

# The Changing Nature of Disadvantaged Employment in Philippine Industries, 1991-2006

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## Introduction

**A**part from setbacks brought about by the global oil crisis in late 1991, and the Asian financial crisis in 1997, the Philippine economy has generally enjoyed economic expansion for most of the past two decades. However, such economic growth failed to bring down a persistently high unemployment rate and fell short of generating more adequate employment opportunities (Cabegin, Dacuycuy, and Alba 2009; DOLE 2006; Senate of the Philippines 2006). Disadvantaged employment somehow proceeded alongside economic growth. Disadvantaged workers composed of the underemployed and those in precarious employment continue to experience economic and social deprivations no different from the unemployed—a reality that merits the attention of researchers and policymakers. In 2006, an estimated 17 million Filipino workers (or half of the employed workforce) were either underemployed, in intermittent work, or belong to poor self-employed or family-employed workers.

This paper provides an insight into the changing character of disadvantaged labor over time and across more detailed categories of industries. It utilizes merged data sets from the Labor Force Survey and the Family and Income Expenditure Survey for the years 1991, 1994, 1997, 2000, 2003

and 2006. The paper starts with an analytical construct of industries according to labor absorptive capacity and prevalence of disadvantaged employment. This is followed by a description of the pattern and trends in the concentration of various components of disadvantaged labor (i.e., visible and invisible underemployment, employment by poor workers in family enterprises, and short-term and intermittent employment) across industries.

### ***Classification of industries by extent of disadvantaged employment and labor absorption***

The paper limits its analysis to the employed workforce<sup>1</sup> which includes persons who reported doing some work during the reference period.<sup>2</sup> Disadvantaged employment, as defined by Cabegin, Dacuycuy and Alba (2009), is comprised of two main types of workers:

- a) **underemployed workers** are those who want to work additional hours in present or new jobs. They are classified further into the visibly underemployed which refers to underemployed workers who worked less than 40 hours during the reference week, and the invisibly underemployed who worked at least 40 hours during the reference week; and
- b) **vulnerable workers** or those who are self-employed or working in family-owned enterprises and who belong to poor households,<sup>3</sup> and workers in short-term or intermittent employment.<sup>4</sup>

Industries are classified according to labor absorptive capacity and the extent of disadvantaged labor in 2006. Industries are grouped according to whether they have high or low labor absorption determined by the share of industry employment to national employment. High labor absorption (**High LA**) industries are those which accounted for more than 2 percent of the national workforce in 2006, and; (b) low labor absorption (**Low LA**) industries include industries with lower than 2 percent share of national employment.

The level of disadvantaged employment in an industry can be categorized as high, moderate and low depending on the proportion of underemployed and vulnerable workers in that particular industry in 2006:

Level of disadvantaged employment (DE)	Share of underemployed and vulnerable workers to total workforce in the industry in 2006
High DE	At least 50%
Moderate DE	One third to less than half
Low DE	Less than one third

Table 1 presents a list of industries and their major sector (i.e. agriculture, industrial and service)<sup>5</sup> classified according to the level of labor absorption and extent of disadvantaged employment.

The agriculture and service sectors served as the biggest source of employment (Column 1 of Table 1 and Annex 1). Topping the list is the crop growing industry which accounted for 26-31 percent of national employment in 1991-2006. This is followed by a number of service sector industries, particularly retail trade (14-17 percent), transport services and private household work services (both taking 6-9 percent), and public administration and defense (5-6 percent). In the industrial sector, construction ranked the highest in terms of labor absorption, accounting for about 5-6 percent of the total workforce. Industries which took up 2-6 percent of national employment in the period 1991-2006 include fishing and livestock, food and tobacco manufacturing, and service industries engaged in education and hotels and restaurants.

The poorest contributors to national employment in 2006 were mostly manufacturing industries (e.g. paper, coal, petroleum and chemical products, metals and non-metallic products, and textiles), and a number of service sector industries including finance (e.g. banking, pension and insurance funding, and non-bank financial intermediation), utilities (gas, water, electricity), health and social work, recreation and sports, and postal telecommunication services.

**Table 1. Industries by labor absorption and level of disadvantaged employment**

Level of Disadvantaged Employment	Labor Absorption			
	(a) High LA		(b) Low LA	
High DE	Agriculture  Industrial	<ul style="list-style-type: none"> <li>• Growing of crops</li> <li>• Farming of animals</li> <li>• Fishing</li> <li>• Construction</li> </ul>	Agriculture  Industrial Services	<ul style="list-style-type: none"> <li>• Forestry and hunting</li> <li>• Mining/quarrying</li> <li>• Manufacture of wood</li> <li>• Recreation and sporting activities</li> </ul>
Moderate DE	Industrial  Services	<ul style="list-style-type: none"> <li>• Manufacture of food and tobacco</li> <li>• Retail trade</li> <li>• Transport services</li> <li>• Private household work</li> <li>• Hotels and restaurants</li> </ul>	Industrial  Services	Manufacture of: <ul style="list-style-type: none"> <li>• Textiles</li> <li>• Basic metals</li> <li>• Metal products</li> <li>• Non-metallic products</li> <li>• Paper</li> <li>• Coal, petroleum, chemical products</li> <li>• Wholesale trade</li> <li>• Renting of machinery</li> </ul>
Low DE	Services	<ul style="list-style-type: none"> <li>• Public administration and defense</li> <li>• Public and private education</li> </ul>	Services	<ul style="list-style-type: none"> <li>• Health and social work</li> <li>• Postal and telecommunication services</li> <li>• Electricity, gas, water</li> <li>• Real estate activities</li> <li>• Banking institutions</li> <li>• Non-bank financial intermediation</li> <li>• Research and development</li> </ul>

Table 1 also classifies industries according to the extent of disadvantaged employment, a salient feature of many industries in 2006. Of 10 Filipino workers, only one worked in an industry with low disadvantaged employment (less than 30 percent of whose workers are disadvantaged) while about five worked in industries more than half of whose workers are considered disadvantaged. The rest worked in industries with moderate levels of disadvantaged employment.

Comparing across sectors, the agriculture sector appears to have had the highest level of disadvantaged employment. The service sector, on the other hand, had the lowest (below one-third of the workforce). The industrial sector, meanwhile, had a moderate level of disadvantaged employment (more than one-third but less than half of their workforce).

Workers in the forestry and hunting industry appear to have been the most disadvantaged. As of 2006, 83 percent of workers engaged in forestry and hunting were either underemployed or in vulnerable employment. The dominant employers in the agriculture sector similarly had the highest levels of disadvantaged employment, as shown by the crop growing industry where three out of four workers were disadvantaged (75 percent), and the livestock and fishing industries where about 67 to 68 percent of the workers were either underemployed or vulnerable (Table 2).

