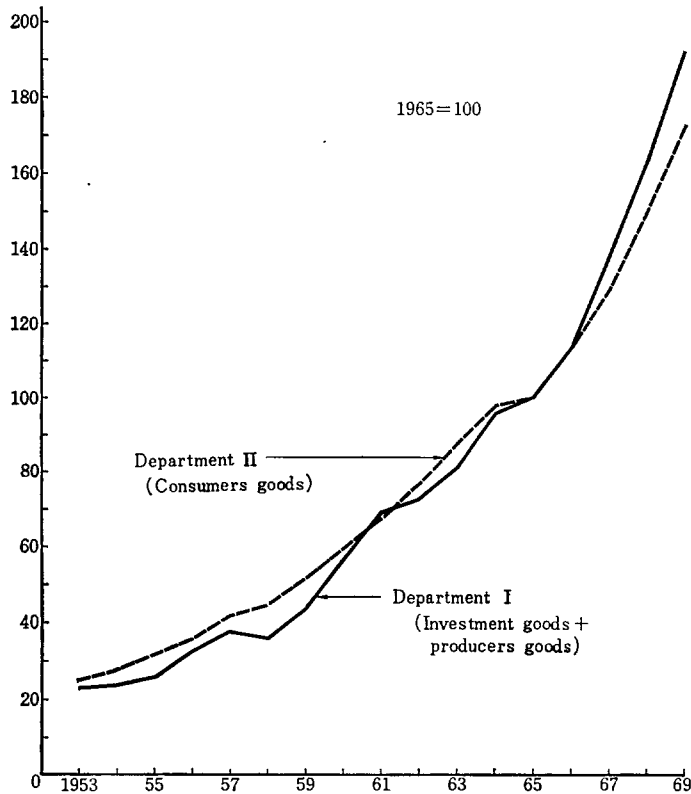
Professor Nihei once argued in his very valuable work which analyzed the postwar Japanese capitalism:

"In the postwar rearranging period, especially in the second stage (1955–1960, inserted by Matsuishi), the replantation and origination of new heavy and chemical industries were carried out on the basis of the stagnation of existing light industries (and agriculture)—. Thus if theoretically expressed, the structural gap or discrepancy between Department I and II was formed—."[14]

Then he tries to explain the relative delay of growth or depression in 1960–1965 by the structural gap or discrepancy between Department I and II. I think it has a fatal error in the division of departments. 'New heavy and chemical industries' and 'existing light industries (and agriculture)' are, 'if theoretically expressed', changed into 'Department I and II'. In fact Table 2 of the paper takes the indices of heavy industries in pig iron and automobiles, and the indices of 'existing light industries (and agriculture)' in cotton textiles and rice.

---

[14] Satoshi Nihei, Rearrangement of postwar Japanese capitalism and deepening crisis, *Journal of Agrarian History*, No. 41, Oct. 1968, p. 73. 二瓶敏「日本資本主義の戦後再編と危機の進行」『土地制度史学』第41巻，1968年10月号，73ページ。

Here we have to point out a great confusion in the concept of two major departments. As heavy and chemical industrialization is very normal phenomenon of capitalist development, one cannot conclude from this 'the structural gap or discrepancy between Department I and II'. As we have seen so far, Department II never stagnates and Department I does not develop on the basis of this stagnation. On the contrary, Department II also makes a much rapid growth *on the basis of the rapid growth of Department II*. It is only 'existing light industries (and agriculture)', not Department II itself, which stagnated. Department II as a whole never got stagnated. Only some branches of Department II, namely 'existing

CHART 7
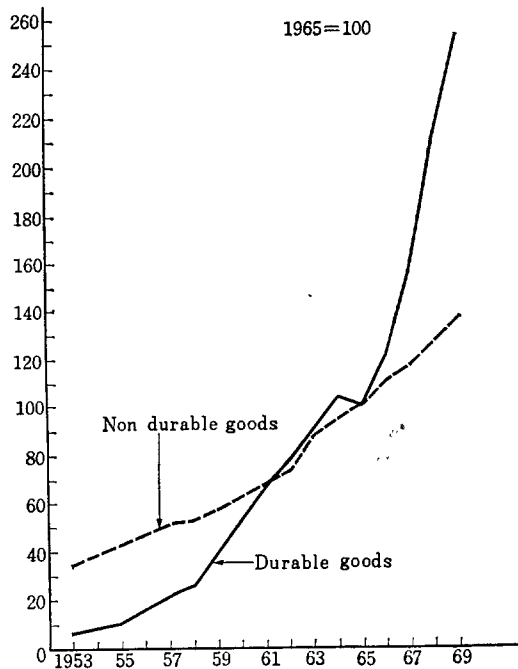
light industries and agriculture' got stagnated. Other branches of Department II markedly developed instead. Consumer durables or new types of consumers goods took the place of old and existing. Think of TV sets, plastic, nylon, acric fiber goods. That is, the structure of consumption has changed very much (see, Chart 7).

