Profit Rate Differentials by Size since 1960 in Japan

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Summary

Profit rate is one of the basic economic variables to which any analysis of capitalism refer and finally come back, because it is the motive of capitalist activities and also the final judgement to them by the supreme judge, market. This paper pays attention to profit rate differentials by size of capital in Japan since 1960 and intends to fill up an insufficient part of analysis of Japanese capitalism.[2] The reason why is that it is one of antagonistic features of capitalist development in addition to the most basic conflicts between capital and labour.

The main object of the paper is to have a look at the changes in profit rate differentials as expression of conflicts among capitalists in capitalist development, therefore profit rate differentials, rather than profit rate. It is necessary to describe negative aspect to complete the whole description of capitalist development. Will observations on profit rate differentials in the post War era of Japan fit with existing notion about capitalist development? Or rather will they require additional explanations?

The paper is organized as follows. In the chapter Ⅰ profit rate is defined along the traditional line of Marxian economics and so as to be able to use the data source.[3] Next it is modified by considering internal reserves[4], which we call gross profit rate. And third, one of index of return on assets "operating profit on total assets" is also defined. The main feature of return on assets in relation to the rate of profit lies in reflecting financial situation of corporations, namely negative effect of debts to profitability. In the chapter Ⅱ we briefly look at changes in profit rate since 1960, before looking at their differentials, to confirm that when overall economic situation is good, capitalist situation is good(vice versa), or rather capitalist situation mainly leads the overall economic situation. In the chapterⅢ we look at changes in profit rate differentials and pick up a few problems, of which the biggest is the order of the level of profit rate by size of capital. To clear the problem, in the chapter Ⅳ we apply the extended definition of "gross profit rate" and analyse the results, and also in the chapter Ⅴ we try "operating profit on total assets". In the chapter Ⅵ we summarise results of these trials and state some conclusions.

We do not step into the arguments about which is the appropriate definition for our purpose, not because it we think unconstructive, but because the problem is too difficult to solve fully. Rather we

[1]) sato@kansai-u.ac.jp

[2]) For example, Imura(2000, 2005).

[3]) ""*Financial Statements Statistics of Corporations by Industry*" Ministry of Finance Japan, each year(since 1960)

[4]) Following the advice which Prof Kazuyuki Uni of Kyoto University gave me at the Conference held at Aichi University, Japan in 2006.

use these rates alternatively and observe the results, of which some require us additional explanations and others do not.

Ⅰ Definitions of profit rates

1. Profit rate

In order to use the data of the source and also to be along the line of traditional Marxian economics, we first define profit rate as follows.

(1) profit rate＝(value added－salaries for employees－welfare expenses）／(tangible fixed assets + intangible fixed assets)

, where construction in process is excluded from tangible fixed assets and computer software is included into intangible fixed assets.[5]

2. Gross profit rate

Considering the importance of internal reserves, we expand the definition of the profit rate so as to replace value added with (value added + internal reserves) in (1) and call it the gross profit rate. Namely,

(2) the gross profit rate＝(value added + internal reserves－salaries for employees－welfare expenses）／(tangible fixed assets + intangible fixed assets)

3. Operating profit on total assets

Not only profit rate and gross profit rate we also try “return on assets” which are often used in analysis of business management. Among them we pick up “operating profit on total assets”, because it is the most fundamental.

(3) operating profit on total assets ＝operating profit／total assets

, where total assets = debts + capital[6]. Also we call (operating profit + internal reserves) gross operating profit.

At last on the scale of class of corporations by size, the size of corporations is scaled by capital. And the classes are summarized into the three ones, (1)large(over billion Yen), (2)medium(billion Yen – 50million Yen) and (3)small(under 50million Yen).[7]

Ⅱ Changes in the profit rate(total industries）

Let us begin with changes in the profit rate of total industries since 1960, before looking closely at profit rate differentials. We also pay attention to the profit rates of two main industries,

[5]) Land is not included. It is possible to define some other slightly different profits rates, which do not make big differences for our purpose.
[6]) Stock variables, such as fixed assets, total assets are mean of value at the beginning of the year and at the end of the year.
[7]) Following Ohashi(2005).

manufacturings(total） and services(total). We can easily pick up clear features of the changes in the profit rate of total industries(see **Fig.Ⅱ-1**).

(1) At first glance we notice the falling tendencies of the profit rate (total industries) and the economic growth rate in the total period. Also there are similar changes in the tendencies at the former half in the 1970s and at the latter half of the 1990s. The big difference between the changes in the two variables is in the period from 1960 to the former half of 1970s. In the period the profit rate rises but the economic growth does not clearly rise.

(2) Second we can confirm a close positive correlation between profit rate of the total industries and the economic growth rate(see **TableⅡ-1(1)**). The latter is the most representative variable to show the general economic situation among the various ones. We read this fact that the general economic situation largely depends on capitalist benefits.

(3) Turning eyes to manufacturings(total) and services(total), changes in the profit rates and their correlation with the economic growth rate is not the same, but similar (see **TableⅡ-1**).

According to these observations and also basic common knowledge on the economic history of post War era, we notice changes in profit rates with two turning points, namely the former half of 1970s and the latter half of 1990s.

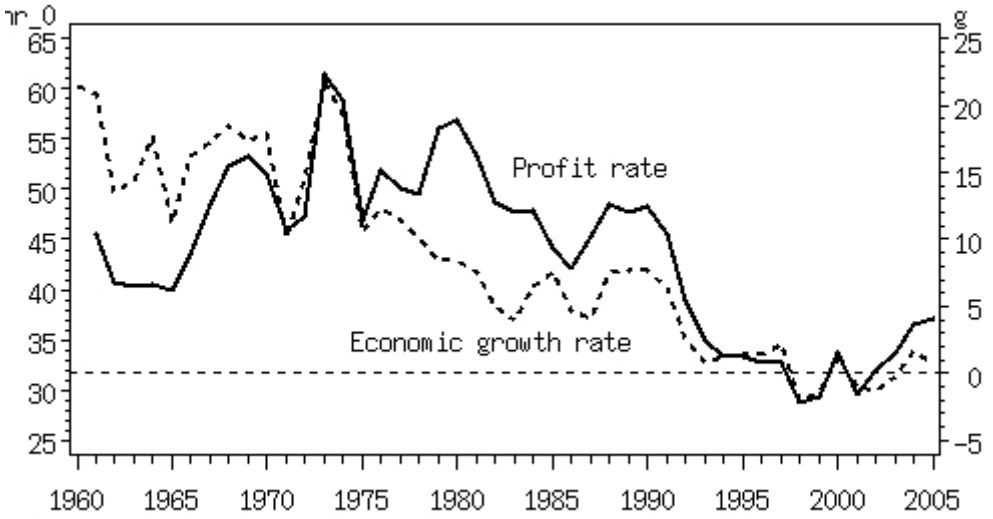


Fig.Ⅱ-1 Profit rate(total industry) and economic growth rate

TableⅡ-1 Changes in the profit rate

(1) Correlation between profit rate and economic growth rate

PEARSON CORRELATION COEFFICIENT/

PROB > |R| UNDER H0:RHO=0/

N=45

	profit rate		
	total industries	manufacturings	services
economic growth rate	0.72500	0.69677	0.79311
	<.0001	<.0001	<.0001

Note) economic growth rate is % increase in GDP on the previous year.

(2) Means and SD of profit rate

	N	mean	SD
total industries	45	43.7	8.49
manufacturings	45	45.3	8.43
services	45	34.1	6.70

Note) SD=Standard Deviation

Ⅲ Profit rate differentials

Before having a close look at profit rate differentials by size in the total industries, let's have a overlook at profit rates by size.

