

《研究ノート》

# Are Workers in Nagasaki Over-Working without Enough Reward ? - preliminary note -

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## Abstract

It is often said the phrase of “ over-working without an enough reward ” has characterized the working environment in Nagasaki or other local economy. No detailed study has shown whether this means the unfairness the workers are forced to accept or not. If not, it means the rational consequences of some factors which affect the labor market environment. Our goal in this paper is to clarify that the less favorable terms and conditions for local workers can be partly explained by the labor productivity gaps. The combination of three factors (low productivity, low wage, low labor input) gives us the partial, but useful understandings about an inactive economic activities of local areas, such as Nagasaki.

**Keywords:** labor productivity, long working hours

## 1 introduction

The starting point of this essay is the well-known understandings that labor hours of workers in Nagasaki are considerably longer than other prefecture can scarcely be doubted. According to the Monthly Labor Survey released from Ministry of Health, Labor and Welfare, total labor hours (yearly) in Nagasaki are 1,889 , 1,919 , 1,927 , 1,927 and 1,876 hours since

2008 respectively, especially, the longest among Japan in last three years. These astonishing results have caused much of argument within the circle of the politician, local bureaucrats and researchers. However, the precise reason why it is so remains to be fully explored, therefore the implications of these results should not be exaggerated before a close examination of the background is given.

Although it is hard to find the reason or mechanism which makes working hours so long, considering the effect of the difference of labor productivity between areas may bring us a new analytical point. It is not unnatural the workers with high productivity can enjoy a short working hour, and vice versa. In other words, if the labor productivity in Nagasaki is lower than the national average, it might make the working hours of the appearance longer than the district with high productivity. On the other hand, some critics claim that the wage level in Nagasaki is breaching the principle “ the same labor - the same reward ” , because of its lowness. However, if the same discussion can be applied to the comparison of hourly wage between prefectures, we may be led to the other conclusion.

For that reason, the nature of long working hours in Nagasaki prefecture has a claim on our attention and a flesh approach is possible if we combine the survey data released from governmental office with a consideration of the labor productivity<sup>1</sup> .

## 2 measurement of labor-productivity

First of all, it is worthwhile to overviewing the situations we try to ana-

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1 All statistical data used here are downloaded from Portal Site of Official Statistics of Japan (*e-Stat*) , developed by Statistics Bureau, Ministry of Internal Affairs and Communications .

lyze. Figure 1 reports the fundamental information about the terms and conditions of full-time workers (weekly working hours, monthly salary paid) for national average and Nagasaki, based on the data taken from Monthly Labor Survey (2005 ~ 2009(2010)) . Same information for part-time workers is given by Figure 2 (individual data are displayed in Table 2) . As to the full time workers, points for Nagasaki shown by black-rectangle lie in a lower right area of points for national average, that is, the clear tradeoff between two variables exists. These are consistent with an understanding that suggests workers in Nagasaki are paid less regardless of their overworking.

Figure 2 provides a little different picture for the part time workers. The tradeoff is not quite as clear as the full-time workers. For example, while there is a slight tradeoff in manufacturing industries, the clear upward relation can be seen for the sales industries, prominently so in Nagasaki. However, in general, Figure 2 appears to support the tendency that working conditions in Nagasaki are inferior to the national average.

Other interesting finding is the directions of the change. Save some exceptional years, working hours of full time workers have been generally decreasing during the period concerned. This may reflect the sluggish demand for labor under the recent recession. Similarly working hours of part time workers in manufacturing industries show a synchronized decreasing. However, by contrast, part time workers in sales industries increased their working hours in the same periods. That is, in sales industries, the part time work forces are substitutional to the full time workers, but complementary in manufacturing industries<sup>2</sup> . The reason why awaits future studies.

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2 Fukaura (2012a) discusses such kind of substitution can be observed in the area with a vivid economic activity, for example, Tokyo. On the contrary in Nagasaki, an area whose regional economy is chronically stagnated, full-time and part-time workers are complementary with each other.

Intuitively, we can state two possible explanations on the difference in working hours among the prefectures. The first one is to focus on the Japanese labor market which is locally diversified. Under such a circumstance, terms and conditions are principally determined by the local factors within particular local economies, for example, working hours may be shorter in the area where the commuting means has not developed enough, than the city with highly convenient traffic network. However, nowadays in Japan, people do enjoy an alternative commuting method, a private car, even if the public transportation system is poor (this is the main reason why in local cities the traffic jam in the morning is a commonplace event) . Then the locality of labor market is not deserved to be a principal reason of the differentials of the working hours.

Rather, it is vaguely recognized that differentials which exists in labor productivity among the regions might affect the working conditions. Yet translating such recognition into the numerical value of labor productivity is exceedingly difficult, given what we know of irregularity of employment, and the well-known facts that we very rarely have precise information on the skills, a nature of production process, and so on. Because similar difficulties are inevitable in many governmental statistics or academic thesis, very often, a simple, alternative but expedient method is applied, while such a way only gives us the rough or biased estimates.