But in spite of this inner change, Department II expanded rapidly, and this supported Department I expand more rapidly. Department II also developed rapidly, but Department I developed more rapidly and at last .too rapidly to keep pace with Department II. Hence 'the structural and discrepancy between Department I and II' was brought about and led Japanese economy to somewhat so-called 'transformation period'. Prof. Nihei's argument that Department I grew on the basis of stagnating Department II, and so gap was formed between the two departments is really against the fact which Table 10 and Chart 6 indicate.

V. *Conclusion*

As we saw in Section I, Tougan Baranowsky insisted that social demand never decreases even when final demand decreases, if productive consumption increases as much. This proposition is just tautology as an answer is already hidden in *if*. The question lies in *if*. He takes off this *if* and believes that productive consumption can *always* replace all of final demand. It is true that productive consumption can replace final demand especially in prosperity. But the former can replace the latter only *occasionally and partly*. It can't be true *unconditionally*. He closes up one *aspect* of prosperity when productive consumption is very active and final consumption is rather relatively depressed, and makes it as *absolute*. If his proposition is always true, all the enlarged products in the reproduction processes are always covered with productive consumption, and consequently Department I will put all of it's own products into itself and develop self-conclusively and eternally, no matter how Department II will stagnate or shrink. So with Department I, social production as a whole would develop endless unless a ceiling was given from outside. Then, the development and accumulation of Department I would have no connection with those of Department II and final demands. Productive consumption would have nothing to do with final consumption. The contradiction of production and consumption is just meaningless. The fundamental contradiction of capitalist production, the relation of 'capital and labour', the antagonistic character of accumulation would be not associated with 'eruption of all the contradictions', namely crisis.

So in Section II we put the Tougan-Baranowsky's paradox to historical testing and confirmed the relationship which lies between Department I and II in the course of the upward process of the business cycle. The conclusions was derived from the statistical analysis are following.

(1) Department I develops more rapidly than Department II in the upward phase when the accumulation of capitals is accelerated by competition among capitals.

(2) But Department II never gets stagnated, or shrunk, but makes a rapid growth following Department I, though somewhat delayed.

(3) The two departments are in close relationship. The rapid accumulation and development of Department I necessarily affects Department II and calls for the rapid accumulation and development of Department II.

(4) This relationship is not so rigid, but elastic. So the two can develop to certain point rather independently and should be reunified again violently.

(5) Tougan-Baranowsky's proposition is not true in reality. It is 'midnight dream of summer' of a capitalist and his apoligist. Productive consumption can not *always* and *hundred percent* fullfill final demand. Department I can never develop self-conclusively. It was only one possibility. Productive consumption can *temporalily* take place of final demand, but never *endlessly*.

(6) The fundamental error of Tougan Baranowsky lies in his confusion of Marx's 'reproduction sheme' which is valid only within the stage of 'ideal average' with the real upward swinging process of business cycles. He adopts the 'sheme' unconditionally and plays a childlike trick. He decreases one element of the 'sheme' and increases the other, and says no change, falling into the illusion that this were as if real competitive process of

prosperity.

In this paper, the close relationship between Department I and II has been statistically proved. Then next problem is how to explain this relationship theoretically. This is the theme of my next paper.

If the two departments accumulate under this close relationship, then sooner or later will close up sharply the 'ultimate cause of crisis', namely the narrow and limited consumption of the masses. This is also the theme of my next paper.[15]

(June 30, 1970)

---

[15] We know that there's a long history of controversy about the same theme on the side of so-called 'Modern Theory' from W. Mitchell's *Business Cycles*, 1913, to up-to-date 'Acceleration Principle'. R.F. Harrod writes in *The Trade Cycle*, 1936: "It has long been a matter of observation that in the upward phase of the trade cycle, activity in the trades producing durable or capital goods increases more rapidly than that in the trades producing concurrently consumable goods, and conversely in the downward phase". To refer to this controversy, we have to prepare another paper.