1. Profit rates by size

At first glance, we can observe a few clear features about the changes in profit rates by size in the total industries.(see **Fig.Ⅲ-1**)

(1) As same as in total industries in every class by size mildly falling tendency of the profit rate can be confirmed.(see **TableⅢ-1(1)**) Also there are big wave-like changes in the profit rate with peaks at the former half of 1970s, at around 1990 and a recovery from the bottom in the former half of 1990s.

(2) Again as same as in total industries in every class by size there is positive correlation between profit rate and economic growth rate(see **TableⅢ-1(2)**).

(3) The lager the size is, the lower is the profit rate(vice versa). Namely profit rate(in small class)> profit rate(in medium class)> profit rate(in large class), and they do not cross each other.[8] This fact is paradoxical therefore requires additional explanations.

(4) Changes in the profit rates of manufacturings(total) and services(total) are similar. (see **Fig.Ⅲ-2**) But width between profit rates of large sized class and small sized one in manufacturings(total) is larger than that in services(total).

[8]) The profits rate of the medium sized class in 2005 is exceptional and not a mistake of handling data.

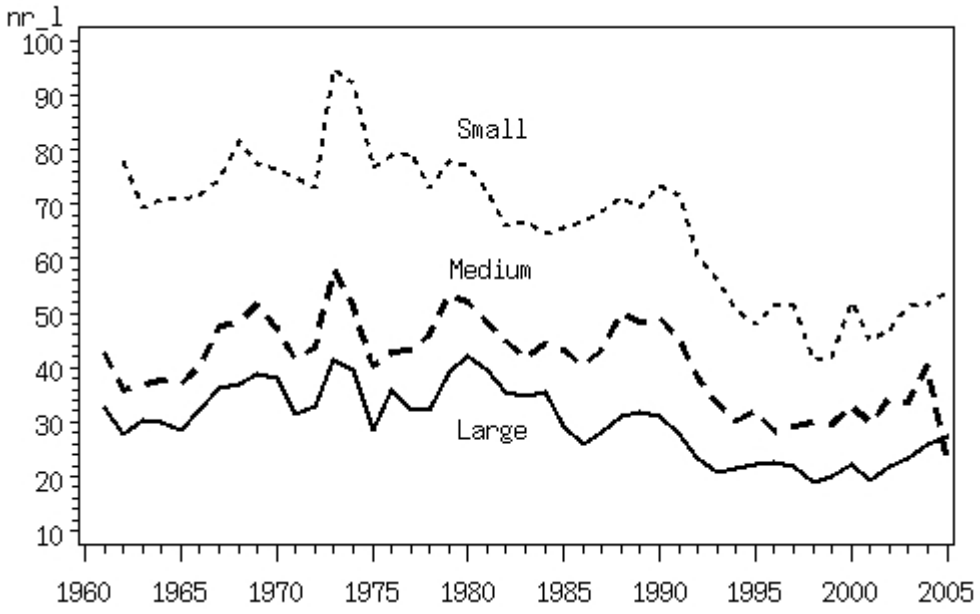


Fig.Ⅲ-1 Profit rates by size(total industries)

TableⅢ-1 profit rates by size(total industries)

(1) Means of profit rates by size

size	1960-1973	1974-1998	1999-2005	1960-2005	
Large	33.6 (13)	30.0 (25)	22.9 (7)	30.0 (45)	
					6.55
Medium	43.7 (13)	41.9 (25)	31.9 (7)	40.9 (45)	
			7.95		
small	76.1 (12)	66.8 (25)	49.0 (7)	66.5 (44)	
					13.0

Note)(number of samples). On the second raw in the total period is SD.

(2) Correlation between profit rates by size and economic growth rate

PEARSON CORRELATION COEFFICIENT/

PROB > |R| UNDER H0:RHO=0/

N=45

	profit rate(total industries)		
	large	medium	small
economic growth rate	0.74667	0.65404	0.88236
	<.0001	<.0001	<.0001

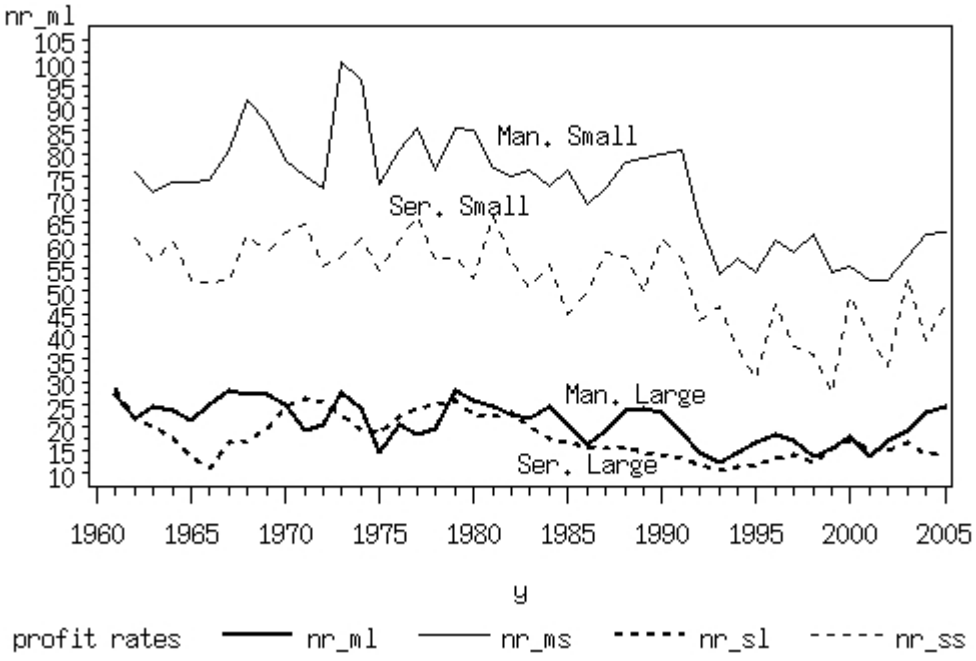


Fig.Ⅲ-2 Profit rates by size(manufacturings and services)

2. Profit rate differentials by size(total industries)

Let's have a look directly at profit rate differentials by size of capital in the total industries(see **Fig.Ⅲ-3**). We can easily recognize a few clear features.

(1) There is a tendency of narrowing gap between profit rates in the total period(see **TableⅢ-2(1)**).

(2) There are three peaks of waves in the latter half of 1960s, in the former half of 1980s and in the latter half of 1990s. As the reverse side of the coin, there are also three troughs between peaks in the latter half of 1970s, in the latter half of 1980s and in the former half of 2000s.

The above two observations can be summarized into one, namely "profit rate differentials expand in the active phase of capital accumulation(vice versa)." Actually the negative correlation between profit rate differential and the economic growth rate is confirmed(see **TableⅢ-2(2)**).

