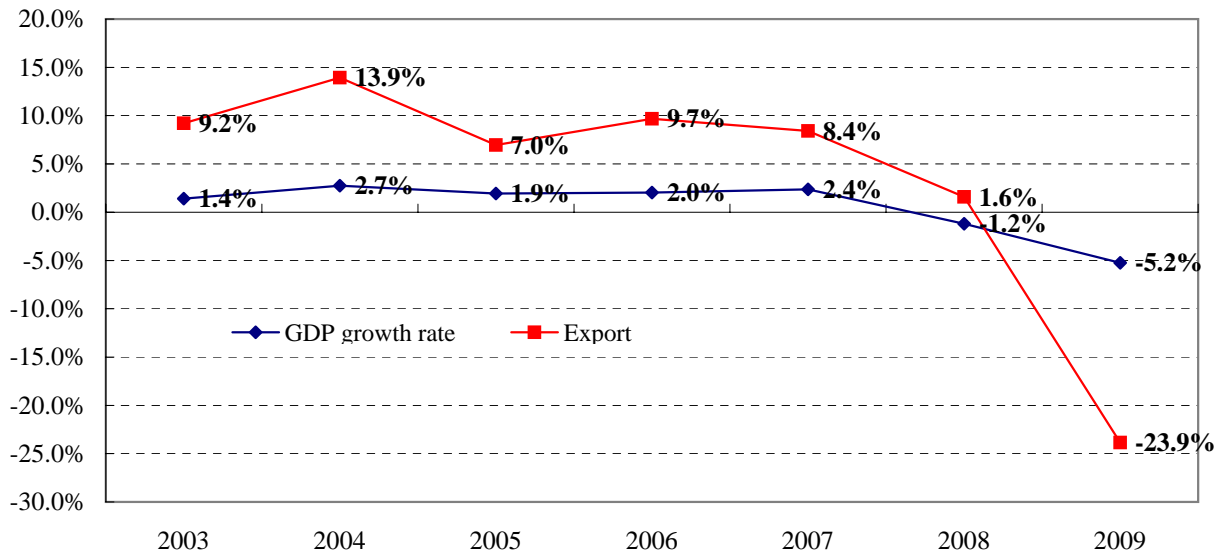
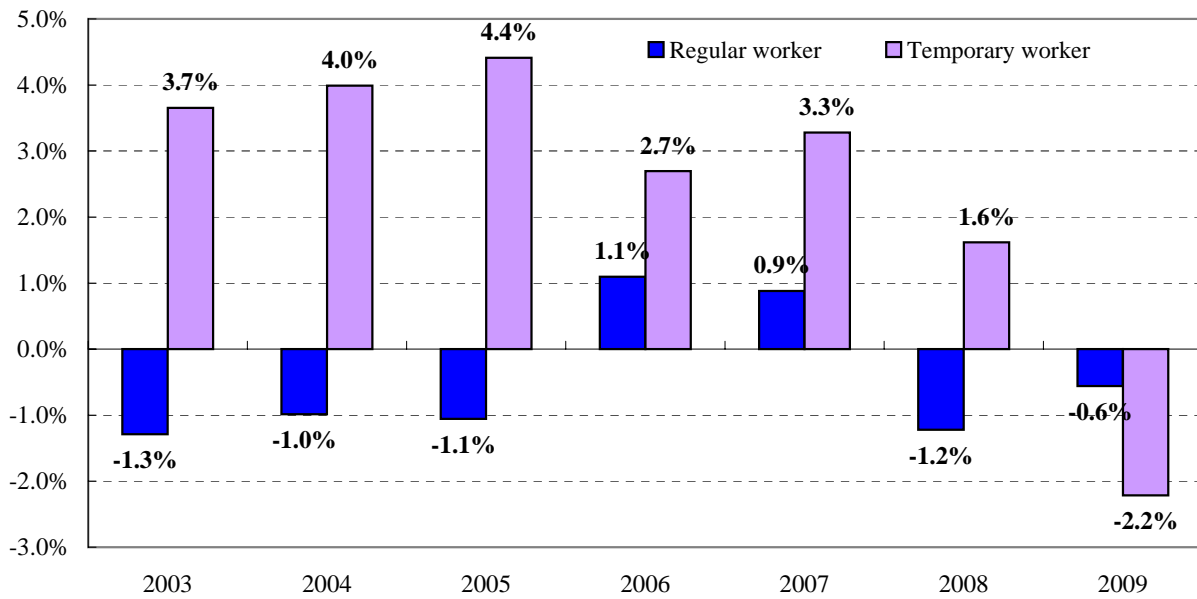