The method we rely on here is also simply one, that is, the labor productivity (LP thereafter) can be derived from dividing the value of aggregate economic activity by the number of the worker, which is often called “ man-base LP ”<sup>3</sup> . Then in order to reflect the difference of LP among prefectures,

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3 For the LP of each prefecture, Japan Productivity Center (2006) is useful. However, we cannot find the same estimates since then. Some theoretical problems that arise from this simple method are described in appendix 1.

the standard scores of each LP are calculated for each prefecture. Because our interest is focused onto in the comparison of Nagasaki with the national average, not with the most prestigious prefecture, hence a relative values of the standard scores are mainly applied to what follows<sup>4</sup> .

Table 1 summarizes the results. Here three types of LP for two kinds of workers are given, LP of (1) all industries , (2) manufacturing industries, and (3) wholesale and retail industries (“ sales industries ”hereafter) Here , (2) and (3) represent the second and tertiary industries respectively.

Due to the limited availability/accessibility to the data, the variables for aggregate economic activity are not the common ones, and then LPs derived here do not bring the same implication. However, some eye-catching features are observable. Considering the all industries, that the standard score of Tokyo is extraordinarily high tells Tokyo is no doubt an outstanding prefecture. But it is not so in manufacturing industries. On the other hand, LP of manufacturing industries in Mie and Yamaguchi is high. This does not mean both prefectures play the core, central role in manufacturing industries in Japan, but suggests their local economy depends heavily on the particular manufacturing companies (heavy chemical complex in Mie, cement/chemical firm in Yamaguchi) . Relatively balanced structure of local economy is equipped to Aichi.

LPs of Nagasaki workers are generally low (43.73) , although LP of manufacturing industries is a little higher than the other one. This cor-

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4 Because LP derived here is based on the realized value of aggregate economic activity and the realized numbers of workers, it is an “ ex post LP ”. This must be different from an “ ex ante LP ” that brings the results. Namely, the realized value of production is affected by many factors, for example, exchange rate or WPI, CPI, those are independent from the labor market. However, the generally stable price level or yen/dollar rate during the years concerned support our method partially.

responds to the results of Fukaura (2012b) where, by applying the Data Envelope Analysis, he concluded the efficiency of Nagasaki-economy was the worst one across over Japan.

Dividing Nagasaki's LP by 50 yields the relative position of Nagasaki in the Japanese economy because the standard value is calibrated as mean value of LP corresponds to 50 . For example, as to the manufacturing industries, we have  $0.9216=46.08 \div 50$  , which teaches us workers in Nagasaki are performing less by around 8 % , compared with the national average. In this sense, we call it as " PL gap " . 0.8745 in all industries and 0.8885 in sales industries are given by the same fashion.

Explaining how these differentials of LP affect the terms and condition of workers in Nagasaki requires the other calculations which are explored in the next section<sup>5</sup>.

### 3 differentials in working hours and salary

Focal messages of our discussion are summarized in Table 2 and 3 . We consider two types of workers (full-time workers, part-time workers) , three divisions of industries (all industries, manufacturing industries, sales industries) , according to the aforementioned reasons. Further, working hours, salary are shown for all prefectures and Nagasaki, quoted from the Monthly Labor Survey (2005 ~ 2010) . " Gap (salary) " tells how the earned Monthly wage in Nagasaki differs from national average and, as expected, all values are negative ones. " Gap (hours) " means the same. These two values are translated to " ratio (salary) and " ratio (hours) " , respectively .

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5 Note that this arithmetic method to derive the LP is widely used in the academic or practical discussions. However, in most studies, a common limitation of this has been mentioned more or less. The latest example is Yamato, Ichikawa (2013) .

However, we cannot step forward from “ ratio (salary) and “ ratio (hours) ”, unless the PL gap is included into our consideration. On the other hand, because of the data accessibility, we cannot have the PL gap for each year. This implies we cannot adjust the two ratios annually by the PL gap. Then, as the second best way, a single value of PL gap estimated from 2009 data is uniformly applied to all years concerned. For it is not certain to which direction this simplification brings the analytical bias, it should be noted that the implication of our conclusion, stated later, must not be exaggerated.

For the full-time workers, PL gap of all industries is 0.8745 . This implies that PL of Nagasaki is equal to 87% of a national average, or national average PL is 14% higher than Nagasaki. Then, if an average worker, in the sense that his LP is at the level of a national average, works like the Nagasaki workers do, his salary would be, in 2005 for example, equal to  $2,129 \times 0.8745 = 1,859$  yen. As a result, we know a salary in Nagasaki is still lower by 9.29% ( $(1.0929 = 1,859 \div 1,704)$  , ad. ratio (salary)) than a national average, but it is smaller than 20% ( $= 425 \div 2129$ ) . In short, when adjusted ratio (salary) exceeds 1 , we can infer workers in Nagasaki are paid less than a national average.