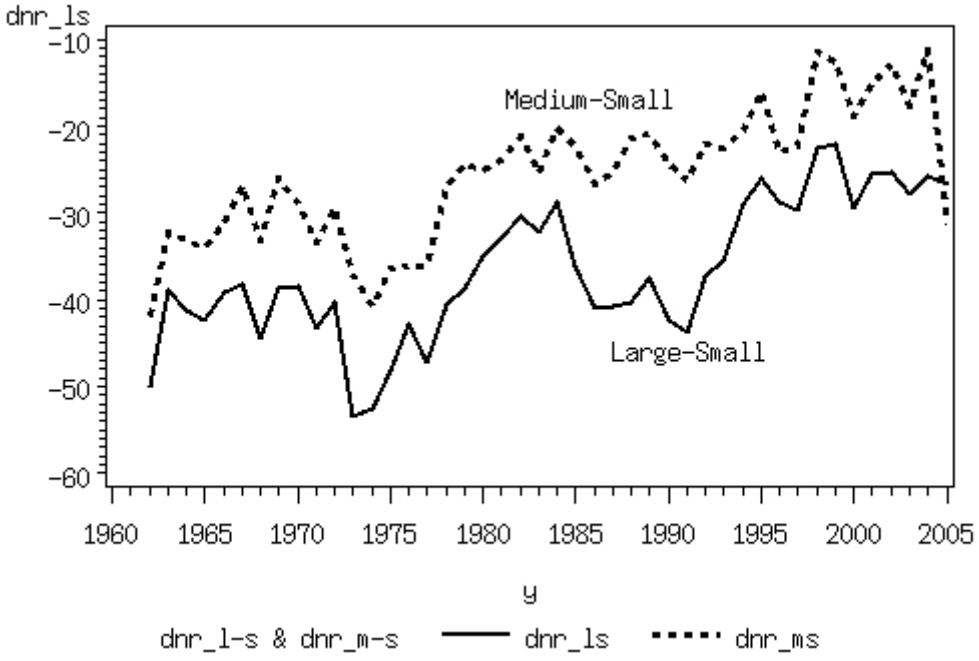


Fig.Ⅲ-3　Profit rate differentials by size(total industries)

TableⅢ-2 Profit rate differentials(total industries)

(1) Means of profit rate differentials(total industries)

	1960-1973	1974-1998	1999-2005	1960-2005
Large sized－small sized	-42.4 (12)	-36.8 (25)	-26.1 (7)	-36.6 (44)
			8.05	
Medium sized－small sized	-32.3 (12)	-24.9 (25)	-17. 1(7)	-25.7 (44)
			7.74	

Note) On the second line in the total period are SD

(2) Correlation between profit rate differentials(total industries) and economic growth rate

PEARSON CORRELATION COEFFICIENT/

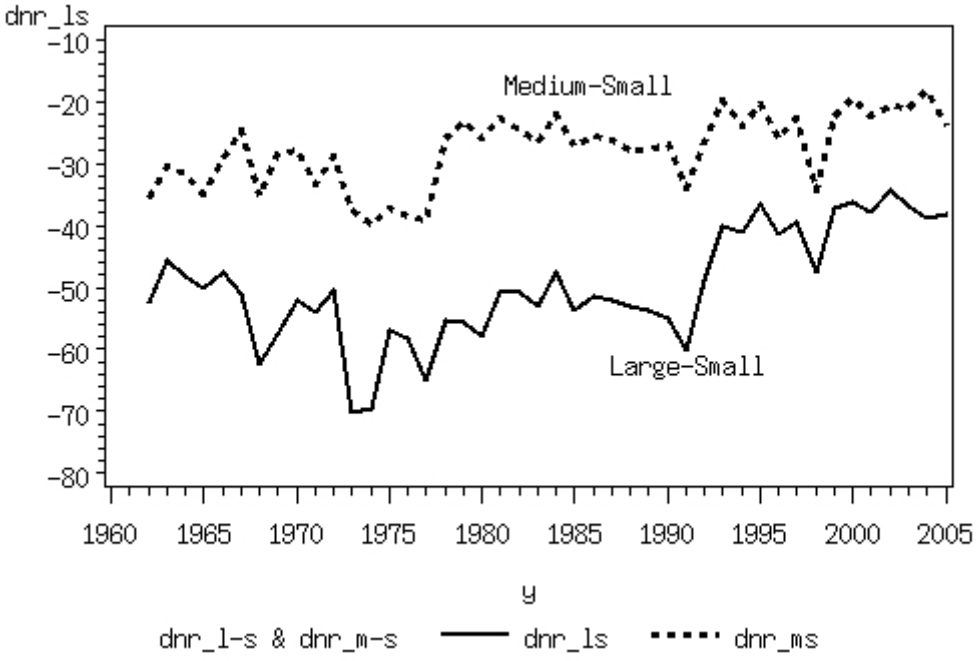
PROB > |R| UNDER H0:RHO=0/N=44

profit rate differentials	Large sized－small size	medium sized－small sized
Economic growth rate	-0.79616	-0.78178
	<.0001	<.0001

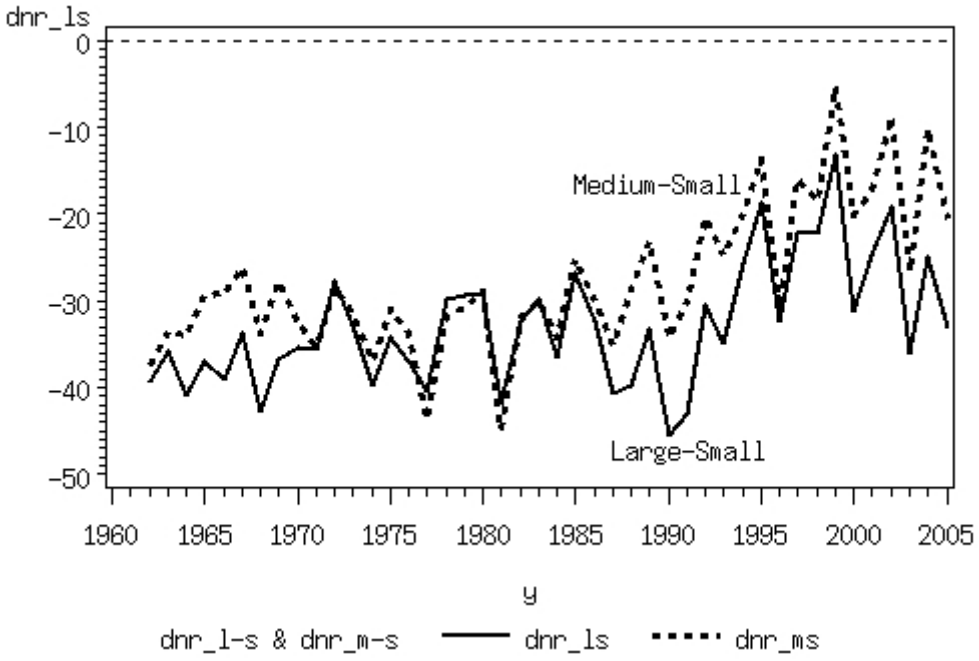
3. Profit rate differentials(manufacturings and services)

Changes in the profit rate differentials in manufacturings(total) and services(total) are similar, although there are lots of differences(see **Fig.Ⅲ-3**、**TableⅢ-3**). The differences between them are of

degree and not of character, of which the biggest one is the gap between profit rates in the large and the medium sized.



(Manufacturings)



(Services)

Fig.Ⅲ-3 Profit rate differentials by size(manufacturings and services)

TableⅢ-3 Profit rate differentials by size(manufacturings and services)

(1) Correlation between profit rate differentials and economic growth rate

PEARSON CORRELATION COEFFICIENT/

PROB > |R| UNDER H0:RHO=0/N=44

industry	manufacturings		services	
Difference in size	Large sized－small sized/ Medium sized－small sized		Large sized－small sized / Medium sized－small sized	
economic growth rate	-0.73066	-0.64936	-0.56109	-0.61630
	<.0001	<.0001	<.0001	<.0001

(2) Means of profit rate differentials(manufacturings)

	1960-1973	1974-1998	1999-2005	1960-2005
Large sized－small sized	-53.5 (12)	-51.8 (25)	-37.1 (7)	-49.9 (44)
			8.96	
Medium sized －small sized	-31. 5(12)	-27.8 (25)	-21.1 (7)	-27.7 (44)
			5.91	

(3) Means of profit rate differentials(services)

	1960-1973	1974-1998	1999-2005	1960-2005
Large sized－small sized	-36.4 (12)	-33.2 (25)	-26.1 (7)	-32.9 (44)
			7.15	
Medium sized －small sized	-31. 6(12)	-29.2 (25)	-15.6 (7)	-27.7 (44)
			8.58	

4. Profit rate differentials by industry

We look at the profit rate differentials from another angle. Namely we compare the profit rate of different industries, in this case manufacturings and services in the same class by size.