Figure 1 Japan's Growth rate of GDP and Export



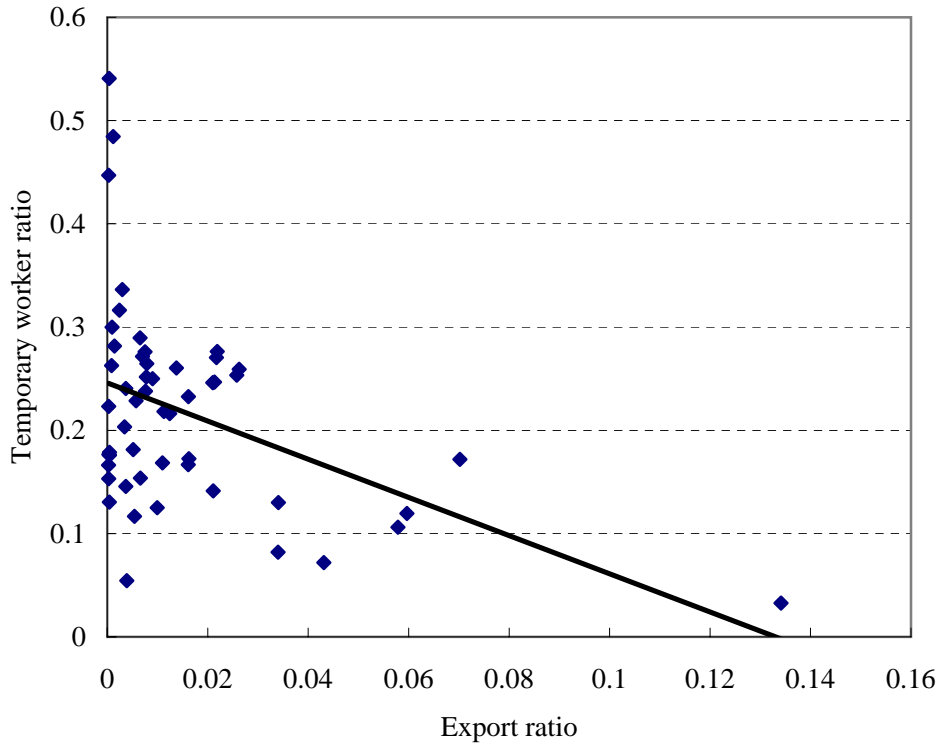
Source: the System of National Account (Cabinet Office, Japan)

Figure 2 Growth rate of the number of workers by employment status



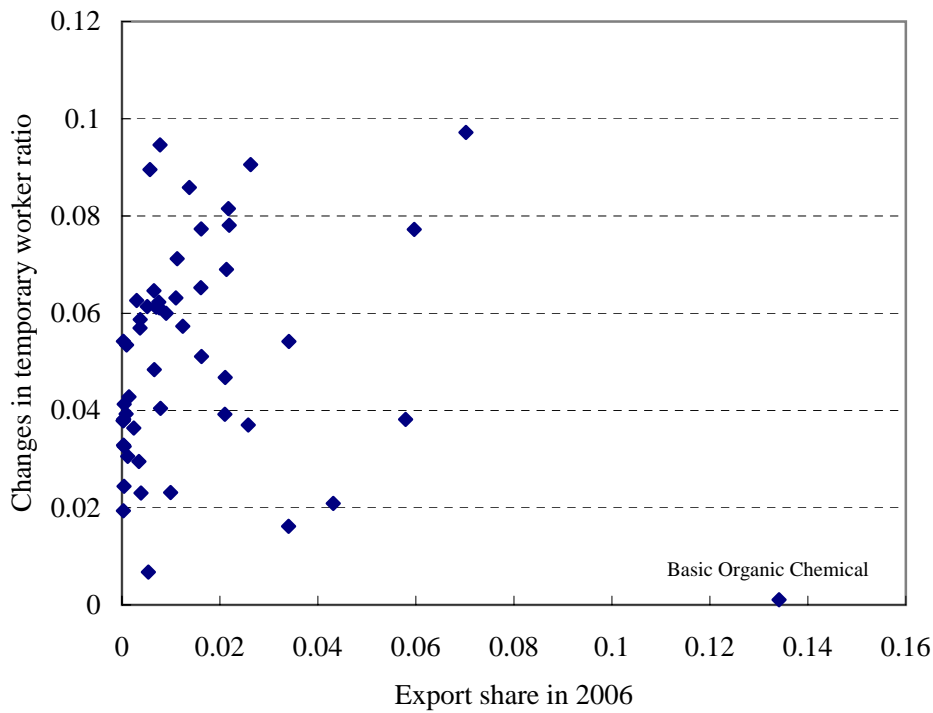
Source: the Labor Force Survey (Ministry of Health and Labor, Japan)