Although industries in the service and industrial sectors provided better working conditions, they had very limited absorptive capacity. In the industrial sector, for instance, industries engaged in the manufacture of textiles, paper, and metal and non-metallic products exhibited low labor absorption and moderate levels of disadvantaged employment. Interestingly, top employer construction—which employed two out of five people in the industrial sector—had one of the highest proportions of disadvantaged labor (62 percent).

The service sector, where a large number of industries fared better in terms of working conditions, nevertheless showed limited absorptive capacity, employing less than 1 percent of the national workforce. These industries include banking institutions whose rate of disadvantaged employment was only 13 percent in 2006. Meanwhile, one out of four workers in industries engaged in health and social work, non-bank financial intermediation and real estate activities was disadvantaged in 2006.

In the service sector, only industries engaged in education, and public administration and defense, showed both high labor absorption and low concentration of disadvantaged employment in 2006 (17 percent in education and 28 percent in public administration and defense). Together, these industries employed 8-10 percent of the national workforce in the past two decades. Other top employer services sector industries which had moderate levels of disadvantaged employment (38-42 percent) include transport services, private household work, retail trade, and hotels and restaurants. Moderate level subsumes that less than half of an industry's workforce is disadvantaged.

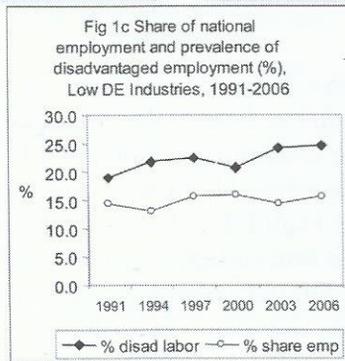
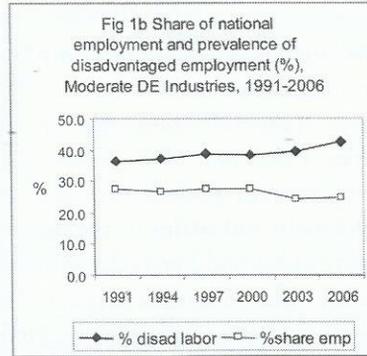
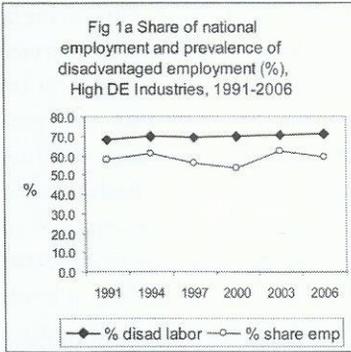
Table 2. Rate of disadvantaged employment (%) by industry, 1991-2006

Industry	1991	1994	1997	2000	2003	2006	1991-1997	2000-2006
Group 1: High disadvantaged employment	68.1	69.6	68.9	69.7	70.5	71.0	0.8	1.3
Group 1a: High labor absorption	69.9	71.2	70.5	71.1	71.2	71.6	0.6	0.5
Growing of crops	75.0	76.1	75.7	76.2	74.6	75.1	0.7	-1.1
Farming of animals	59.7	63.6	65.7	57.3	72.2	67.5	6.0	10.2
Construction	54.0	53.5	54.6	56.4	59.5	61.9	0.6	5.4
Fishing	59.6	64.5	63.1	66.2	63.6	65.8	3.5	-0.4
Group 1b: Low labor absorption	50.3	50.8	50.0	52.2	60.0	63.9	-0.3	11.7
Manufacture of wood	51.3	52.0	47.1	49.9	65.5	66.5	-4.2	16.7
Recreation and sporting activities	45.0	40.0	44.2	42.0	44.7	50.5	-0.8	8.6
Forestry and hunting	68.7	59.5	74.6	80.7	75.7	82.6	5.8	1.9
Mining	48.2	55.3	52.2	50.2	61.0	65.7	3.9	15.6
Other manufacturing industries	38.8	42.6	47.2	60.3	50.6	56.5	8.4	-3.8
Group 2: Moderate disadvantaged employment	36.5	37.1	38.6	38.1	39.6	42.6	2.1	4.5
Group 2a: High labor absorption	37.9	37.6	39.8	39.0	40.4	43.1	1.9	4.1
Retail trade	41.7	42.3	43.3	41.7	41.6	45.8	1.6	4.1
Transport services	34.2	33.1	34.2	33.2	35.2	37.7	0.0	4.5
Private household work	36.2	36.9	37.7	38.3	41.5	41.6	1.6	3.3
Hotels and restaurants	33.8	31.0	39.2	38.1	41.7	44.7	5.4	6.6
Manufacture of food and tobacco	35.0	35.6	42.4	42.6	44.1	42.8	7.4	0.2
Group 2b: Low labor absorption	31.2	32.6	33.6	33.7	35.5	39.5	2.4	5.8
Manufacture of textiles	34.5	35.7	36.2	38.9	42.5	47.4	1.7	8.5
Manufacture of metal products	27.0	29.9	29.6	28.5	31.5	33.9	2.6	5.4
Wholesale trade	41.0	41.5	42.1	37.5	37.7	41.2	1.1	3.7
Manufacture of basic metals	26.0	29.6	20.9	35.9	34.7	42.4	-5.1	6.5
Manufacture of paper	24.1	31.1	34.9	31.2	28.3	40.4	10.8	9.2
Manufacture of non metallic products	36.4	43.9	45.3	40.1	42.5	44.9	8.8	4.8
Insurance and pension funding	19.3	24.0	29.3	28.0	24.0	33.3	10.1	5.3
Manufacture of coal, petroleum, chemical products	21.4	20.9	28.3	27.8	29.6	32.7	6.9	4.9
Group 3: Low disadvantaged employment	19.0	21.8	22.5	20.7	24.0	24.6	3.5	3.9
Group 3a: High labor absorption	18.0	21.2	20.5	19.8	23.7	24.0	2.5	4.2
Public administration and defense	19.5	22.6	22.7	23.2	27.2	27.6	3.2	4.4
Public and private education	14.7	17.1	15.3	12.8	15.8	16.9	0.6	4.1
Group 3b: Low labor absorption	21.9	23.0	27.8	23.8	25.3	26.4	5.9	2.7
Renting of machinery	20.9	21.3	26.5	25.1	28.0	26.8	5.6	1.6
Health and social work	20.2	22.9	24.6	22.9	25.1	23.7	4.4	0.8
Postal and telecommunication services	13.2	20.6	26.4	16.5	21.0	26.7	13.2	10.2
Electricity, gas, water	24.0	24.9	29.4	27.4	25.9	30.3	5.4	2.9
Real estate activities	24.6	20.1	33.7	19.5	25.5	25.1	9.1	5.6
Banking institutions	8.3	12.3	15.9	12.5	12.0	12.5	7.6	-0.1
Non-bank financial intermediation	19.3	9.6	20.6	20.5	24.0	24.8	1.3	4.3
Research and development	29.5	26.4	32.9	28.7	26.1	27.7	3.3	-1.0

## Trends in disadvantaged employment across industries

The level of disadvantaged employment persisted at high levels in the agriculture sector and became more prevalent in both service and industrial sectors in the period 2000-2006. In fact, a number of industries which initially had low levels of disadvantaged labor in 1991 experienced very pronounced increases (Figure 1).