Profit rate differentials by industry in the large sized class and small one is big.(see **Fig.Ⅲ-4)** The gap in the small class is far bigger than the one in the large sized class, although even in the small sized class the gap of profit rate differentials is narrowing in the long run. (see **TableⅢ-4**)

There is a big difference in the negative correlation between profit rate differentials by industry and economic growth rate among the classes by size.(see **TableⅢ-5**) In the large sized class the correlation is not significant. In other words it is not dependent on the economic situation.

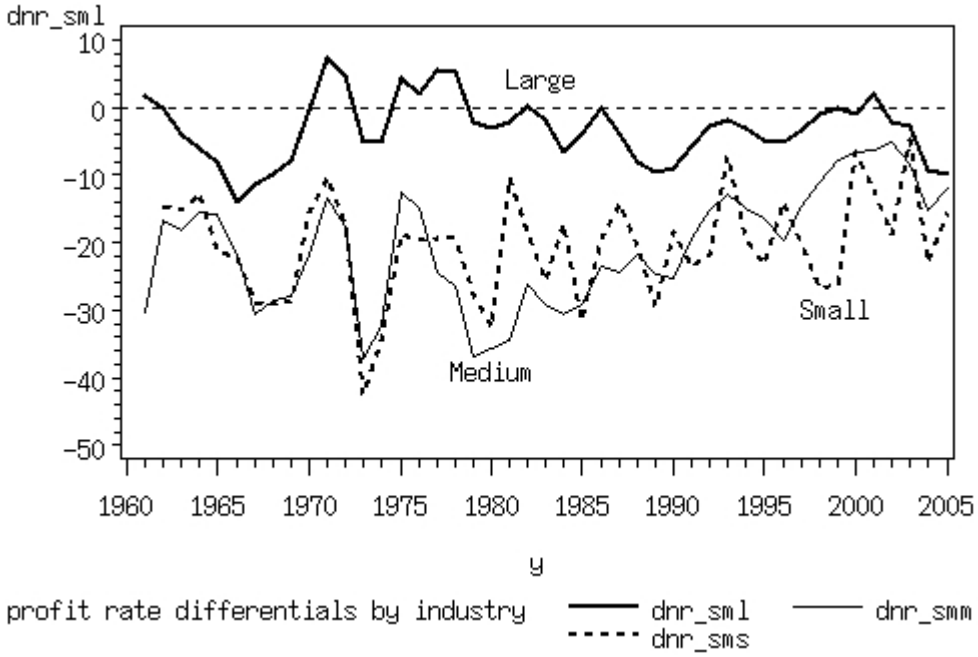


Fig.Ⅲ-4 Profit rate differentials(services－manufacturings)

TableⅢ-4 Means and SD of profit rate differentials(services－manufacturings)

sized	1960-1973	1974-1998	1999-2005	1960-2005
large	-4.1 (13)	-2.7 (25)	-3.3 (7)	-3.2 (45)
	6.4	4.0	4.6	4.8
medium	-22.7 (13)	-23.1 (25)	-8.8 (7)	-20.8 (45)
	7.4	7.7	3.5	8.7
small	-21.6 (12)	-21.4 (25)	-15.3 (7)	-20.5 (44)
	9.2	6.6	8.0	7.8

TableⅢ-5 Correlations between profit rate differentials by industry and economic growth rate

PEARSON CORRELATION COEFFICIENT/

PROB > |R| UNDER H0:RHO=0/

N=45

	profit rate differentials(services－manufacturings)		
	Large sized	medium sized	small sized
Economic growth rate	-0.09919	-0.56461	-0.37750
	0.5168	<.0001	0.0115

5. Summary

These observations in this chapter fit well or in the weaker sense do not contradict with existing our

notions about capitalist development with one exception. The larger is the size, the lower the profit rate is. Therefore we introduce internal reserves as an additional variable to explain the problematic fact.

Ⅳ Gross profit rate differentials－effect of internal reserves

In this chapter we look at effect of internal reserves on profit rate differentials. Internal reserves consist of several variables[9]. And there have been arguments which variable is to be included or not. We bypass these arguments, not because we think these are not constructive, but because too difficult to deal with fully. Rather we use both the widest definition and the narrowest one and compare the difference in the results.

We call (profits + internal reserves) the gross profits and (gross profits/fixed assets) the gross profit rate.[10]

1. Profit rate and gross profit rate(total industries)

The effect of the internal reserves rate on the difference between profit rate and gross profit rate is big.(see **Fig.Ⅳ-1**) By definition difference between them is the same with the difference in the internal reserves rate.

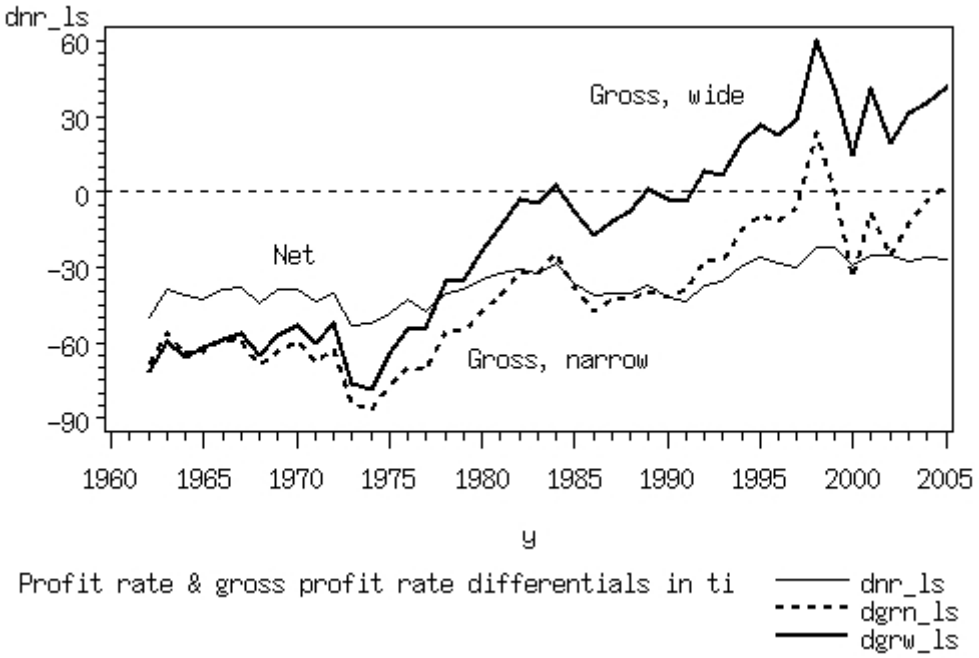


Fig.Ⅳ-1 Profit rate and gross profit rate differentials by size(total industries)

[9])These are Ⅰ：earned surplus, Ⅱ：allowance, Ⅲ：depreciation expense, and Ⅳ：capital reserve. The narrowest definition includes just Ⅰ, while the widest one includes Ⅰ－Ⅳ all. See Ohashi(2005).

[10]) gross profits rate=(profits+internal reserves)/fixed assets
=the profits rate + internal reserves rate
, where internal reserves rate= internal reserves/fixed assets.

The effects of internal reserves rate are summarized into the following 3 points.(see **TableⅣ-1**)

(1) The effect of internal reserve rate on gross profit rate differentials(large sized class－small sized one) is very big and also changes according time from negative to positive.

(2) The wider the definition of gross profit rate is, the wider the gap between the profit rate and gross profit rate. Even so, gross profit rate in the large sized class becomes higher than one in the small sized class in the latter half 1990s and after.