Figure 3 Temporary worker ratio and Export ratio by Industry in year 2006



Source: Authors' calculation from the Census of Manufacturer

Figure 4 Changes in temporary worker ratio and Export ratio by Industry



Source: Authors' calculation from the Census of Manufacturer

**Table 1 Temporary Worker Ratio by Industry**

Temporary worker ratio	2001	2002	2003	2004	2005	2006
3 Food products and beverages	45.8%	47.5%	48.3%	48.8%	49.3%	49.5%
4 Textiles	23.9%	25.5%	26.3%	27.1%	27.6%	28.2%
5 Pulp ,paper and paper products	18.8%	19.9%	20.9%	21.5%	22.2%	22.5%
6 Chemicals	14.3%	14.8%	15.9%	17.1%	17.7%	18.9%
7 Petroleum and coal products	8.3%	8.7%	9.7%	9.9%	10.0%	10.3%
8 Non-metallic mineral product:	12.6%	14.0%	15.4%	17.0%	18.1%	19.1%
9 Basic metal	10.2%	11.3%	13.0%	14.2%	15.4%	16.9%
10 Fabricated metal products	16.1%	16.9%	18.5%	19.7%	20.3%	21.3%
11 Machinery	11.3%	12.0%	13.3%	15.3%	16.1%	17.2%
12 Electrical machinery ,equipment and supplie	18.4%	20.7%	22.8%	23.3%	23.8%	26.4%
13 Transport equipment	12.3%	14.1%	15.5%	17.9%	19.5%	20.7%
14 Precision instruments	17.8%	19.2%	21.3%	22.0%	22.8%	24.2%
15 Others	20.3%	21.6%	22.9%	23.8%	24.5%	25.0%

Source: Authors's calculation from the Census of Manufacture

**Table 2 Export ratio by Industry**

	2001	2002	2003	2004	2005	2006
3 Food products and beverages	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%
4 Textiles	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
5 Pulp ,paper and paper products	0.1%	0.1%	0.2%	0.2%	0.2%	0.2%
6 Chemicals	1.9%	1.9%	2.1%	2.2%	2.3%	2.5%
7 Petroleum and coal products	0.3%	0.4%	0.3%	0.4%	0.5%	0.6%
8 Non-metallic mineral product:	0.3%	0.3%	0.3%	0.3%	0.3%	0.4%
9 Basic metal	0.5%	0.5%	0.6%	0.6%	0.6%	0.6%
10 Fabricated metal products	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%
11 Machinery	0.8%	0.9%	1.0%	1.0%	1.1%	1.2%
12 Electrical machinery ,equipment and supplie	1.2%	1.3%	1.4%	1.4%	1.5%	1.7%
13 Transport equipment	0.7%	0.9%	0.9%	1.0%	1.0%	1.1%
14 Precision instruments	1.2%	1.5%	1.9%	2.0%	2.0%	2.2%
15 Others	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%

Source: Authors's calculation from the Census of Manufacture

Table 3 Comparison of temporary worker ratio and export ratio by level of labor productivity (LP)

	Plant with low LP	Plant with high LP	Total	Test of Mean difference
Temporary worker ratio	37.7%	19.7%	27.6%	***
Changes in Temporary worker ratio	4.5%	3.4%	3.9%	***
Export ratio	0.4%	1.8%	1.1%	***
Changes in export ratio	0.1%	0.7%	0.4%	***

Note: "\*\*\*", "\*\*", and "\*" show 1%, 5% and 10% statistical significance, respectively.

Source: Authors' calculation from the Census of Manufacturer

Table 4 Tmporary worker ratio by export status

	Non-Exporter	Exporter	Total	Test of Mean difference
Temporary worker ratio	28.0%	20.2%	27.6%	***
Changes in Temporary worker ratio	3.9%	4.5%	3.9%	

Note: "\*\*\*", "\*\*", and "\*" show 1%, 5% and 10% statistical significance, respectively.

Source: Authors' calculation from the Census of Manufacturer

Table 5 Decomposition of changes in temporary worker ratio

	(1)	(2)
Temporary worker ratio	Overall M&E	Finished Products M&E
2001	7.8%	6.2%
2006	12.1%	9.0%
Difference	4.3%	2.8%
within effect	2.6%	1.9%
by non-exporters	1.9%	1.0%
by exporters	0.7%	0.9%
between effect	0.4%	-0.1%
by non-exporters	0.4%	-0.2%
by exporters	0.0%	0.0%
cross effect	1.3%	1.0%
by non-exporters	1.0%	0.8%
by exporters	0.3%	0.2%

Source: Authors' calculation from the Census of Manufacturer

Table 6 Results of Simple Regression Analysis

	(1)	(2)	(3)	(4)
	Overall M&E	Finished Products M&E	Finished Products M&E	Finished Products M&E
Scale	0.003 [3.76]***	-0.004 [-1.61]	-0.015 [-9.34]***	-0.004 [-1.71]*
Labor Productivity	0.016 [11.99]***	0.011 [3.15]***	0.003 [1.16]	0.011 [3.13]***
Export_share	-0.051 [-3.13]***	0.040 [1.09]	-0.025 [-2.25]**	0.136 [1.32]
Change in Export Share	-0.012 [-0.77]	0.002 [0.05]	0.131 [9.16]***	-0.363 [-3.30]***
Scale * Export Share				-0.020 [-1.11]
Scale * Change in Export Share				0.081 [3.62]***
Constant	-0.075 [-8.91]***	-0.025 [-1.13]	0.117 [6.39]***	-0.024 [-1.07]
Estimation Method	OLS	OLS	WLS	OLS
R2	0.012	0.007	0.066	0.011
N	37,622	4,777	4,777	4,777

Note: t-values are in parentheses

\*\*\*, \*\*, and \* show 1%, 5% and 10% statistical significance, respectively.