For the period 1991-2006, the proportion of disadvantaged workforce increased from 68 to 71 percent in High DE industries, from 37 to 43 percent in Moderate DE industries and from 19 to 25 percent in Low DE industries. The largest increases in disadvantaged employment were observed in industries engaged in mining and the manufacture of



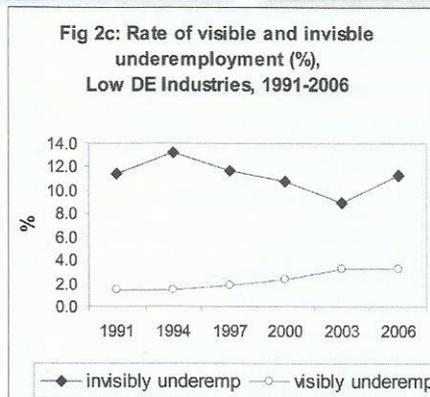
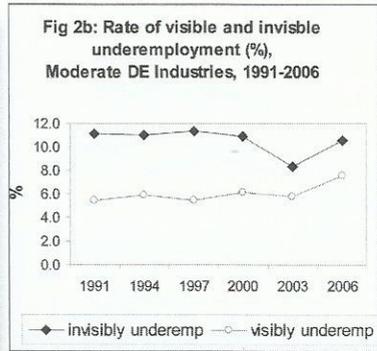
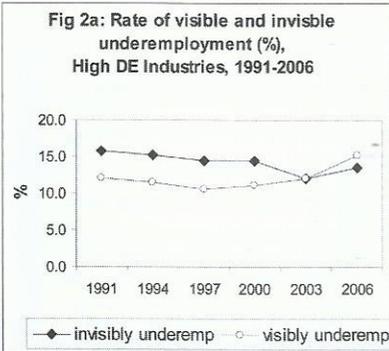
paper, metal, wood, textiles, coal petroleum and chemical products. In the service sector, growth in disadvantaged employment had been very evident in the hotel and restaurant industry, and in insurance and pension funding.

Dissecting economic growth periods between 1991-1997 and 2000-2006 revealed some interesting patterns. The period 1991-1997 was associated with employment shifts from industries with high levels of disadvantaged employment to industries with better working conditions. It was the exact opposite in the period 2000-2006 (Annex 1). While employment absorption receded in the crop growing and fishing industries (High DE industries) between 1991 and 1997, it improved in industries engaged in education and public administration and defense (Low DE industries). Other major service sector industries which exhibited high employment growth in this period include retail trade, transport services, and hotels and restaurants, which had moderate levels of disadvantaged labor.

By contrast, the period 2000-2006 showed increasing employment growth in high disadvantaged employment industries. While major service sector industries such as public administration and defense, education services (Low DE industries), private household work and transport services (Moderate DE industries) experienced prominent declines in employment growth between 2000 and 2006, high disadvantaged employment industries in the agriculture sector (e.g., those engaged in growing crops and livestock) absorbed more labor. The industrial sector not only reduced its absorption of labor but also manifested rising levels of disadvantaged employment. Hence, the agriculture sector industries absorbed surplus labor the service and industrial sector could not accommodate.

The paper distinguished between two main types of disadvantaged workers: the underemployed and the vulnerable. Underemployed workers dominated the disadvantaged workers in Low DE industries in the service sector while vulnerable workers characterized disadvantaged labor in Moderate and High DE industries. Industries with the largest share of underemployed workers (more than 60 percent of disadvantaged workers) include Low DE industries engaged in public administration and defense, education, real estate, research and development, health and social work, and banking (Annex 2). Industries with the highest proportion of vulnerable workers (more than 60 percent of disadvantaged workers) include those engaged in growing crops and livestock, mining (High DE industries), retail trade, hotels and restaurants, and the manufacture of coal, petroleum and chemical products (Moderate DE industries).

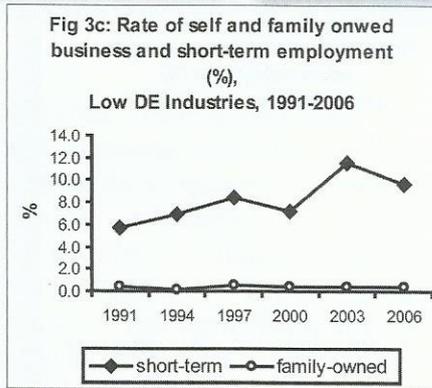
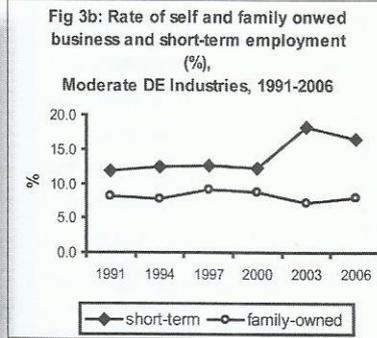
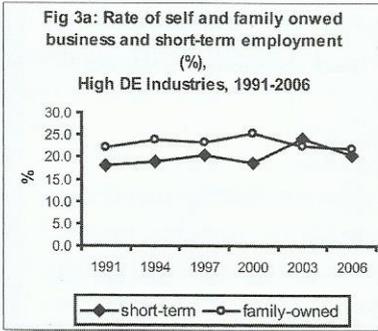
Vulnerable employment displayed greater volatility than underemployment in the past two decades. High DE industries (mostly in the agriculture sector) exhibited decreased underemployment and increased vulnerable employment rates in 1991-1997 but a reverse trend in 2000-2006. In these industries, there were larger increases and smaller declines in vulnerable employment than underemployment, generating more substantial overall increase in disadvantaged employment in 2000-2006. Greater volatility was observed in livestock and fishing. In industries with lower levels of disadvantaged labor, surge in underemployment rates went alongside vulnerable employment for both periods, although higher in recent periods than in the 90s (Annex 3).



## The growing severity of underemployment in industries

Underemployment, which denotes insufficient hours of paid work from the worker's viewpoint, reflects labor underutilization and inefficiency in the economy. This section examines two main forms of underemployment—visible and invisible underemployment—and discusses trends over time.

Generally, underemployment rates remained largely constant in 1991-1997 but increased in 2000-2006. At the industry level, many in the service sector experienced persistent increases in underemployment rates for the past two decades, particularly in industries with better working conditions. These include public administration and defense, real estate activities, non-bank financial intermediation, postal and telecommunications services, health and social work.