(3) The negative correlation of the gross profit rate with economic growth rate is stronger than the one of profit rate with economic growth rate.

TableⅣ-1　Gross profit rate differential(total industries)

(1) Correlation between gross profit rate differentials and economic growth rate

PEARSON CORRELATION COEFFICIENT/

PROB > |R| UNDER H0:RHO=0/N=44

	profit rate differential/ gross profit rate differential(narrow)/ gross profit rate/ differential(wide)		
Economic growth rate	-0.79616 <.0001	-0.88426 <.0001	-0.93308 <.0001

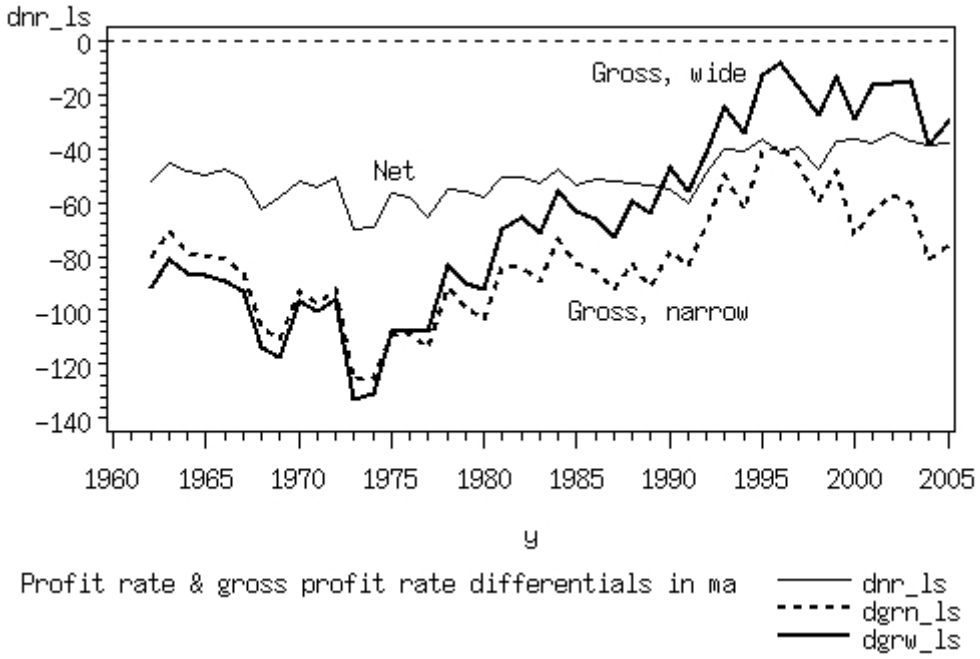
(2) Means of gross profit rate differentials

	1960-1973	1974-1998	1999-2005	1960-2005	
profit rate differential	-42.4(12)	-36.8(25)	-26.1(7)	-36.6(44)	
gross profit rate					8.05
differential(narrow)	-64.7(12)	-38.3(25)	-11.5(7)	-41.2(44)	
gross profit rate			25.9		
differential(wide)	-61.5(12)	-9.6(25)	31.8(7)	-17.2(44)	
			39.4		

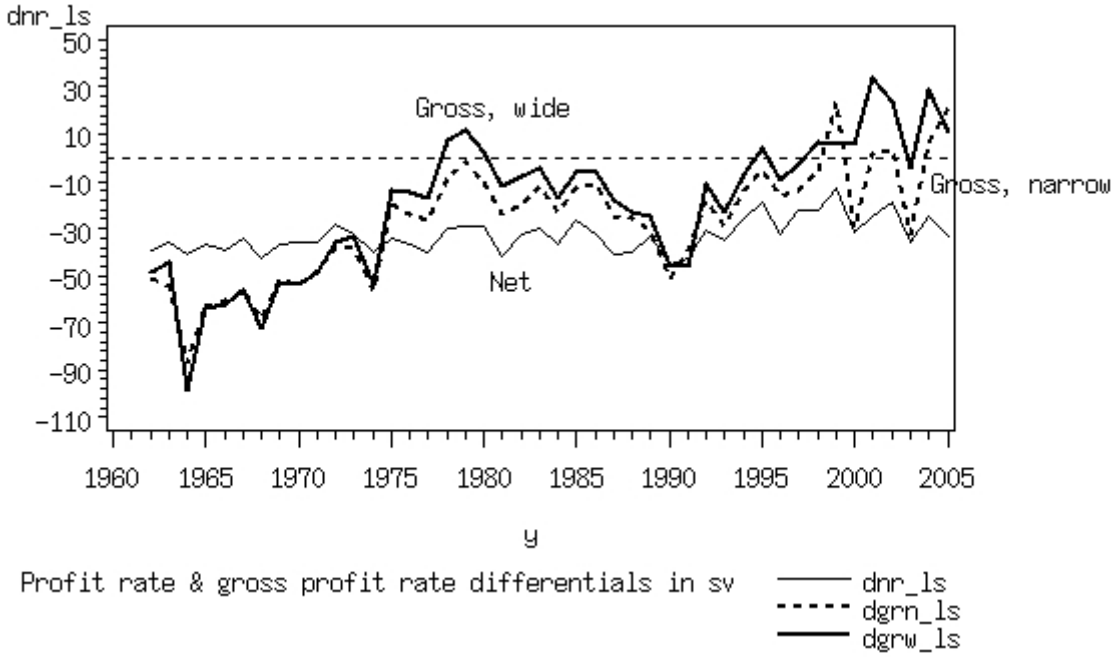
2. Gross profit rate differentials(manufacturings and services)

The difference in the effects of internal reserves rate on the gross profit rate of manufacturings and services is of degree and not of character.(see **Fig.Ⅳ-2、TableⅣ-2, 3**)

The positive effect on the gross profit rate is bigger in recent years than in the older days. Still in the manufacturings, 0>gross profit rate differential in any time, and gross profit rate differential(medium sized － small sized) <0 in any time. Even in services the period when gross profit rate differential(large sized－medium sized)>0, is not long.



(Manufanturings)



(Services)

Fig.Ⅳ-2 Profit rate and gross profit rate differentials by size

TableⅣ-2 Profit rate and gross profit rate differentials by size(manufacturing)

(1) Correlation between gross profit rate differentials and economic growth rate

PEARSON CORRELATION COEFFICIENT/

PROB > |R| UNDER H0:RHO=0/N=44

	profit rate differentials/ gross profit rate differentials(narrow)/ gross profit rate differentials(wide)
economic growth rate	-0.73066 -0.73434 -0.90575 <.0001 <.0001 <.0001

(2) Means of gross profit rate differentials(manufacturings)

	1960-1973	1974-1998	1999-2005	1960-2005	
profit rate differentials	-53.5 (12)	-51.8 (25)	-37.1(7)	-49.9 (44)	
gross profit rate					8.96
differentials(narrow)	-91.8 (12)	-81.7 (25)	-65.5 (7)	-81.9 (44)	
gross profit rate			21.0		
differentials(wide)	-98.8 (12)	-63.2 (25)	-22.5(7)	-66.4 (44)	
			35.5		

Table Ⅳ-3 Gross profit rate differentials by size(services)

(1) Correlation between gross profit rate differentials and economic growth rate

PEARSON CORRELATION COEFFICIENT/

PROB > |R| UNDER H0:RHO=0/N=44

	profit rate differentials/ gross profit rate differentials(narrow)/ gross profit rate differentials(wide)
economic growth rate	-0.56109 -0.76748 -0.78507 <.0001 <.0001 <.0001

(2) Means of gross profit rate differentials(services)

	1960-1973	1974-1998	1999-2005	1960-2005	
profit rate differentials	-36.4 (12)	-33.2 (25)	-26.1 (7)	-32.9 (44)	
gross profit rate					7.15
differentials(narrow)	-56.0 (12)	-21.0 (25)	-0.9 (7)	-27.3 (44)	
gross profit rate			24.0		
differentials(wide)	-55.9 (12)	-13.4 (25)	21.6(7)	-19.4 (44)	
			30.8		

3. Gross profit rate differentials by industry

How about the gross profit rate differentials by industry(services － manufacturings)?(**Fig.Ⅳ-3**) Internal reserves have positive effect on to the gross profit rate in manufacturings especially in recent years. The problem is that the widening gap between the gross profit rates of the two industries in

such a long run requires additional explanations.

