

Labour welfare impact

Are workers in firms connected to the international supply chain different from workers in firms catering the local market? In what way?

Are labor market outcomes for workers in firms connected to the international supply chain different from labor market outcomes for workers in firms catering the local market?

To what extent is employment in a firm connected to the global supply chain similar to or different from employment in a BPO or an overseas job?

Does employment in such a firm increase the chances of finding overseas work? Is employment in such a firm a viable alternative for returning overseas workers?

# Operationalizing “those in the global supply chain”

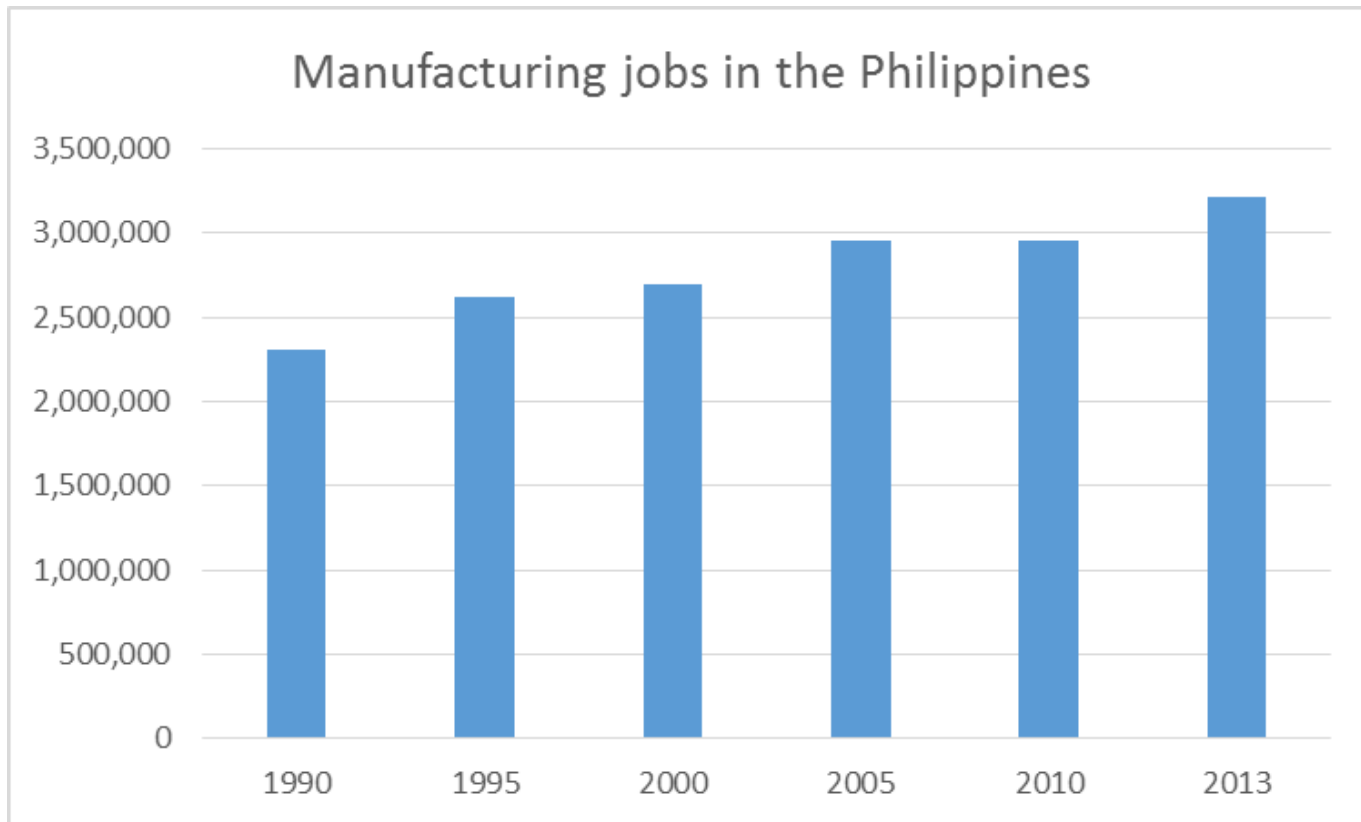
- Uses the Philippine Statistics Authority’s Labor Force Surveys over the years
- Those employed in manufacturing in the same Philippine Standard Industrial Classification (PSIC) codes as firms reported by PEZA and who live in CALABARZON.