The adjusted ratio (hours) is calculated by the similar way. By applying some manipulations, we can know the possibility that working hours in Nagasaki are longer than a national average could not be ruled out, if adjusted ratio (hours) is greater than 1 . In what follows some close examinations are conducted for two types of workers separately.

### 3-1 full-time workers (Table 2)

That all adjusted ratios (salary) are larger than 1 , but ratios (hours) are less than 1 , which shows that workers in Nagasaki are working less and

are paid less, if we take the PL difference into account. This combination, less working hours and less hourly wage, has a significant implication for the negotiations on the working conditions between employers and workers. Very often, it has been emphasized by workers in particular that wage level in Nagasaki is excessively low, although workers are contributing the economy as hard as workers in other prefectures, therefore, workers are under the unfair situation with long working hours and low wage. The most popular counter-argument by the executives is stressing the employers' inability to pay enough due to a stagnation of the regional economy.

However, our results prove that both parties have not enough understandings of the present situation of workers in Nagasaki. If a low PL is a general phenomenon in Nagasaki, workers need longer hours to complete the same accomplishments by the average workers in other region. None the less, they do not or cannot provide the enough work hours, according to the above results.

Of course, this does not necessarily imply the laziness of Nagasaki workers, for it may be the consequence of the Labor Standards Act which imposes a restriction on the terms and conditions, for example, weekly working hours are not allowed to exceed over 40 hours in principle<sup>6</sup>. However, from the view point of the employers, this might limit a possibility for employers to cover poor labor productivity by adjusting working hours and to encourage them to reward by bigger paycheck. In other words, the lower wage of manufacturing industries in Nagasaki is a natural consequence of the reflections of working hours not enough to cover up their relatively low LP.

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6 An employer shall not have a worker (who) work(s) more than 40 hours per week, excluding rest periods (Article 32(1)). An employer shall not have a worker (who) work(s) more than 8 hours per day for each day of the week, excluding rest periods (Article 32(2)).



Adjusted ratios (hours) are slightly high, that is, working hours in both industries are a little close to the national average. However, two adjusted ratios (salary) illustrate workers in Nagasaki are still less paid than national average, especially, salary for sales labor has been continuously much lower, almost by 30% , during the years concerned. In tertiary industries, workers might face the harder struggle to cope with the regional economic downturn, than workers in secondary industries that are closely connected to the national economic environment.

It appears two adjusted ratios (salary) are decreasing at modest pace (manufacturing industries) or at rapid pace (sales industries) , but this does not allow us to extract an immediate conclusion that wages are increased. This is because our estimated LP is based on 2009 only. In any case, it is less doubtful that the salary gaps exist across industries and are larger in tertiary industries<sup>7</sup>.

### 3-2 part-time workers (Table 3)

Table 3 gives us an another picture. At a first glance, we know the disparities between local and national are smaller than the case of full-time workers (for example, adjusted ratios of salary and hours are 1.04 and 1.03 respectively) . This fact means that, for the part-time workers, the terms and conditions are not largely diverging from the national average.

In part, this is a consequence of the tax codes which lay down the tax-exemption for the part-time labor. Under the current law, the income generated from the part-time job is not taxed basically unless it exceeds 1,030,000 yen per year<sup>8</sup> . Then many part time workers are voluntarily apt to

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7 The estimated values for LP by Japan Productivity Center (2006) are different from our results. Appendix 2 is the results when we apply the JPC value.

8 This exemption is applied to the aggregate income, then the difference of the minimum hourly wage set by the minimum wage law are not effective for determining the labor supply.

squeeze their working hours in order not to miss this favorable clause<sup>9</sup>.

The other interesting feature is that adjusted ratios (salary) of the manufacturing industries are bigger than the sales industries, on the contrary to the full-time workers' case. To clarify the reasons of it is beyond our analytical framework, however, some conjectures are possible. Most of part time workers in sales industries are employed in the national franchised chain store, the family restaurants etc., and wages of such job opportunities are rather dominant to determine the wage of other type of part time jobs. Hence, the working conditions for the part-time workers look like easy to be normalized than for the full-time workers<sup>10</sup>.

#### 4 concluding remarks

This short paper has attempted to describe and to explain the process where a long working hours and low wages are prevailed in the labor market in Nagasaki. The distinctiveness of the terms and conditions does not lie only in the regional economic environment, but also in the difference of labor productivities among areas and industries, too. With taking such a difference into account, it is hard to emphasize that long working hours in Nagasaki is breaching the principle of "the same labor - the same reward", not least

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9 We have to note that there are two types of part-time workers, one is the workers whose income is the main source of household economy, and the other is the workers whose income is the supplemental for their family. It is the latter case that their decision making are inclined to depend on the tax code.