What about the difference between classes in the gross profit rate differentials by industry?(**Fig.Ⅳ-4**)。We find out the similar situation as in the case of profit rate with small differences.

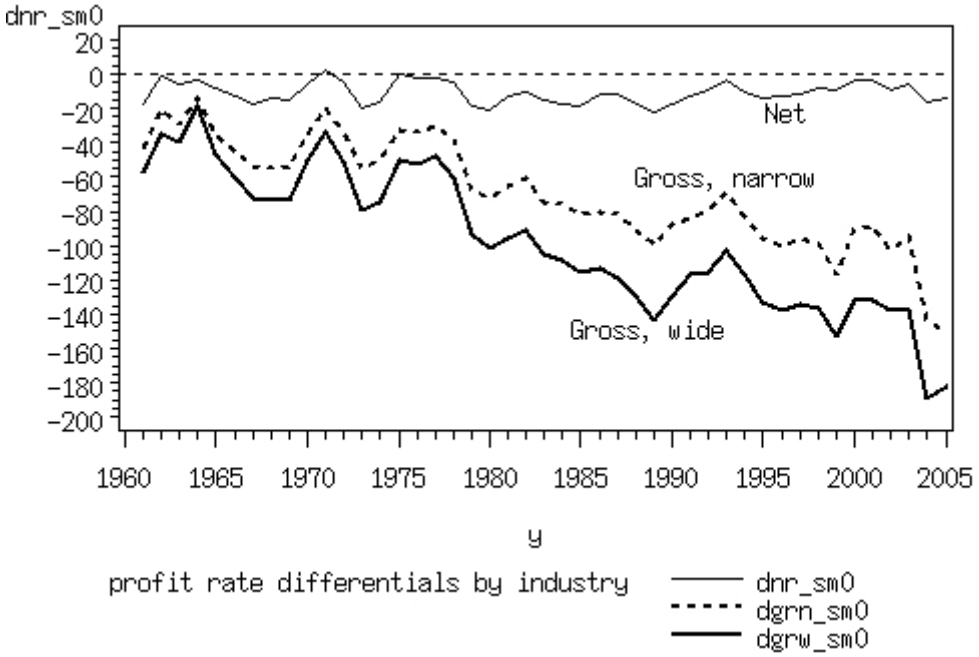


Fig.Ⅳ-3 Profit rate differential and gross profit rate differentials by industry

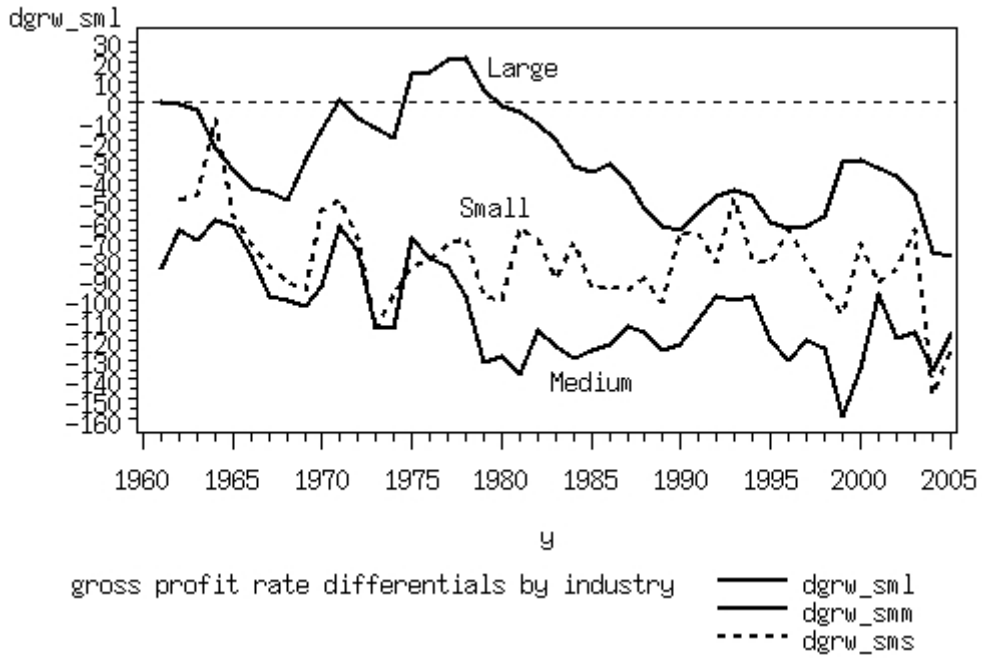


Fig.Ⅳ-4 Gross profit rate differentials by industry

TableⅣ-3 Gross profit rate differentials by industry(services－manufacturings)

(1) Means and SD

size	1960-1973	1974-1998	1999-2005	1960-2005
large	-20.8 (13)	-29.7 (25)	-47.6 (7)	-29.9 (45)
			26.4	
medium	-81.9 (13)	-113.4 (25)	-125.3 (7)	-106.2 (45)
			23.9	
small	-65.9 (12)	-81.2 (25)	-98.9 (7)	-79.9 (44)
			23.2	

(2) Correlation between gross profit rate differentials and economic growth rate

PEARSON CORRELATION COEFFICIENT/

PROB > |R| UNDER H0:RHO=0/

	gross profit rate differentials		
	Large sized	medium sized	small sized
economic growth rate	0.46750	0.54712	0.23481
	0.0012	0.0001	0.1250
	45	45	44

4. Summary

In the relation to the problem at the beginning of this paper, including internal reserves into profit makes the problem smaller, but after all does not make it disappear. The bigger effect of internal reserves on gross profit rate in manufacturings than in services is due to the higher level of using fixed assets than in services. And this is natural.

Ⅴ Returns on assets

We turn the eyes to return on assets which is often used in analysis of corporate management. The main point of the rate is considering the financial situation in measuring the profitability. Namely debts in included in the negative factor to the profitability. Among many turns on assets we concentrate our attention to “operating profit on total assets”, because this is the most fundamental one.

1. Operating profit on total assets differentials(total industries)

We have the similar relations among operating profit and gross operating profit(in the narrow and wide definition) on total assets differentials with the case of gross profit rate. The effect of internal reserves on operating profit on total assets differentials changes from negative to positive in accordance with time and is very big in recent years.