The severity of underemployment can be gleaned more clearly when data is disaggregated between visible and invisible underemployment. With workers who spent at least 40 hours of work in a week still desiring to work additional hours, invisible underemployment appears to be the most common type of underemployment across industries (Figure 2). The dominance of invisible over visible underemployment, however, diminished with increasing level of disadvantaged employment. But the opposite was observed in High DE industries, indicating a more severe underemployment situation in 2006.

In 2006, the highest rates of visible underemployment were observed in all industries in the agriculture sector, wood manufacturing in the industrial sector, and recreation and sporting service and private household work in the service sector (Annex 4). Visible underemployment was also pervasive in mining and in most manufacturing industries (e.g., food and tobacco, textiles, paper, metals and non-metallic products) in the industrial

sector, as well as in retail and wholesale trade, transport services, hotels and restaurants, health and social work, real estate, non-bank financial intermediation, and research and development in the service sector. By contrast, industries with the lowest underemployment rates (less than 1 percent in 2006) were largely those with limited employment absorption such as industries engaged in the manufacture of coal, petroleum and chemical products; and service industries engaged in banking, utilities, and postal and telecommunication services.

### **The burgeoning mass of vulnerable workers**

But these daunting figures convey only half of the story. Increasing globalization led to the emergence of more flexible forms of work arrangements and intensified the incidence of short-term and intermittent employment (Addison and Surfield 2005; Booth, Francesconi and Frank 2002). For the past two decades, these precarious types of employment predominated regular employment. As the number of short-term workers rose there was also an increase in the number of workers in self-owned or family-owned business enterprises which largely comprise the informal sector.<sup>6</sup> Both these types make up the vulnerable workers in this study.

The high level of vulnerable employment persisted in High DE industries while becoming more pervasive in industries with better working conditions. As a percentage of total employment, vulnerable employment increased in 1991-2006 from 40 to 42 percent in High DE industries, from 20 to 25 percent in Moderate DE industries, and from 6 to 10 percent in Low DE industries. Self-owned and family-owned enterprises were a characteristic feature of vulnerable employment in high DE agriculture industries. Short-term and intermittent employment, on the other hand, predominated the rest of the industries, although more prominent in industries with relatively better working conditions (Figure 3).

The past two decades had seen a significant rise in vulnerable employment in livestock and fishing industries in the agriculture sector. This rise was due primarily to the increasing prevalence of family business enterprises in the fishing industry, and the rising incidence of short-term and intermittent workers in the livestock industry. In the industrial sector, the growing prevalence of short-term and intermittent employment were observed in mining, as well as in industries engaged in the manufacture

of paper, coal, petroleum and chemical products, wood, food and tobacco, textiles, and metal and non-metallic products. Similarly, in the service sector very pronounced increases in short-term and intermittent jobs were evident in industries engaged in postal and telecommunication services, utilities, insurance and pension funding, recreation and sports, hotels and restaurants, and renting of machinery (Annexes 5-6).

## Conclusion

This paper examined disadvantaged employment, which includes workers who are underemployed or working in precarious employment, in various industries. Our findings indicate that disadvantaged employment is a growing phenomenon in the Philippines industries, and has been more pronounced in 2000-2006 than in the 90s.

Two factors explain the increasing prevalence of disadvantaged employment. First, the labor absorptive capacity of service industries with better working conditions such as public administration and defense, and education services have receded in recent years, resulting in industries with high levels of disadvantaged employment (farming, fishing and hunting industries in the agriculture sector) absorbing more workers. This was compounded by the diminishing capacity of the industrial sector, such as industries engaged in construction and goods manufacturing, to generate employment. Second, while high levels of disadvantaged employment was observed in the agriculture sector, underemployment and short-term employment has become more pervasive in service and manufacturing industries, particularly in industries that had low levels of disadvantaged labor in the 90s.

Clearly, the increase in volume of adequate employment can hardly keep up with a rapidly growing labor force. Worsening underemployment in the past decades reinforces the need to create a more positive environment for domestic and foreign investments in order to increase labor demand and mitigate the prevalence of disadvantaged employment. The Philippines appears to have followed the global trend of subscribing to non-standard forms of work arrangements including short-term, intermittent, contractual and part-time work, as well as self-employment. These alternative and more flexible work arrangements are largely beyond the scope of the Philippine Labor Code, necessitating a reformulation of the law to make it more relevant to the majority of Filipinos who do not

enjoy the entitlements the law provides to regular workers (Macaraya 2002). There is also a need for a more effective implementation of special laws (e.g., Cooperative Code, Barangay Micro Business Enterprises Law, Local Government Code, Comprehensive Agrarian Reform Law, Agriculture and Fisheries Modernization Act, etc.) that seek to improve the welfare of many disadvantaged workers (Sibal 2007; Teodosio 2008).

Admittedly, data limitations hindered a more in-depth analysis of the extent, causes and consequences of disadvantaged employment. There is need, therefore, to collect panel and longitudinal data supplemented by qualitative surveys in order to gain a more comprehensive understanding of disadvantaged employment and how it relates to labor market outcomes. This will prove essential to policymakers in the design of more effective strategies to deal with disadvantaged employment.

## Notes

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<sup>1</sup> As defined in the Labor Force Survey of the National Statistics Office.

<sup>2</sup> Reference period is the week previous to the date of the interview. Persons who were with a job but temporarily not doing work in the reference period, as well as those expected to work within two weeks from interview date, are also considered employed. Some reasons for leaving work temporarily include temporary illness or injury, vacation or other leave of absence, bad weather, strikes, and labor disputes.

<sup>3</sup> Poor households refer to those who are at the bottom income quartile. Workers in this category come close to the definition of workers in the informal sector, which refers to unincorporated household enterprises owned and operated by own-account workers either alone or in partnership with members of the same or other households (NSCB 2002). Only workers in self-owned or family businesses who belong to poor households are considered disadvantaged workers.

<sup>4</sup> Vulnerable workers receive less of the entitlements regular employees enjoy under the Philippine Labor Code such as security of tenure, minimum wage and other benefits, leave credits, medical care and pension benefits, opportunities for manpower development, and right to self-organization and collective bargaining (Foz, 1999). Short-term and intermittent workers include seasonal and occasional workers whose work had lasted or expected to last less than a year, or less than 10 months in a year in the case of farm and fishing operators and workers. Also included in this category are workers not in a company payroll and who work for different employers on a daily or weekly basis.

<sup>5</sup> The agriculture sector covers industries engaged in farming, fishing, forestry and hunting. The industrial sector is made up of the manufacturing, mining and quarrying,

and construction industries. The service sector includes wholesale and retail trade services, research and development, financial and related services, transport and telecommunication, hotels and restaurants, entertainment, utilities, private household work, education, and public defense.

<sup>6</sup> Workers in own or family-owned business enterprises that do not belong to poor households are not considered disadvantaged workers.