10 In this sense, the market of the part timer may be more elastic in determination of quantity of labor than the full time workers. This correspond to the former discussions on Figure 2, where we stated the part time work force issubstitutional to the full time worker in sales industries, and this makes us imagine the part time work force is used as the adjustable buffer for the changing demand.

because workers in Nagasaki do not complete “ the same labor ” because of their poor productivity. If so, low wages result as a logical outcome.

Therefore, if we have to answer the question , “ are workers in Nagasaki over-working without enough reward? ”, the answer at the moment is as follows; yes, workers in Nagasaki work more and are paid less, but that is mainly because of a poor labor productivity. In this sense, workers in Nagasaki are rarely exploited.

Such a summary describes the background of the triple weakness in Nagasaki (low LP, low wage and low labor input) and its “ cheerless economy ”, however, it does not justify the full explanations of the behavior of local labor market and its complex interactions with the national ones and the regional industrial structures<sup>11</sup> .

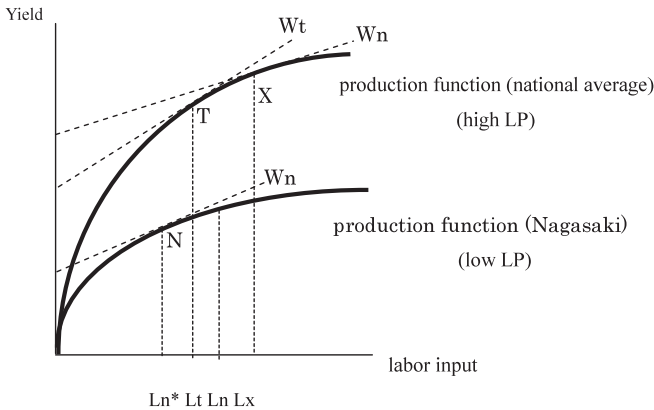
## Appendix 1

The essence of this paper can be illustrated by the following diagram. Well-behaved production function tells the wage (= marginal productivity,  $W_n < W_t$ ) is low when the labor input is large (point X) . This corresponds to the popular recognition among people described in 3-1 . However, this is based on the special assumption of equal LP, that is, on the assumption of the identical production function (here LP is defined as the average productivity,  $Y/L$ ) . In addition, on this assumption the production of Nagasaki must be bigger(X) than the average area (T) . This is not a fact. Further, when  $L_n^*/N$  equals to  $L_x/N$  (= the loci from the origin to N or X is identical) , then there is a possibility that a production function is lowered, with keep-

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11 A numerator of the LPs is the aggregate value of the products' price. Therefore, the LP rises if a product price rises. This is one reason LP of Tokyo is high, because the price level of the metropolis is higher than a district. However, because the price is willingness to pay by local consumers, lower prices in local area mean that they do not find high value to the local product. This in turn shows that the local workers do not satisfy the local consumers' preference, and leads the low LP. Based upon the foregoing, the effect of the price level is not considered in this report.

ing the LP constant. The plausible way to show the triple weakness in Nagasaki (low LP, low wage and low labor input) is, for example, focusing to the point N, where labor input  $L_n^*$  is less than  $L_t$  and wage  $W_n$  is less than  $W_t$  (two dotted lines of  $W_n$  are parallel) . The shape of the production function explains the fact that total economic activity is smaller than the area with high LP. Needless to say, another possibility is point  $L_n$ , where above triple weakness is also feasible. But our estimation concludes  $L_n^*$  is more likely in Nagasaki.



## Appendix 2

Japan Productivity Center (2006) provides the estimated value of LP based on the data of 2006. According to its estimations, the LP gap is 0.77 for all industries, 0.62 for manufacturing industries, and 0.93 for wholesale & retail industries. Applying these values to Table 2 results in the following table. It tells that labor hour in Nagasaki adjusted by the LP differentials is shorter than national average, which equals our results. As to the adjusted salary, a different conclusion is derived, that is, workers in manufacturing industries enjoy a higher wage because all adjusted ratios (salary) are less than 1. Although it is not allowed to compare with each other because of the difference in the data, it seems to be able to say that long working hours are caused by lower productivity. The resulting table when we apply those values to Table 3 is omitted because the same tendency is derived.