But here is one big difference that operating and gross operating profit on total assets differentials are positive since the middle of 1970s.(see **Fig.Ⅴ－1** and **TableⅤ-1**)

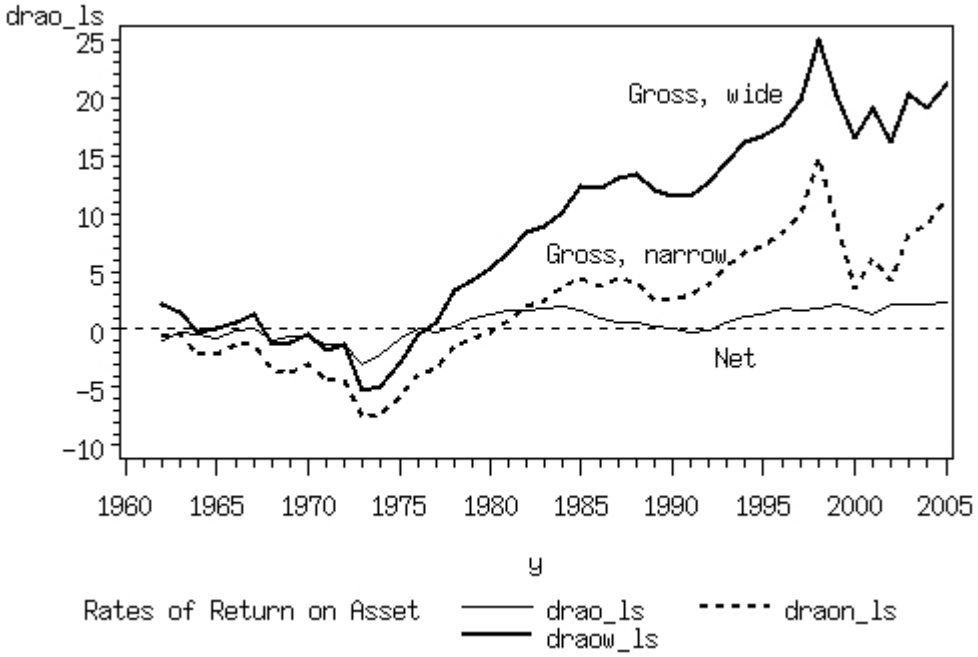


Fig.Ⅴ-1 Operating profit and gross operating profit on total assets differentials(total industries)

TableⅤ-1 Operating profit and gross operating profit on total assets differentials(total industries)

(1) Correlation between operating profit on total assets differentials and economic growth rate

PEARSON CORRELATION COEFFICIENT/

PROB > |R| UNDER H0:RHO=0/ N=44

	Operating profit on total assets differentials/ Gross operating profit on total assets differentials(narrow)/ Gross operating profit on total assets differentials (wide)
economic growth rate	-0.83159 -0.87596 -0.92477 <.0001 <.0001 <.0001

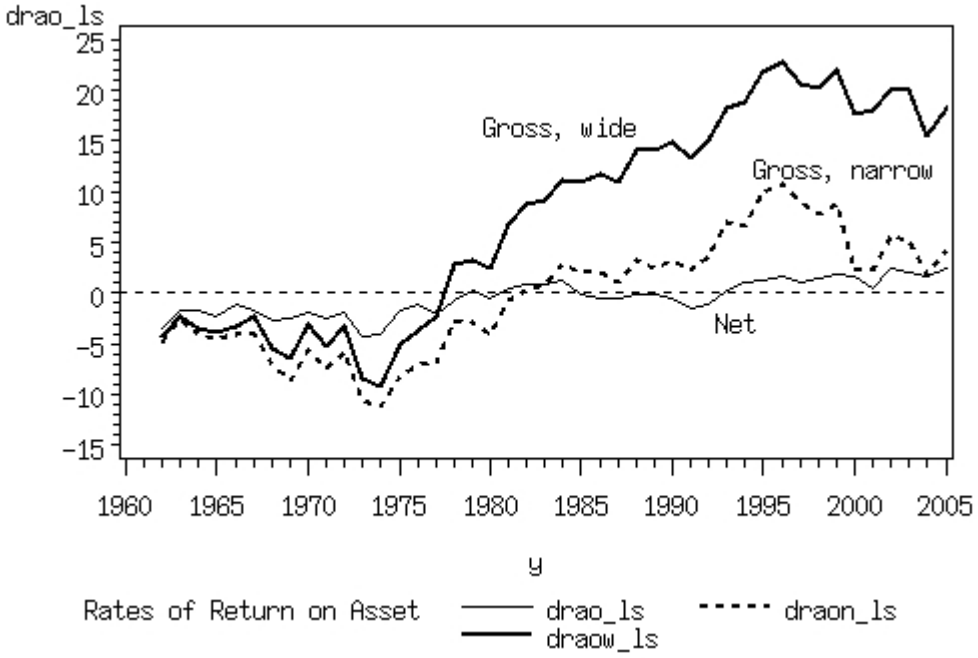
(2) Means of operating profit on total assets differentials

	1962-1973	1974-1998	1999-2005	1960-2005
Operating profit on total assets differentials/	-0.83(12)	0.74(25)	2.02(7)	0.52(44)
Gross operating profit on total assets differentials(narrow)/	-2.88(12)	2.69(25)	7.34(7)	1.91(44)
Gross operating profit on total assets differentials (wide)	-0.49(12)	9.91(25)	18.96(7)	8.51(44)

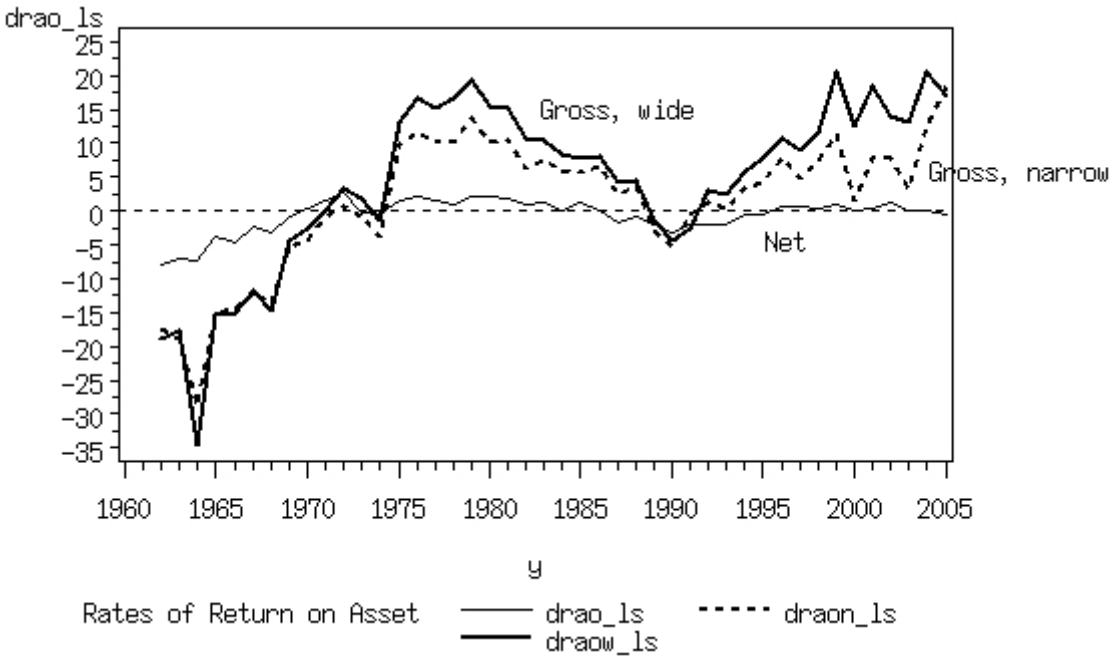
	8.46

2. Operating profit and gross operating profit on total assets differentials by size(manufacturings and services)

The difference in the effects of internal reserves rate on the gross profit rate of manufacturings and services is of degree and not of character.(**Fig.Ⅴ-2、 TableⅤ-2**) For example the effect is bigger in the manufacturings and especially in recent years. And there is a big fall in operating profit and gross operating profit on total assets differentials in services and not so in manufacturings.