APPENDIX

TABLE I-1.

Number	Item	Total supply			Department I			
		9330 Output totals	9310+9320 Imports, duties	Total	9001 Inter-mediate goods	9140 Domestic fixed capital formation	Total	9110 Non-household consump-tion ex-penditure
2011	Slaughtering	319,764	48,316	368,080	84,596	0	84,596	24,244
2012	Livestock	81,058	1,198	82,256	6,379	0	6,379	16,468
2020	Dairy products	280,041	12,160	292,201	42,841	0	42,841	36,265
2030	Vegetables and fruits processing	135,110	14,799	149,909	7,213	0	7,213	20,746
2040	Aquatic products	433,289	23,541	456,830	37,781	0	37,781	20,572
2050	Drains polishing and flouring	1,332,147	62,239	1,394,386	195,720	0	195,720	98,784
2060	Bread and cakes	512,962	8,373	521,335	1,541	0	1,541	30,294
2070	Sugar	189,323	121,968	311,291	238,858	0	238,858	14,069
2091	Miscellaneous	792,381	17,452	809,833	174,875	0	174,875	70,921
2110	Alcoholic beverage	822,741	4,753	827,494	42,182	0	42,182	295,045
2140	Non-alcoholic beverage	85,927	696	86,623	0	0	0	13,520
2200	Tobaccoo manufactured	488,339	2,322	490,661	1,799	0	1,799	56,195
	Total	5,473,082	317,817	5,790,899	833,785	0	833,785	697,123

TABLE I-2.

Number	Item	9330 Output totals	9310+9320 Imports, duties	Total	9001 Inter-mediate goods	9140 Domestic fixed capital formation	Total	9110 Non-household consump-tion ex-penditure
2301	Raw silk	115,783	2,506	118,289	110,882	0	110,882	0
2302	Cotton yarns	234,781	1,761	236,542	224,700	0	224,700	0
2303	Wollen and worsted yarns	194,964	6,191	201,155	179,231	0	179,231	0
2304	Hard and bast fibre yarns	19,481	3	19,484	19,149	0	19,149	0
2305	Rayon filament	69,539	3	69,542	65,261	0	65,261	0
2306	Rayon staple and spun rayon	176,968	10	176,978	165,489	0	165,489	0
2311	Synthetic fibre yarns	218,526	1,558	220,084	46,064	0	46,064	5,515
2312	Woven silk and filament rayon fabrics	456,566	4,390	460,956	167,813	0	167,813	20,551
2313	Cotton and spun fabrics	289,480	691	290,171	170,119	0	170,119	2,210
2314	Sythetic fibre fabrics	253,743	7,934	261,677	86,471	0	86,471	5,102
2315	Woolen and worsted fabrics	15,624	146	15,770	13,601	0	13,601	0
2316	Hard and bast fibre fabrics	237,652	0	237,652	237,652	0	237,652	0
2320	Knitted goods	316,731	2,276	319,007	7,708	0	7,708	5,604
2330	Ropes and fishing nets	52,524	87	52,611	26,347	10,587	36,934	0
2390	Miscellaneous textile products	170,035	2,055	172,090	103,415	7,753	111,168	9,278
2430	Knit products, textile apparel and accesaries	569,407	2,643	572,050	68,461	0	68,461	321
2440	Textile products ready-made	124,704	2,020	126,724	55,958	5,958	61,916	4,547
	Total	3,516,508	34,274	3,550,782	1,748,321	24,298	1,772,619	53,128

TABLE I-3.

Number	Item	9330 Output totals	9310+9320 Imports, duties	Total	9001 Inter-mediate goods	9140 Domestic fixed capital formation	Total	9110 Non-household consump-tion ex-penditure
2410	Leather footwear	75,970	510	76,480	12,273	0	12,273	620
2910	Leather and furs	51,655	3,847	55,502	53,706	0	53,706	0
2930	Leather products	50,870	748	51,618	4,838	0	4,838	0
	Total	178,495	5,105	183,600	70,817	0	70,817	620