		adjusted ratio (salary)	adjusted ratio (hours)
all industries	2005	0.9623	0.7988
	2006	0.9701	0.8017
	2007	0.9984	0.8127
	2008	0.9977	0.8083
	2009	0.9859	0.8106
	2010	0.9804	0.7979
	mean	0.98	0.80
manufacturing industries	2005	0.7796	0.6363
	2006	0.7856	0.6382
	2007	0.7828	0.6463
	2008	0.7796	0.6440
	2009	0.7525	0.6447
	mean	0.78	0.64
wholesale & retail industries	2005	1.5139	0.9861
	2006	1.5114	0.9851
	2007	1.4183	0.9796
	2008	1.3960	0.9728
	2009	1.2649	0.9738
	mean	1.42	0.98

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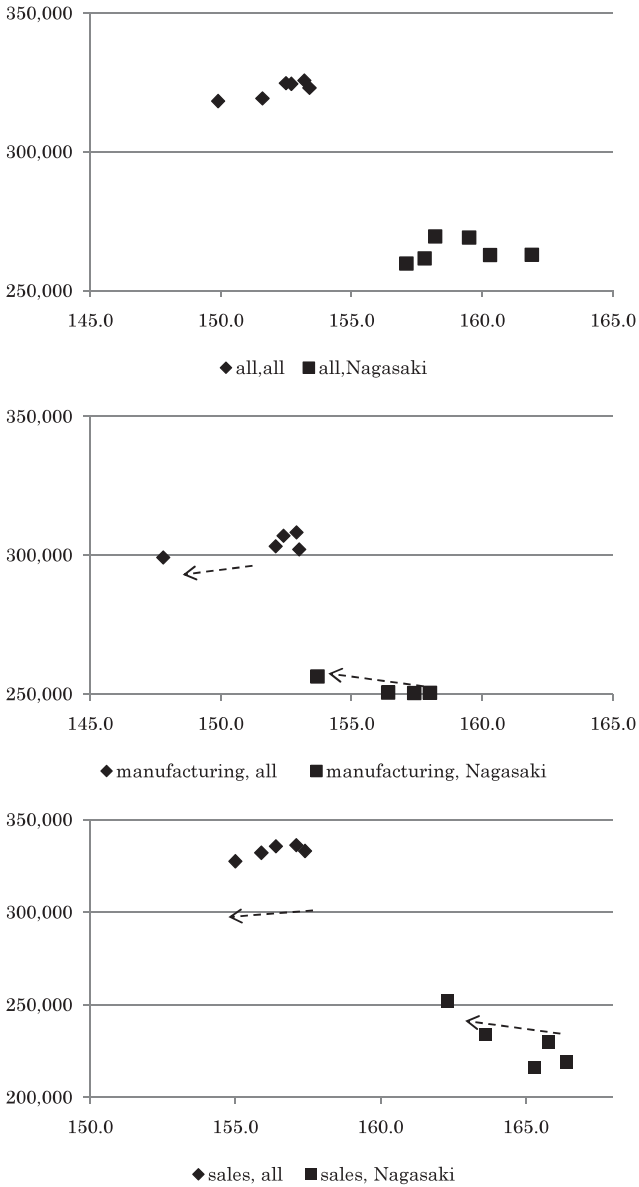


Figure 1 - terms and conditions of workers (full-time workers)

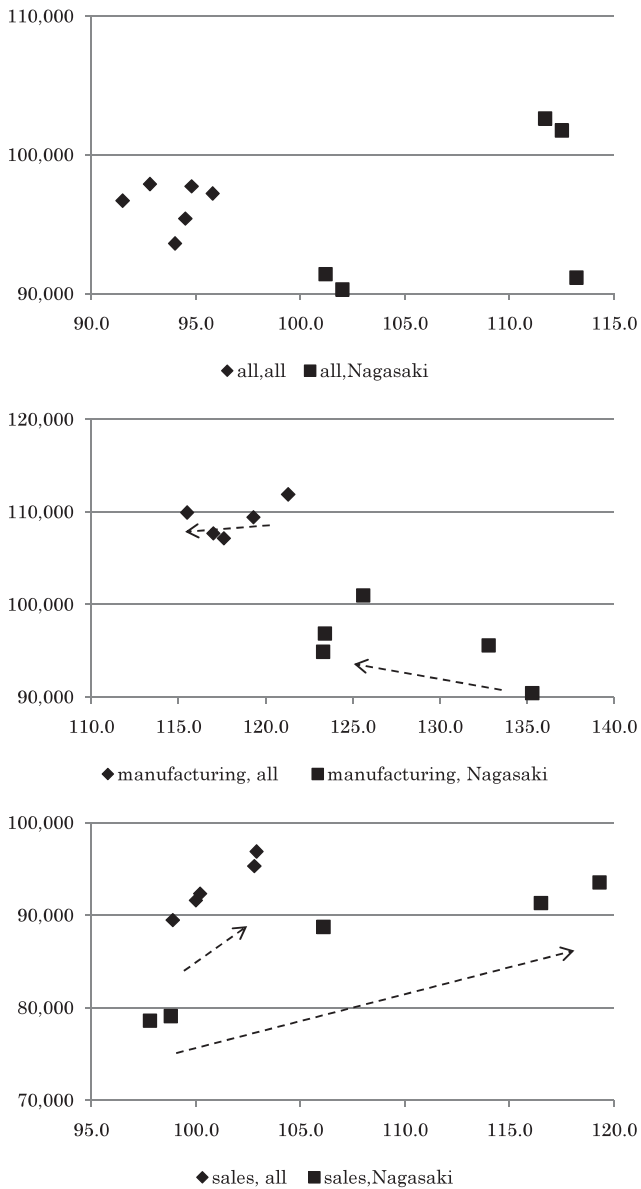


Figure 2 -terms and conditions of workers (part-time workers)