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## Annex 1: Share of employment (%) by industry, 1991-2006

Industry	1991	1994	1997	2000	2003	2006	1991-1997	2000-2006
<b>Group 1: High disadvantaged employment</b>	45.7	47.5	43.3	41.5	46.8	44.7	-2.5	3.2
Group 1a: High labor absorption	41.5	43.9	40.0	38.2	43.9	41.5	-1.5	3.3
Growing of crops	29.7	30.6	27.1	26.1	28.1	26.9	-2.6	0.8
Farming of animals	1.9	2.4	2.4	2.2	5.6	5.2	0.5	2.9
Construction	5.2	5.7	6.5	5.4	5.3	4.9	1.3	-0.6
Fishing	4.7	5.2	4.0	4.4	4.9	4.5	-0.7	0.1
Group 1b: Low labor absorption	4.3	3.6	3.3	3.3	2.9	3.2	-1.0	-0.1
Manufacture of wood	1.5	1.5	1.2	1.2	0.9	1.0	-0.2	-0.2
Recreation and sporting activities	0.9	0.8	0.7	0.9	0.8	0.9	-0.1	0.0
Forestry and hunting	0.7	0.4	0.3	0.3	0.6	0.6	-0.4	0.3
Mining	0.6	0.4	0.5	0.4	0.5	0.5	-0.2	0.1
Other manufacturing industries	0.7	0.5	0.5	0.6	0.2	0.2	-0.1	-0.4
<b>Group 2: Moderate disadvantaged employment</b>	41.0	40.6	42.0	43.7	40.4	41.6	1.0	-2.2
Group 2a: High labor absorption	32.4	32.7	34.0	36.4	33.5	35.2	1.7	-1.2
Retail trade	13.6	13.9	14.9	16.2	16.1	16.9	1.3	0.6
Transport services	5.5	6.3	6.6	7.4	7.1	7.1	1.1	-0.4
Private household work	8.8	8.0	7.7	8.0	5.8	6.5	-1.1	-1.5
Hotels and restaurants	1.8	1.8	2.3	2.3	2.3	2.6	0.6	0.3
Manufacture of food and tobacco	2.7	2.7	2.5	2.3	2.2	2.1	-0.3	-0.2
Group 2b: Low labor absorption	8.6	7.9	8.0	7.4	7.0	6.4	-0.6	-1.0
Manufacture of textiles	4.1	3.5	2.9	2.8	2.2	1.8	-1.2	-1.0
Manufacture of metal products	1.3	1.3	1.7	1.6	1.6	1.5	0.4	0.0
Wholesale trade	1.3	1.0	1.4	1.3	1.3	1.4	0.1	0.1
Manufacture of basic metals	0.2	0.3	0.3	0.3	0.6	0.5	0.1	0.2
Manufacture of paper	0.5	0.5	0.4	0.4	0.4	0.4	-0.1	0.0
Manufacture of non-metallic products	0.3	0.4	0.4	0.3	0.3	0.3	0.1	0.0
Insurance and pension funding	0.3	0.2	0.2	0.3	0.2	0.1	-0.1	-0.2
Manufacture of coal, petroleum, and chemical products	0.7	0.7	0.6	0.5	0.4	0.4	0.0	-0.1
<b>Group 3: Low disadvantaged employment</b>	13.1	11.8	14.6	14.7	12.7	13.6	1.5	-1.1
Group 3a: High labor absorption	8.5	7.8	9.6	10.1	8.0	8.1	1.0	-1.9
Public administration and defense	5.1	4.8	5.7	6.2	4.9	4.9	0.6	-1.3
Public and private education	3.4	3.0	3.9	3.9	3.1	3.2	0.5	-0.7
Group 3b: Low labor absorption	4.6	4.0	5.1	4.7	4.7	5.5	0.5	0.9
Renting of machinery	1.2	1.0	1.1	1.2	1.6	2.0	-0.1	0.8
Health and social work	1.1	1.0	1.1	1.1	1.1	1.1	0.0	0.1
Postal and telecommunication services	0.3	0.3	0.4	0.4	0.3	0.5	0.1	0.1
Electricity, gas, water	0.5	0.5	0.6	0.4	0.4	0.4	0.1	-0.1
Real estate activities	0.3	0.2	0.4	0.3	0.2	0.4	0.2	0.1
Banking institutions	0.6	0.5	0.6	0.6	0.4	0.4	0.0	-0.2
Non-bank financial intermediation	0.1	0.2	0.3	0.3	0.4	0.4	0.2	0.2
Research and development	0.4	0.3	0.5	0.5	0.4	0.3	0.1	-0.2