FOOD INDUSTRY

Million yen

Department II			Mixed						Grand total		Ratio (%)	
9120 Household consumption expenditure	9130 Government consumption expenditure	Total	9150 Net increase in stocks	9210 Exports	9220 Special procurement demand	Total	Allocation Department I	Allocation Department II	Department I total	Department II total	Department I total	Department II total
251,923	0	276,167	3,143	1,105	3,069	7,317	1,716	5,601	86,312	281,768	23.4	76.6
57,054	0	73,522	1,301	643	411	2,355	188	2,167	6,567	75,689	8.0	92.0
207,868	0	244,133	3,017	1,165	1,045	5,227	780	4,447	43,621	248,580	14.9	85.1
101,942	0	122,688	7,518	12,000	490	20,008	1,111	18,897	8,324	141,585	5.6	94.4
345,383	0	365,955	18,174	34,796	124	53,094	4,968	48,126	42,749	414,081	9.4	90.6
1,089,269	0	1,188,053	6,760	2,837	1,016	10,613	1,501	9,112	197,221	1,197,165	14.1	85.9
469,392	0	499,686	9,113	3,090	7,905	20,108	62	20,046	1,603	519,732	0.3	99.7
43,484	0	57,553	14,435	184	261	14,880	11,991	2,889	250,849	60,442	80.6	19.4
528,121	0	599,042	24,654	7,695	3,567	35,916	8,116	27,800	182,991	626,842	22.6	77.4
456,589	0	751,634	29,137	1,836	2,705	33,678	1,790	31,888	43,972	783,522	5.3	94.7
69,058	0	82,578	2,944	578	523	4,045	0	4,045	0	86,623	0.0	100.0
409,778	0	465,973	20,470	370	2,049	22,889	88	22,801	1,887	488,774	0.4	99.6
4,029,861	0	4,726,984	140,666	66,299	23,165	230,130	32,311	197,819	866,096	4,924,803	15.0	85.0

TEXTILE INDUSTRY

150	0	150	437	6,820	0	7,257	7,247	10	118,129	160	99.9	0.1
688	8	696	3,585	7,536	25	11,146	11,112	34	235,812	730	99.7	0.3
5,701	0	5,701	−2,469	18,576	116	16,223	15,723	500	194,954	6,201	96.9	3.1
0	7	7	108	220	0	328	328	0	19,477	7	100.0	0.0
0	0	0	1,194	3,087	0	4,281	4,281	0	69,542	0	100.0	0.0
0	17	17	1,656	9,816	0	11,472	11,471	1	176,960	18	100.0	0.0
129,413	0	134,928	3,905	35,048	139	39,092	9,949	29,143	56,013	164,071	25.5	74.5
132,519	43	153,113	2,322	137,337	371	140,030	73,222	66,808	241,035	219,921	52.3	47.7
44,199	2	46,411	11,869	61,772	0	73,641	57,857	15,784	227,976	62,195	78.6	21.4
140,521	7	145,630	671	28,645	260	29,576	11,019	18,557	97,490	164,187	37.3	62.7
0	562	562	42	1,565	0	1,607	1,543	64	15,144	626	96.0	4.0
0	0	0	0	0	0	0	0	0	237,652	0	100.0	0.0
265,218	9	270,831	11,247	28,554	667	40,468	1,120	39,348	8,828	310,179	2.8	97.2
44	1,018	1,062	3,312	11,302	1	14,615	14,207	408	51,141	1,470	97.2	2.8
35,532	213	45,023	182	15,388	329	15,899	11,316	4,583	122,484	49,606	71.2	28.8
422,471	4,517	427,309	7,428	66,703	2,149	76,280	10,534	65,746	78,995	493,055	13.8	86.2
37,728	4,117	46,392	2,080	16,218	118	18,416	10,528	7,888	72,444	54,280	57.2	42.8
1,214,184	10,520	1,277,832	47,569	448,587	4,175	500,331	251,457	248,874	2,024,076	1,526,706	57.0	43.0

LEATHER INDUSTRY

54,751	1,501	56,872	2,610	3,980	745	7,335	1,302	6,033	13,575	62,905	17.7	82.3
0	9	9	724	1,063	0	1,787	1,787	0	55,493	9	100.0	0
37,042	698	37,740	933	7,991	116	9,040	1,027	8,013	5,865	45,753	11.4	88.6
91,793	2,208	94,621	4,267	13,034	861	18,162	4,116	14,046	74,933	108,667	40.8	59.2

TABLE I-4.