	All industries (Annual report of Prefectural Account,2009. National Census,2010)				manufacturing industry (Current Survey of Production,2009)				wholesale &retail industry (Current Survey of Commerce,2009)			
	Gross prefectural product ¥mil.	Labor force person	Labor Productivity	Standard Value	Value of shipments ¥100 mil.	Labor force person	Labor Productivity	Standard Value	Annual sales ¥mil.	Labor force person	Labor Productivity	Standard Value
Hokkaido	18,052,779	2,509,464	7.19	48.28	57,302	159,509	0.36	49.08	17,819,365	463,793	38.42	52.99
Aomori	4,416,985	639,584	6.91	45.93	14,687	54,511	0.27	41.72	3,310,311	119,221	27.77	45.96
Iwate	4,254,622	631,303	6.74	44.57	20,435	82,783	0.25	39.87	3,188,084	110,081	28.96	46.75
Miyagi	8,006,517	1,059,416	7.56	51.25	34,848	109,325	0.32	45.76	10,601,386	230,396	46.01	58.01
Akita	3,697,229	503,106	7.35	49.55	12,762	63,335	0.20	36.15	2,470,794	92,958	26.58	45.18
Yamagata	3,690,958	565,982	6.52	42.79	26,807	96,586	0.28	42.38	2,702,748	99,082	27.28	45.64
Fukushima	7,228,078	934,331	7.74	52.71	50,074	155,777	0.32	45.98	4,670,152	164,752	28.35	46.34
Ibaraki	10,312,413	1,420,181	7.26	48.83	106,932	253,527	0.42	54.20	6,869,837	214,725	31.99	48.75
Tochigi	7,894,092	977,126	8.08	55.51	83,365	186,894	0.45	56.19	5,650,308	159,909	35.33	50.96
Gunma	7,042,778	965,403	7.30	49.11	73,653	181,434	0.41	52.91	6,830,048	169,896	40.20	54.17
Saitama	20,431,114	3,482,305	5.87	37.44	124,629	358,476	0.35	48.13	15,153,850	467,022	32.45	49.05
Chiba	19,209,032	2,899,396	6.63	43.64	122,135	192,796	0.63	71.56	11,607,883	414,626	28.00	46.11
Tokyo	85,201,569	6,012,536	14.17	105.26	76,846	258,923	0.30	43.96	182,211,327	1,574,020	115.76	104.05
Kanagawa	29,747,555	4,146,942	7.17	48.11	169,565	355,739	0.48	58.70	19,818,957	605,617	32.73	49.23
Niigata	8,423,085	1,155,795	7.29	49.05	41,822	168,795	0.25	39.94	7,185,195	214,156	33.55	49.78
Toyama	4,096,576	546,363	7.50	50.76	31,409	109,890	0.29	43.06	3,297,996	97,614	33.79	49.93
Ishikawa	4,250,003	582,449	7.30	49.12	22,851	84,674	0.27	41.75	4,157,618	107,999	38.50	53.04
Fukui	3,113,150	402,251	7.74	52.73	17,368	62,841	0.28	42.29	2,230,298	73,751	30.24	47.59
Yamanashi	2,906,397	414,569	7.01	46.78	22,604	68,395	0.33	46.72	1,899,724	68,580	27.70	45.92
Nagano	7,918,547	1,091,038	7.26	48.80	54,874	177,243	0.31	45.01	5,832,187	183,819	31.73	48.58
Gifu	6,906,226	1,022,616	6.75	44.68	46,489	174,443	0.27	41.48	4,760,601	176,723	26.94	45.41