## Annex 2: Rate of underemployment (%) by industry, 1991-2006

Industry	1991	1994	1997	2000	2003	2006	1991-1997	2000-2006
<b>Group 1: High disadvantaged employment</b>	27.9	26.8	25.2	25.7	24.0	28.7	-2.7	3.0
<b>Group 1a: High labor absorption</b>	28.1	27.1	25.3	25.9	24.1	28.6	-2.8	2.7
Growing of crops	28.4	27.4	26.0	26.0	25.3	29.0	-2.4	3.0
Farming of animals	33.0	32.2	27.6	29.1	24.9	27.4	-5.4	-1.7
Construction	22.5	21.6	23.8	25.0	20.5	28.1	1.2	3.1
Fishing	30.6	28.0	21.5	25.0	19.8	28.2	-9.1	3.2
<b>Group 1b: Low labor absorption</b>	25.5	23.9	23.3	23.2	23.0	29.8	-2.2	6.6
Manufacture of wood	24.0	19.9	20.4	21.6	24.6	29.4	-3.6	7.8
Recreation and sporting activities	30.0	23.6	25.3	25.5	19.8	29.5	-4.7	3.9
Forestry and hunting	30.6	28.3	34.4	32.4	29.1	41.8	3.8	9.4
Mining	26.6	28.9	28.1	21.0	21.2	23.3	1.5	2.3
Other manufacturing industries	16.7	14.4	16.7	20.6	16.1	19.2	0.0	-1.4
<b>Group 2: Moderate disadvantaged employment</b>	16.5	16.9	16.9	17.1	14.1	18.1	0.4	1.0
<b>Group 2a: High labor absorption</b>	16.5	16.7	16.8	17.3	14.2	18.0	0.3	0.6
Retail trade	15.5	16.5	15.6	16.3	12.8	16.7	0.1	0.5
Transport services	18.4	17.8	18.3	18.8	16.6	20.9	-0.1	2.0
Private household work	16.5	17.2	16.9	18.5	14.8	19.1	0.4	0.5
Hotels and restaurants	13.1	10.6	16.0	12.8	11.5	15.1	2.9	2.4
Manufacture of food and tobacco	19.4	17.9	20.4	20.6	17.8	18.7	1.0	-2.0
<b>Group 2b: Low labor absorption</b>	16.6	17.7	17.1	15.8	13.6	19.0	0.5	3.2
Manufacture of textiles	17.0	18.2	16.7	16.8	14.6	21.3	-0.3	4.5
Manufacture of metal products	16.7	18.7	15.6	13.1	10.7	15.4	-1.2	2.2
Wholesale trade	21.7	24.0	20.1	15.0	16.1	19.3	-1.7	4.3
Manufacture of basic metals	11.0	12.1	8.8	23.2	13.2	24.5	-2.2	1.3
Manufacture of paper	16.0	15.1	23.3	21.7	17.1	21.6	7.2	-0.1
Manufacture of non-metallic products	18.5	22.4	26.0	24.3	17.1	23.2	7.4	-1.0
Insurance and pension funding	14.8	14.4	15.6	16.9	10.7	23.3	0.8	6.4
Manufacture of coal, petroleum, and chemical products	14.8	14.4	15.6	16.9	10.7	23.3	0.8	6.4
<b>Group 3: Low disadvantaged employment</b>	12.9	14.7	13.5	13.1	12.1	14.5	0.6	1.4
<b>Group 3a: High labor absorption</b>	12.7	14.6	12.8	13.0	12.3	14.6	0.1	1.7
Public administration and defense	13.1	15.2	13.4	15.1	14.3	18.3	0.3	3.2
Public and private education	11.9	14.0	11.0	9.2	9.1	10.2	-0.8	1.0
<b>Group 3b: Low labor absorption</b>	13.3	14.8	15.4	13.6	11.8	14.2	2.1	0.6
Renting of machinery	13.4	10.9	15.5	14.3	12.0	12.8	2.1	-1.5
Health and social work	11.9	15.1	14.2	13.9	13.5	15.1	2.3	1.2
Postal and telecommunication services	11.6	9.4	12.9	7.7	8.1	11.0	1.2	3.2
Electricity, gas, water	15.8	15.9	14.8	17.2	12.8	14.8	-1.0	-2.4
Real estate activities	13.9	16.9	20.2	10.5	12.1	16.2	6.3	5.7
Banking institutions	5.4	8.3	11.7	7.6	6.7	8.0	6.3	0.4
Non-bank financial intermediation	8.8	3.8	11.1	10.7	10.1	13.8	2.3	3.0
Research and development	20.7	20.3	21.3	18.8	13.6	17.5	0.6	-1.4

## Annex 3: Rate of vulnerable employment by industry, 1991-2006

Industry	1991	1994	1997	2000	2003	2006	1991-1997	2000-2006
<b>Group 1: High disadvantaged employment</b>	40.2	42.8	43.8	44.0	46.5	42.3	3.6	-1.7
Group 1a: High labor absorption	41.8	44.1	45.2	45.2	47.2	43.0	3.4	-2.2
Growing of crops	46.6	48.7	49.7	50.1	49.2	46.0	3.1	-4.1
Farming of animals	26.7	31.4	38.1	28.2	47.4	40.1	11.4	11.9
Construction	31.4	31.9	30.8	31.4	39.0	33.8	-0.6	2.3
Fishing	29.0	36.6	41.6	41.2	43.8	37.7	12.6	-3.5
Group 1b: Low labor absorption	24.9	26.9	26.7	29.0	37.0	34.1	1.8	5.1
Manufacture of wood	27.4	32.1	26.8	28.3	40.9	37.2	-0.6	8.8
Recreation and sporting activities	15.0	16.4	18.9	16.4	24.9	21.1	3.9	4.6
Forestry and hunting	38.1	31.2	40.2	48.3	46.6	40.8	2.1	-7.5
Mining	21.6	26.3	24.1	29.2	39.9	42.5	2.4	13.2
Other manufacturing industries	22.1	28.2	30.4	39.7	34.5	37.3	8.3	-2.4
<b>Group 2: Moderate disadvantaged employment</b>	20.0	20.2	21.8	21.0	25.5	24.5	1.7	3.4
Group 2a: High labor absorption	21.5	20.8	23.0	21.7	26.2	25.2	1.5	3.5
Retail trade	26.2	25.7	27.7	25.5	28.8	29.1	1.5	3.7
Transport services	15.8	15.4	15.9	14.3	18.6	16.8	0.1	2.5
Private household work	19.7	19.7	20.8	19.8	26.7	22.5	1.1	2.8
Hotels and restaurants	20.7	20.4	23.2	25.3	30.2	29.5	2.5	4.2
Manufacture of food and tobacco	15.5	17.7	22.0	21.9	26.3	24.1	6.5	2.2
Group 2b: Low labor absorption	14.6	15.0	16.5	17.8	22.0	20.5	1.9	2.7
Manufacture of textiles	17.5	17.5	19.5	22.1	27.9	26.2	2.0	4.0
Manufacture of metal products	10.3	11.2	14.1	15.3	20.8	18.6	3.8	3.2
Wholesale trade	19.3	17.5	22.0	22.5	21.6	21.9	2.8	-0.6
Manufacture of basic metals	15.0	17.5	12.1	12.7	21.5	17.9	-2.9	5.2
Manufacture of paper	8.0	16.0	11.6	9.5	11.3	18.8	3.6	9.3
Manufacture of non-metallic products	17.9	21.6	19.3	15.8	25.4	21.6	1.4	5.8
Insurance and pension funding	4.4	9.6	13.8	11.1	13.2	10.0	9.3	-1.1
Manufacture of coal, petroleum, and chemical products	8.6	8.6	15.0	14.8	20.8	22.1	3.7	7.3
<b>Group 3: Low disadvantaged employment</b>	6.1	7.2	9.0	7.6	11.9	10.1	2.9	2.5
Group 3a: High labor absorption	5.3	6.6	7.7	6.8	11.4	9.4	2.5	2.6
Public administration and defense	6.4	7.3	9.3	8.0	12.9	9.2	3.0	1.2
Public and private education	2.8	3.1	4.3	3.6	6.7	6.7	1.5	3.1
Group 3b: Low labor absorption	8.6	8.2	12.5	10.2	13.5	12.2	3.8	2.1
Renting of machinery	7.5	10.4	11.0	10.9	15.9	14.0	3.5	3.1
Health and social work	8.3	7.8	10.4	9.0	11.6	8.6	2.1	-0.4
Postal and telecommunication services	1.6	11.2	13.5	8.8	12.9	15.7	12.0	6.9
Electricity, gas, water	8.1	9.0	14.6	10.2	13.2	15.5	6.4	5.3
Real estate activities	10.7	3.3	13.5	9.1	13.4	8.9	2.8	-0.1
Banking institutions	2.9	4.0	4.1	5.0	5.3	4.5	1.3	-0.5
Non-bank financial intermediation	10.5	5.8	9.6	9.8	13.9	11.0	-1.0	1.2
Research and development	8.8	6.1	11.6	9.9	12.5	10.2	2.8	0.3