Number	Item	Total supply			Department I			
		9330 Output totals	9310+9320 Imports, duties	Total	9001 Inter- mediate goods	9140 Domestic fixed capital formation	Total	9110 Non- household consump- tion ex- penditure
3601	Prime movers and boilers	343,031	8,559	351,590	252,496	73,199	325,695	0
3602	Fabricating and metal-fabricating macninery	240,091	25,769	265,860	63,622	187,572	251,194	0
3603	Sewing machines, watches and clocks	1,144,727	64,653	1,209,380	393,290	714,595	1,107,885	0
3604	Other industrial machinery and equipment	457,855	16,083	473,938	244,653	208,351	453,004	0
3605	Business machinery	48,084	18,865	66,949	13,262	42,781	56,043	0
3606	Howshold machinery	211,661	1,188	212,849	32,383	41,227	73,610	3,150
3607	Ball and roller bearings and other common parts	312,265	11,688	323,953	271,855	25,349	297,204	0
3701	Electric machinery and equipments	546,422	14,439	560,861	277,887	244,541	522,428	0
3702	Household electric appliances	639,171	4,695	643,866	111,915	63,322	175,237	16,175
3703	Electric bulbs, batteries and wiring devices	1,192,871	51,465	1,244,336	822,843	311,380	1,134,223	0
3810	Shipbuilding and repairing	511,956	1,266	513,222	48,096	150,449	198,545	0
3820	Railroad cars	259,016	834	259,850	154,663	97,408	252,071	0
3830	Motor vehicles, except three or two wheeled	1,513,740	15,970	1,529,710	508,652	817,239	1,325,891	0
3840	Repairs of automobiles	452,677	0	452,677	386,197	0	386,197	0
3850	Motor bycicles and bycicles	332,943	268	333,211	114,028	62,481	176,509	0
3860	Aircrafts	53,258	38,851	92,109	31,629	23,567	55,196	0
3890	Miscellaneous transportation equipment	37,266	494	37,760	18,120	10,646	28,766	0
3910	Precision instruments	162,781	10,878	173,659	70,284	68,120	138,404	0
3920	Optical instruments	230,954	12,026	242,980	85,765	11,533	97,298	0
3930	Watches and clocks	105,154	6,580	111,734	53,486	0	53,486	0
	Total	8,795,923	304,571	9,100,494	3,955,126	3,153,760	7,108,886	19,325

TABLE I-5.

Number	Item	9330	9310+9320	Total	9001	9140	Total	9110
3111	Inorganic basic chemicals	215,934	154	216,088	211,583	0	211,583	0
3112	Organic basic chemicals	453,774	41,962	495,736	465,463	0	465,463	0
3113	Synthetic dyes	32,047	9,720	41,767	36,248	0	36,248	0
3114	Explosives	24,091	182	24,273	15,429	0	15,429	0
3115	Chemical fiber materials	123,471	104	123,575	99,500	0	99,500	0
3116	Synthetic fiber materials	372,042	1,903	373,945	324,607	0	324,607	0
3117	Synthetic resin	260,084	8,966	269,050	244,067	0	244,067	12
3118	Chemical fertilizer	205,465	16,446	221,911	161,471	0	161,471	0
3119	Miscellaneous basic chemicals	231,242	16,489	247,731	228,159	0	228,159	0
3120	Oil and fats, animal and vegetable	183,387	36,272	219,659	213,186	0	213,186	0
3130	Paints	90,464	2,225	92,689	89,867	0	89,867	0
3191	Drugs	459,698	26,611	486,309	269,483	0	269,483	39,304
3192	Miscellaneous chemicals	365,031	42,750	407,781	192,933	0	192,933	13,942
3210	Petroleum products	1,030,596	135,784	1,166,380	977,541	0	977,541	0
3291	Coal products	232,282	849	233,131	204,904	0	204,904	52
	Total	4,279,608	340,417	4,620,025	3,734,441	0	3,734,441	53,310

TABLE I-6.

9001	All industry	70,031,501	3,230,694	73,262,195	36,249,867	9,763,085	46,012,952	1,939,615

Source: The Interindustry Relation Table for 1965, Japan.