Shizuoka	15,112,757	1,897,194	7.97	54.59	154,972	381,565	0.41	52.92	11,054,615	317,092	34.86	50.64
Aichi	31,891,277	3,676,174	8.68	60.38	376,303	738,558	0.51	61.40	43,443,249	694,512	62.55	68.92
Mie	7,155,303	895,097	7.99	54.81	96,602	180,656	0.53	63.46	3,940,384	145,169	27.14	45.55
Shiga	5,701,543	673,612	8.46	58.65	65,015	142,335	0.46	57.07	2,516,575	103,138	24.40	43.74
Kyoto	9,553,851	1,219,370	7.84	53.52	46,807	125,869	0.37	50.11	7,396,170	249,668	29.62	47.19
Osaka	35,826,529	3,815,052	9.39	66.22	149,614	415,253	0.36	49.16	61,660,209	913,217	67.52	72.20
Hyogo	17,825,902	2,489,617	7.16	48.00	139,027	333,285	0.42	53.82	13,269,264	434,283	30.55	47.80
Nara	3,438,173	596,525	5.76	36.60	18,523	57,548	0.32	46.01	2,126,234	93,360	22.77	42.66
Wakayama	3,122,488	450,969	6.92	46.08	26,184	43,266	0.61	69.24	1,866,101	82,554	22.60	42.55
Tottori	1,888,277	287,332	6.57	43.20	8,206	31,928	0.26	40.70	1,348,156	50,030	26.95	45.42
Shimane	2,333,570	347,889	6.71	44.31	9,532	38,987	0.24	39.67	1,421,377	59,793	23.77	43.32
Okayama	6,928,690	900,116	7.70	52.39	75,925	135,573	0.56	65.54	5,181,731	160,901	32.20	48.89
Hiroshima	10,815,045	1,343,318	8.05	55.28	85,698	192,978	0.44	56.03	11,868,449	262,675	45.18	57.46
Yamaguchi	5,476,589	665,489	8.23	56.74	62,886	90,172	0.70	76.80	3,548,663	124,572	28.49	46.44
Tokushima	2,643,444	347,093	7.62	51.73	16,379	44,140	0.37	50.05	1,661,534	62,825	26.45	45.09
Kagawa	3,587,627	462,418	7.76	52.89	25,488	61,948	0.41	53.36	3,980,519	93,172	42.72	55.83
Ehime	4,631,968	651,605	7.11	47.58	37,259	70,172	0.53	63.15	3,537,416	119,974	29.48	47.09
Kochi	2,140,766	335,775	6.38	41.60	4,391	21,387	0.21	36.46	1,593,153	66,062	24.12	43.55
Fukuoka	17,564,936	2,262,722	7.76	52.93	80,293	202,245	0.40	52.17	22,126,399	479,210	46.17	58.11
Saga	2,723,530	409,277	6.65	43.87	16,275	56,006	0.29	43.45	1,835,911	71,221	25.78	44.65
Nagasaki	4,320,061	650,972	6.64	43.73	16,932	52,480	0.32	46.08	3,024,321	118,872	25.44	44.43
Kumamoto	5,366,136	834,244	6.43	42.06	24,661	86,599	0.28	42.97	3,950,340	150,135	26.31	45.00
Oita	4,044,058	550,451	7.35	49.53	40,366	62,845	0.64	72.28	2,557,027	100,651	25.40	44.40
Miyazaki	3,470,016	531,213	6.53	42.88	12,702	52,539	0.24	39.45	2,586,434	95,939	26.96	45.43
Kagoshima	5,133,170	776,993	6.61	43.48	17,415	65,841	0.26	41.31	4,026,665	140,281	28.70	46.58
Okinawa	3,721,071	578,638	6.43	42.05	5,327	20,929	0.25	40.49	2,605,252	107,623	24.21	43.61

Table 1-Labor Productivity(LP)