## Annex 4: Rate of visible underemployment by industry, 1991-2006

Industry	1991	1994	1997	2000	2003	2006	1991-1997	2000-2006
Group 1: High disadvantaged employment	12.1	11.6	10.6	11.2	12.0	15.1	-1.5	3.9
Group 1a: High labor absorption	12.5	12.1	10.8	11.4	12.1	15.2	-1.6	3.7
Growing of crops	13.1	12.4	12.6	12.4	14.0	16.6	-0.5	4.2
Farming of animals	23.5	24.1	19.5	21.0	11.8	17.7	-3.9	-3.3
Construction	0.5	0.7	0.6	0.8	1.5	2.0	0.2	1.2
Fishing	17.3	15.4	10.2	14.2	13.0	18.0	-7.0	3.8
Group 1b: Low labor absorption	8.7	8.8	8.2	8.6	10.9	15.0	-0.5	6.4
Manufacture of wood	8.2	5.7	5.7	5.5	10.9	13.7	-2.5	8.2
Recreation and sporting activities	15.3	11.3	12.2	11.4	11.8	17.5	-3.1	6.0
Forestry and hunting	8.8	12.3	13.4	18.8	14.4	21.9	4.6	3.1
Mining	4.3	11.7	6.2	4.8	7.6	7.4	1.9	2.6
Other manufacturing industries	5.7	5.7	7.0	8.7	6.0	11.3	1.3	2.6
Group 2: Moderate disadvantaged employment	5.4	5.9	5.5	6.2	5.7	7.6	0.1	1.5
Group 2a: High labor absorption	5.6	5.9	5.9	6.6	6.0	7.9	0.3	1.3
Retail trade	6.7	7.2	6.4	7.0	5.9	7.6	-0.3	0.6
Transport services	3.2	3.5	3.5	4.1	4.8	6.2	0.3	2.1
Private household work	6.3	6.9	7.4	8.6	8.1	11.5	1.2	3.0
Hotels and restaurants	4.0	3.3	3.9	3.8	4.4	5.3	-0.1	1.5
Manufacture of food and tobacco	3.9	5.0	6.4	7.2	7.3	8.0	2.5	0.8
Group 2b: Low labor absorption	4.8	5.3	3.8	4.2	4.5	6.0	-1.0	1.8
Manufacture of textiles	6.5	7.8	5.7	7.3	7.0	9.5	-0.7	2.1
Manufacture of metal products	2.0	1.5	0.7	1.0	1.8	2.3	-1.3	1.3
Wholesale trade	7.2	7.6	5.6	4.3	5.0	7.6	-1.6	3.2
Manufacture of basic metals	0.0	4.9	1.7	1.4	2.6	4.7	1.7	3.4
Manufacture of paper	0.9	3.9	2.0	0.8	4.3	5.3	1.1	4.5
Manufacture of non-metallic products	3.3	3.5	4.9	4.0	6.6	8.1	1.6	4.1
Insurance and pension funding	3.7	4.8	4.2	5.8	5.0	4.4	0.5	-1.4
Manufacture of coal, petroleum, and chemical products	1.4	0.0	1.1	0.9	1.5	0.4	-0.2	-0.5
Group 3: Low disadvantaged employment	1.5	1.4	1.8	2.3	3.2	3.2	0.4	0.9
Group 3a: High labor absorption	1.2	1.0	1.5	1.9	3.0	3.0	0.3	1.1
Public administration and defense	0.9	0.8	1.6	2.2	3.5	4.1	0.7	1.8
Public and private education	1.4	1.2	1.2	1.1	2.6	1.8	-0.2	0.7
Group 3b: Low labor absorption	2.31	3.12	2.83	3.65	3.85	3.91	0.52	0.26
Renting of machinery	1.8	0.6	1.9	2.6	2.3	2.1	0.0	-0.5
Health and social work	1.2	3.1	2.7	4.4	5.1	4.8	1.5	0.4
Postal and telecommunication services	0.0	0.0	0.7	0.7	0.4	0.6	0.7	-0.2
Electricity, gas, water	1.8	1.9	1.0	2.3	1.5	0.8	-0.8	-1.6
Real estate activities	5.7	7.8	6.1	4.3	8.1	7.6	0.4	3.3
Banking institutions	0.0	0.0	0.2	0.0	0.7	0.4	0.2	0.4
Non-bank financial intermediation	1.8	1.9	1.5	2.4	2.6	5.3	-0.2	2.9
Research and development	6.7	6.1	6.7	8.6	6.8	7.3	0.0	-1.4