(Manufanturings)



(Services)

Fig.Ⅴ-2 Operating profit on total assets differentials by size

TableⅤ-2 Operating profit on total assets differentials by size(manufacturings)

(1) Correlation between operating profit on total assets differentials and economic growth rate

PEARSON CORRELATION COEFFICIENT/

PROB > |R| UNDER H0:RHO=0/ N=44

	Operating profit on total assets differentials/ Gross operating profit on total assets differentials(narrow)/ Gross operating profit on total assets differentials (wide)
economic growth rate	-0.87879 -0.87266 -0.92720 <.0001 <.0001 <.0001

(2) Means of operating profit on total assets differentials

規模	1962-1973 1974-1998 1999-2005 1960-2005
Operating profit on total assets differentials	-2.31(12) -0.16 (25) 1.76 (7) -0.44 (44) 1.75
Gross operating profit on total assets differentials(narrow)/ Gross operating profit on total assets differentials (wide)	-5.78(12) 1.25 (25) 4.26 (7) -0.19 (44) 5.82
	-4.28(12) 10.06 (25) 18.79 (7) 7.54(44) 10.4

TableⅤ-3 Operating profit on total assets differentials by size(services)

(1) Correlation between operating profit on total assets differentials and economic growth rate

PEARSON CORRELATION COEFFICIENT/

PROB > |R| UNDER H0:RHO=0/

N=44

	Operating profit on total assets differentials/ Gross operating profit on total assets differentials(narrow)/ Gross operating profit on total assets differentials (wide)
economic growth rate	-0.33078 -0.60471 -0.63194 0.0283 <.0001 <.0001

(2) Means of operating profit on total assets differentials

	1962-1973	1974-1998	1999-2005	1960-2005
Operating profit on total assets differentials	-2.73 (12)	0.07 (25)	0.30 (7)	-0.66(44) 2.50
Gross operating profit on total assets differentials(narrow)/ Gross operating profit on total assets differentials (wide)	-10.88(12)	5.21 (25)	8.95 (7)	1.41 (44) 9.93
	-10.88(12)	8.24 (25)	16.59 (7)	4.35 (44) 12.4

3. Gross operating profit on total assets differentials by industry

The situation is similar with gross profit rate in the sense that that the effect of to gross operating profit on total assets differentials is positive to manufacturings and the gap between the differentials is widening in the long run. The latter fact needs additional explanations.

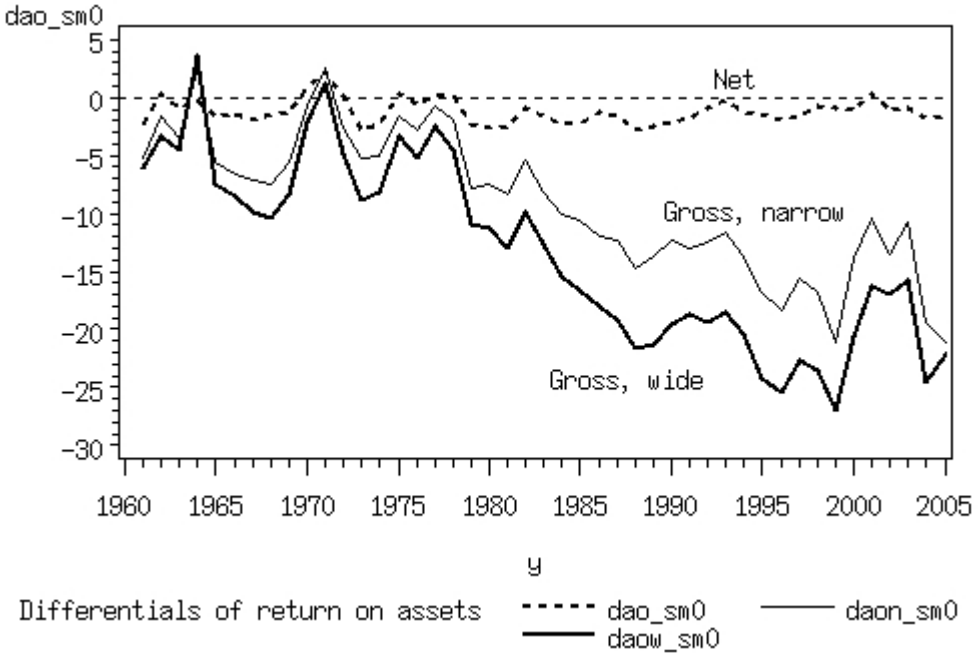


Fig. Ⅴ-3 Operating profit and gross operating profit on total assets differentials by industry

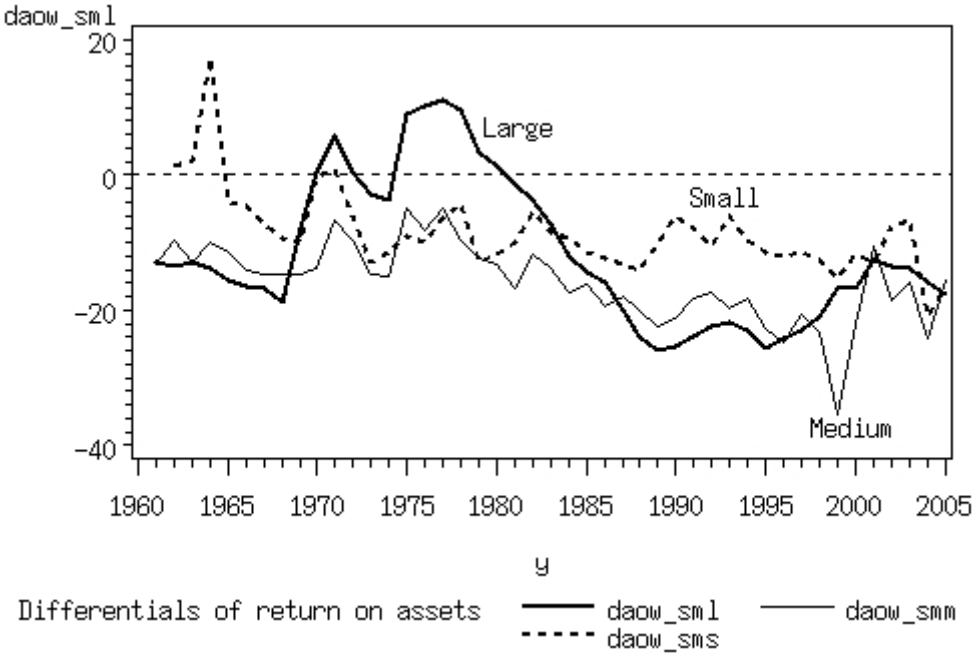


Fig. Ⅴ-4 Gross operating profit on total assets differentials by industry

Table Ⅴ-3 Gross operating profit on total assets differentials by industry

(1) Means and SD

size	1960-1973	1974-1998	1999-2005	1960-2005

large	-20.8 (13)	-29.7 (25)	-47.6 (7) 26.4	-29.9 (45)
medium	-81.9 (13)	-113.4 (25)	-125.3 (7) 23.9	-106.2 (45)
small	-65.9 (12)	-81.2 (25)	-98.9 (7) 23.2	-79.9 (44)

(2) Correlation between gross operating profit on total assets differentials and economic growth rate

PEARSON CORRELATION COEFFICIENT/

PROB > |R| UNDER H0:RHO=0/

	gross operating profit on total assets differentials		
	Large sized	medium sized	small sized
economic growth rate	0.46750	0.54712	0.23481
	0.0012	0.0001	0.1250
	45	45	44

Ⅵ Concluding remarks

Do the facts about changes in profit rates and their differentials since 1960 in Japan contradict with the existing notion of capitalist development or not? One big problem is the fact that profit rate of bigger sized is lower than that of smaller sized(vice versa). This fact requires additional explanations.

If internal reserves are included into profit, the problem becomes smaller. However the problem does not disappear. Rather another problem appears. That is that the gap between the gross profit rates of manufacturings and services is widening in the long run. This fact needs another explanation.

Operating profit on total assets does not need an additional explanation. However to include internal reserves into operating profit raises the same problem as in the case of profit rate.

In any case the importance of internal reserves and its analysis is increasing.

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