MACHINERY INDUSTRY

Million yen

Department II			Mixed						Grand total		Ratio (%)	
9120 Household consumption expenditure	9130 Government consumption expenditure	Total	9150 Net increase in stocks	9210 Exports	9220 Special procurement demand	Total	Allocation Department I	Allocation Department II	Department I total	Department II total	Department I total	Department II total
0	940	940	4,134	20,818	3	24,955	24,883	72	350,578	1,012	99 7	0.3
0	0	0	−2,083	16,749	0	14,666	14,666	0	265,860	0	100 0	0 0
4,263	192	4,455	2,146	94,840	54	97,040	96,651	389	1,204,536	4,844	99.6	0.4
0	614	614	−2,746	22,968	98	20,320	20,292	28	473,296	642	99.9	0 1
542	2,641	3,183	573	7,138	12	7,723	7,308	415	63,351	3,598	94.6	5 4
119,192	3,809	126,151	−19,082	31,835	335	13,088	4,823	8,265	78,433	134,416	36.8	63.2
0	12	12	469	26,260	8	26,737	26,736	1	323,940	13	100.0	0 0
0	605	605	−6,263	43,816	275	37,828	37,784	44	560,212	649	99.9	0 1
268,060	21,613	305,848	−9,653	169,182	3,252	162,781	59,294	103,487	234,531	409,335	36.4	63.6
5,562	11,202	16,764	14,832	77,053	1,464	93,349	91,989	1,360	1,226,212	18,124	98 5	1 5
· 0	14,665	· 14,665	14,463	285,404	145	300,012	279,377	20,635	477,922	35,300	93.1	6.9
0	14	14	−6,888	14,653	0	7,765	7,765	0	259,836	14	100.0	0 0
77,746	4,306	82,052	27,614	91,851	2,302	121,767	114,671	7,096	1,440,562	89,148	94.2	5 8
63,492	2,848	66,340	0	0	140	140	119	21	386,316	66,361	85.3	14.7
88,608	564	89,172	3,990	63,539	1	67,530	44,865	22,665	221,374	111,837	66.4	33.6
0	39,976	39,976	−9,152	3,805	2,284	−3,063	−1,776	−1,287	53,420	38,689	58.0	42.0
2,000	3,190	5,190	511	461	2,832	3,804	3,223	581	31,989	5,771	84.7	15.3
19,451	204	19,655	1,697	13,894	9	15,600	13,660	1,940	152,064	21,595	87.6	12.4
73,636	1,279	74,915	4,085	65,801	881	70,767	39,982	30,785	137,280	105,700	56.5	43.5
41,766	457	42,223	6,519	9,436	70	16,025	8,955	7,070	62,441	49,293	55.9	44.1
764,318	109,131	892,774	25,166	1,059,503	14,165	1,098,834	895,267	203,567	8,004,153	1,096,341	88.0	12.0

CHEMISTRY INDUSTRY

0	73	73	609	3,823	0	4,432	4,430	2	216,013	75	100.0	0 0
0	39	39	7,459	22,775	0	30,234	30,231	3	495,694	42	100.0	0 0
263	75	338	1,913	3,268	0	5,181	5,133	48	41,381	386	99.1	0 9
775	5,752	6,527	702	1,606	9	2,317	1,628	689	17,057	7,216	70.3	29 7
0	0	0	869	23,206	0	24,075	24,075	0	123,575	0	100 0	0.0
0	0	0	524	48,814	0	49,338	49,338	0	373,945	0	100.0	0.0
0	14	26	4,798	20,159	0	24,957	24,954	3	269,021	29	100.0	0.0
0	132	132	6,441	53,867	0	60,308	60,259	49	221,730	181	100 0	0.0
0	5	5	4,106	15,364	97	19,567	19,567	0	247,726	5	100.0	0.0
0	0	0	3,222	3,251	0	6,473	6,473	0	219,659	0	100.0	0.0
0	290	290	1,041	1,465	26	2,532	2,524	8	92,391	298	99.7	0.3
128,990	7,412	175,706	30,567	10,055	498	41,120	24,891	16,229	294,374	191,935	60.5	39.5
161,050	440	175,432	14,258	24,193	965	39,416	20,644	18,772	213,577	194,204	52.4	47.6
108,878	38,230	147,108	−455	38,868	3,318	41,731	36,272	5,459	1,013,813	152,567	86.9	13.1
23,662	986	24,700	3,115	332	80	3,527	3,148	379	208,052	25,079	89.2	10.8
423,618	53,448	530,376	79,169	271,046	4,993	355,208	313,567	41,641	4,048,008	572,017	87.6	12.4

ALL INDUSTRY

18,091,081	3,217,197	23,247,893	569,935	3,340,925	90,490	4,001,350	2,658,496	1,342,854	48,671,448	24,590,747	66.4	33.6