**Annex 5: Rate of self-owned or family-owned business employment by industry, 1991-2006**

Industry	1991	1994	1997	2000	2003	2006	1991-1997	2000-2006
<b>Group 1: High disadvantaged employment</b>	22.1	23.9	23.3	25.2	22.5	21.9	1.3	-3.4
Group 1a: High labor absorption	23.5	25.7	24.6	26.4	23.2	22.7	1.1	-3.8
Growing of crops	28.8	31.0	31.4	33.1	28.8	28.0	2.5	-5.0
Farming of animals	16.5	16.5	16.2	15.8	13.5	13.0	-0.3	-2.8
Construction	1.4	0.9	0.8	1.1	0.5	0.5	-0.7	-0.6
Fishing	16.6	25.1	21.5	23.8	26.4	25.6	4.9	1.8
Group 1b: Low labor absorption	8.6	9.0	8.3	10.4	11.3	11.5	-0.3	1.1
Manufacture of wood	11.6	12.5	10.5	13.4	17.4	17.7	-1.1	4.3
Recreation and sporting activities	1.8	1.8	2.3	2.3	1.9	0.9	0.4	-1.4
Forestry and hunting	11.6	16.0	11.2	18.8	17.8	19.7	-0.4	0.9
Mining	7.1	4.1	4.6	6.9	10.0	11.3	-2.5	4.4
Other manufacturing industries	9.0	1.8	11.6	15.0	6.6	7.9	2.6	-7.1
<b>Group 2: Moderate disadvantaged employment</b>	8.2	7.8	9.1	8.8	7.2	7.9	0.8	-0.8
Group 2a: High labor absorption	9.2	8.4	10.0	9.4	7.7	8.5	0.8	-0.9
Retail trade	16.6	14.6	16.7	15.1	12.1	13.5	0.2	-1.6
Transport services	4.1	4.5	6.0	5.3	4.2	4.8	1.9	-0.5
Private household work	1.9	2.2	2.2	2.6	1.2	0.9	0.3	-1.7
Hotels and restaurants	10.1	8.6	8.7	9.1	7.4	7.6	-1.4	-1.5
Manufacture of food and tobacco	6.1	5.1	7.7	6.5	4.0	5.5	1.6	-0.9
Group 2b: Low labor absorption	4.3	4.6	5.0	5.7	5.0	4.9	0.6	-0.8
Manufacture of textiles	4.3	8.1	6.8	8.6	7.7	6.3	2.5	-2.3
Manufacture of metal products	2.7	0.9	2.4	1.4	2.8	3.7	-0.3	2.3
Wholesale trade	9.3	7.6	9.6	10.6	6.0	8.1	0.3	-2.5
Manufacture of basic metals	2.0	0.0	2.9	1.8	5.1	2.6	0.9	0.8
Manufacture of paper	1.4	1.2	2.7	2.0	0.8	2.1	1.2	0.2
Manufacture of non-metallic products	6.6	2.8	4.2	5.0	5.7	2.7	-2.4	-2.3
Insurance and pension funding	2.2	0.0	0.0	0.0	0.0	0.0	-2.2	0.0
Manufacture of coal, petroleum, and chemical products	4.8	0.0	0.7	1.4	2.2	0.0	-0.4	-1.4
<b>Group 3: Low disadvantaged employment</b>	0.4	0.2	0.6	0.5	0.4	0.5	0.2	0.0
Group 3a: High labor absorption	0.2	0.2	0.4	0.2	0.2	0.4	0.2	0.2
Public administration and defense	0.1	0.0	0.1	0.1	0.0	0.0	0.0	-0.1
Public and private education	0.0	0.1	0.2	0.3	0.1	0.2	0.2	-0.2
Group 3b: Low labor absorption	1.0	0.4	1.3	1.1	0.9	0.6	0.3	-0.5
Renting of machinery	1.1	0.7	1.6	0.6	1.3	1.8	0.5	1.2
Health and social work	0.8	1.5	2.1	1.1	0.9	0.6	1.3	-0.5
Postal and telecommunication services	0.0	0.0	0.7	0.4	0.4	0.0	0.7	-0.4
Electricity, gas, water	0.5	0.3	0.7	0.7	0.0	0.4	0.3	-0.3
Real estate activities	4.1	0.0	1.9	1.4	1.3	1.7	-2.2	0.2
Banking institutions	0.4	0.0	0.0	0.0	0.0	0.0	-0.4	0.0
Non-bank financial intermediation	1.8	0.0	1.0	1.0	0.8	0.9	-0.7	0.0
Research and development	0.5	0.5	0.8	1.9	0.8	0.5	0.3	-1.4

Annex 6: Rate of short-term or intermittent employment by industry, 1991-2006

Industry	1991	1994	1997	2000	2003	2006	1991-1997	2000-2006
<b>Group 1: High disadvantaged employment</b>	18.2	18.9	20.4	18.7	24.1	20.5	2.3	1.7
Group 1a: High labor absorption	18.4	18.4	20.6	18.7	24.0	20.3	2.3	1.6
Growing of crops	17.7	17.8	18.3	17.1	20.5	18.0	0.6	0.9
Farming of animals	10.2	14.9	21.9	12.4	33.8	27.2	11.7	14.7
Construction	30.0	31.0	30.1	30.3	38.5	33.2	0.0	2.9
Fishing	12.4	11.5	20.1	17.5	17.4	12.1	7.7	-5.4
Group 1b: Low labor absorption	16.3	17.9	18.4	18.6	25.7	22.7	2.1	4.0
Manufacture of wood	15.8	19.5	16.3	14.9	23.5	19.5	0.5	4.6
Recreation and sporting activities	13.2	14.6	16.7	14.1	23.0	20.2	3.5	6.1
Forestry and hunting	26.5	15.2	29.0	29.6	28.9	21.1	2.5	-8.4
Mining	14.5	22.2	19.4	22.3	29.9	31.2	4.9	8.9
Other manufacturing industries	13.0	26.4	18.8	24.7	28.0	29.4	5.8	4.7
<b>Group 2: Moderate disadvantaged employment</b>	11.8	12.4	12.7	12.3	18.3	16.5	0.9	4.3
Group 2a: High labor absorption	12.2	12.5	13.0	12.3	18.5	16.7	0.8	4.4
Retail trade	9.6	11.1	11.0	10.3	16.7	15.6	1.3	5.3
Transport services	11.7	10.9	9.9	9.0	14.4	12.0	-1.8	3.0
Private household work	17.8	17.6	18.6	17.2	25.5	21.7	0.8	4.5
Hotels and restaurants	10.6	11.8	14.5	16.2	22.9	21.9	3.9	5.7
Manufacture of food and tobacco	9.4	12.6	14.3	15.5	22.2	18.6	4.9	3.1
Group 2b: Low labor absorption	10.3	10.4	11.6	12.1	17.0	15.6	1.3	3.5
Manufacture of textiles	13.2	9.4	12.7	13.6	20.2	19.9	-0.5	6.3
Manufacture of metal products	7.6	10.3	11.6	14.0	18.0	14.9	4.1	0.9
Wholesale trade	10.0	9.9	12.4	12.0	15.6	13.8	2.5	1.9
Manufacture of basic metals	13.0	17.5	9.2	10.9	16.5	15.3	-3.8	4.4
Manufacture of paper	6.6	14.8	9.0	7.5	10.5	16.7	2.4	9.2
Manufacture of non-metallic products	11.3	18.8	15.1	10.9	19.7	18.9	3.8	8.0
Insurance and pension funding	2.2	9.6	13.8	11.1	13.2	10.0	11.6	-1.1
Manufacture of coal, petroleum, and chemical products	8.3	8.6	14.4	13.4	18.6	22.1	4.0	8.7
<b>Group 3: Low disadvantaged employment</b>	5.7	7.0	8.4	7.2	11.5	9.6	2.7	2.5
Group 3a: High labor absorption	5.1	6.5	7.4	6.6	11.2	8.9	2.3	2.4
Public administration and defense	6.3	7.3	9.3	8.0	12.9	9.2	3.0	1.3
Public and private education	2.8	3.1	4.0	3.3	6.6	6.5	1.2	3.2
Group 3b: Low labor absorption	7.7	7.9	11.2	9.0	12.6	11.7	3.6	2.6
Renting of machinery	6.4	9.7	9.4	10.3	14.7	12.2	3.0	1.9
Health and social work	7.5	6.3	8.3	7.9	10.8	8.0	0.7	0.1
Postal and telecommunication services	1.6	11.2	12.8	8.5	12.5	15.7	11.3	7.3
Electricity, gas, water	7.7	8.7	13.8	9.6	13.2	15.2	6.1	5.6
Real estate activities	6.6	3.3	11.5	7.6	12.1	7.3	5.0	-0.4
Banking institutions	2.5	4.0	4.1	5.0	5.3	4.5	1.6	-0.5
Non-bank financial intermediation	8.8	5.8	8.5	8.8	13.1	10.0	-0.2	1.3
Research and development	8.3	5.7	10.8	8.0	11.7	9.7	2.5	1.7