Full-time workers		all prefectures			Nagasaki			gap (salary)	gap (hours)	ratio (salary)	ratio (hours)	PL gap	ad.ratio (salary)	ad.ratio (hours)
		hours (monthly)	salary (monthly)	salary (hour)	hours (monthly)	salary (monthly)	salary (hour)							
		①	②	③:①÷ ②	④	⑤	⑥:④÷ ⑤	a:⑥—③	b:④—①	c:⑥÷③	d:④÷①			
all industries	2005	152.5	324,730	2,129	158.2	269,561	1,704	-425.45	5.7	0.8002	1.0374	0.8745	1.0929	0.9072
	2006	153.2	325,736	2,126	159.5	269,170	1,688	-438.63	6.3	0.7937	1.0411		1.1018	0.9105
	2007	153.4	323,054	2,106	161.9	262,951	1,624	-481.80	8.5	0.7712	1.0554		1.1340	0.9230
	2008	152.7	324,467	2,125	160.3	262,891	1,640	-484.87	7.6	0.7718	1.0498		1.1331	0.9181
	2009	149.9	318,261	2,123	157.8	261,667	1,658	-464.94	7.9	0.7810	1.0527		1.1197	0.9206
	2010	151.6	319,267	2,106	157.1	259,840	1,654	-452.00	5.5	0.7854	1.0363		1.1135	0.9063
	mean	152.22	322,586	2,119	159.13	264,347	1,661	-457.95	6.92	0.78	1.05		—	1.12
manufacturing industries	2005	152.4	307,022	2,015	156.4	250,564	1,602	-412.51	4.0	0.7952	1.0262	0.9216	1.1588	0.9457
	2006	152.9	308,190	2,016	157.4	250,383	1,591	-424.89	4.5	0.7892	1.0294		1.1677	0.9487
	2007	153.0	302,086	1,974	159.5	249,416	1,564	-410.68	6.5	0.7920	1.0425		1.1636	0.9607
	2008	152.1	303,194	1,993	158.0	250,475	1,585	-408.10	5.9	0.7953	1.0388		1.1588	0.9573
	2009	147.8	299,179	2,024	153.7	256,347	1,668	-356.38	5.9	0.8239	1.0399		1.1185	0.9583
	mean	151.64	303,934	2,004	157.00	251,437	1,602	-402.51	5.36	0.80	1.04		—	1.15
wholesale & retail industries	2005	155.9	332,005	2,130	165.3	216,254	1,308	-821.35	9.4	0.6143	1.0603	0.8885	1.4463	0.9421
	2006	157.1	336,210	2,140	166.4	219,131	1,317	-823.21	9.3	0.6153	1.0592		1.4439	0.9411
	2007	157.4	333,012	2,116	165.8	230,009	1,387	-728.44	8.4	0.6557	1.0534		1.3550	0.9359
	2008	156.4	335,573	2,146	163.6	233,854	1,429	-716.18	7.2	0.6662	1.0460		1.3337	0.9294
	2009	155.0	327,407	2,112	162.3	252,062	1,553	-559.24	7.3	0.7352	1.0471		1.2084	0.9304
	mean	156.36	332,841	2,129	164.68	230,262	1,399	-729.68	8.32	0.66	1.05		—	1.36

Table 2 - difference in terms and conditions(full-time workers)

Part-time workers		all prefectures			Nagasaki			gap (salary)	gap (hours)	ratio (salary)	ratio (hours)	PL gap	ad.ratio (salary)	ad.ratio (hours)
		hours (monthly)	salary (monthly)	salary (hour)	hours (monthly)	salary (monthly)	salary (hour)							
all industries	2005	94.0	93,614	996	101.2	91413	903	-92.60	7.2	0.9070	1.0766	0.8745	0.9642	0.9415
	2006	94.5	95,414	1,010	102.0	90311	885	-124.30	7.5	0.8769	1.0794		0.9973	0.9439
	2007	95.8	97,212	1,015	113.2	91162	805	-209.40	17.4	0.7936	1.1816		1.1019	1.0334
	2008	94.8	97,736	1,031	120.3	92152	766	-264.95	25.5	0.7430	1.2690		1.1770	1.1098
	2009	91.5	96,698	1,057	111.7	102620	919	-138.10	20.2	0.8693	1.2208		1.0060	1.0676
	2010	92.8	97,890	1,055	112.5	101762	905	-150.30	19.7	0.8575	1.2123		1.0198	1.0602
	mean	93.90	96427.33	1027.15	110.15	94903.33	863.88	-163.27	16.25	0.84	1.17		—	1.04
manufacturing industries	2005	119.3	109,431	917	132.8	95576	720	-197.60	13.5	0.7846	1.1132	0.9216	1.1746	1.0258
	2006	121.3	111,878	922	135.3	90424	668	-254.00	14.0	0.7246	1.1154		1.2718	1.0279
	2007	117.6	107,153	911	123.3	94892	770	-141.60	5.7	0.8446	1.0485		1.0911	0.9662
	2008	117.0	107,682	920	123.4	96857	785	-135.46	6.4	0.8528	1.0547		1.0806	0.9720
	2009	115.5	109,923	952	125.6	100970	804	-147.81	10.1	0.8447	1.0874		1.0910	1.0021
	mean	118.14	109213.40	924.57	128.08	95743.80	749.28	-175.29	9.94	0.81	1.08		—	1.14
wholesale & retail industries	2005	98.9	89,471	905	97.8	78602	804	-101.00	-1.1	0.8884	0.9889	0.8885	1.0002	0.8786
	2006	100.0	91,609	916	98.8	79099	801	-115.50	-1.2	0.8739	0.9880		1.0167	0.8778
	2007	102.8	95,299	927	116.5	91303	784	-143.30	13.7	0.8454	1.1333		1.0510	1.0069
	2008	102.9	96,866	941	119.3	93534	784	-157.34	16.4	0.8329	1.1594		1.0668	1.0301
	2009	100.2	92,333	921	106.1	88732	836	-85.18	5.9	0.9076	1.0589		0.9790	0.9408
	mean	100.96	93115.60	922.13	107.70	86254.00	801.67	-120.46	6.74	0.87	1.07		—	1.02

Table 3- difference interms and conditions(part-time workers)