# Definition of Export Zone (EZ) Industries

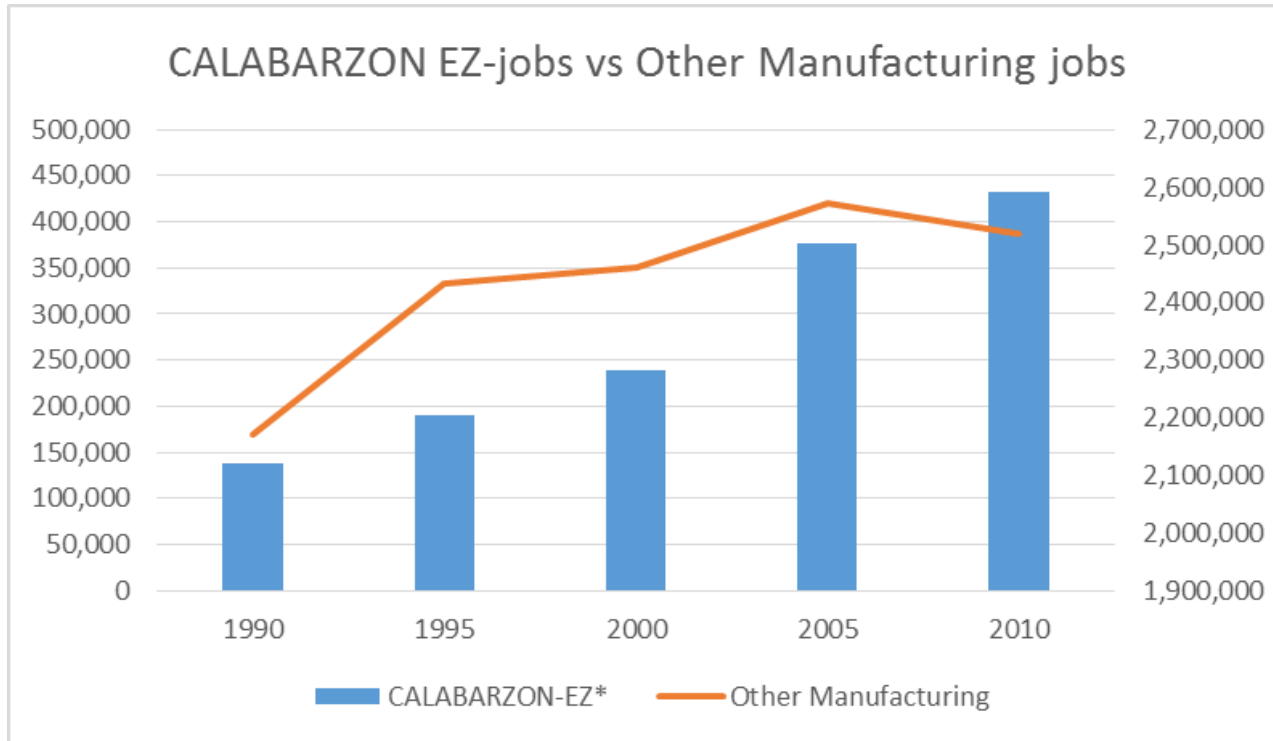
- Manufacture of Wood, Wood Products and Cork, Except Furniture; Manufacture of Articles of Bamboo
- Manufacture of Paper and Paper Products
- Manufacture of Publishing, Printing and Reproduction of Recorded Media
- Manufacture of Coke, Refined Petroleum and Other Fuel Products
- Manufacture of Chemicals and Chemical Products
- Manufacture of Rubber and Plastic Products
- Manufacture of Other Non-Metallic Mineral Products
- Manufacture of Basic Metals
- Manufacture of Fabricated Metal Products, Except Machinery and Equipment
- Manufacture of Machinery and Equipment, NEC
- Manufacture of Office, Accounting and Computing Machinery
- Manufacture of Electrical Machinery and Apparatus, NEC
- Manufacture of Radio, Television and Communication Equipment and Apparatus
- Manufacture of Medical, Precision and Optical Instruments, Watches and Clocks
- Manufacture of Motor Vehicles, Trailers and Semi-Trailers
- Manufacture of Other Transport Equipment
- Manufacture and Repair of Furniture

# Limitations

- Type 1 error or undercoverage
  - There would be firms linked to the global supply chain which are not based in CALABARZON. Their workers would be classified in other manufacturing.
  - There would be firms linked to the global supply chain which might have different PSIC codes.
  - There would be workers in the export zones who live outside CALABARZON.
- Type 2 error
  - Possible that some firms in CALABARZON classified as linked to the global supply chain may actually not be
- Usual sampling Error



- Slow growth of manufacturing jobs in the country.
- From 1990 to 2013, average annual growth of only 1.4%.
- Stagnated from 2005 to 2010, but picked up slightly from 2010 to 2013.



- Within manufacturing, stronger growth in EZ-type jobs in CALABARZON.
- Average annual growth of 5.8% from 1990 to 2010.
- In contrast, average annual growth of only 0.7% in other manufacturing jobs, and in fact declined from 2005 to 2010.

Source of basic data: PSA's LFS, various years

Are workers in firms connected to the international supply chain different from workers in firms catering the local market?  
In what way?

- Human capital (education, age/experience)
- Distribution by sex
- Income class



# Age Profile of CALABARZON EZ workers

Age Profile of Manufacturing Workers, 1995					
Area	15-24 (%)	25-40 (%)	41-64 (%)	65+ (%)	Total
<b>CALABARZON - EZ*</b>	<b>40%</b>	<b>43%</b>	<b>16%</b>	<b>1%</b>	<b>190,434</b>
CALABARZON (Others)	25%	46%	26%	3%	318,768
NCR	23%	50%	27%	1%	612,898
Other Luzon	31%	38%	28%	3%	664,076
Visayas	23%	37%	35%	5%	482,871
Mindanao	18%	40%	39%	3%	354,143
Philippines	26%	42%	29%	3%	2,623,189

- CALABARZON EZ workers are younger, the large bulk is 40 years old or below.
- The share of those below 24 years old is notably higher compared to those in other manufacturing jobs.

Age Profile of Manufacturing Workers, 2010					
Area	15-24 (%)	25-40 (%)	41-64 (%)	65+ (%)	Total
<b>CALABARZON - EZ*</b>	<b>30%</b>	<b>53%</b>	<b>16%</b>	<b>0%</b>	<b>431,751</b>
CALABARZON (Others)	22%	42%	34%	2%	320,413
NCR	15%	51%	32%	1%	486,886
Other Luzon	22%	42%	32%	4%	730,550
Visayas	21%	40%	33%	6%	542,610
Mindanao	19%	42%	35%	3%	439,614
Philippines	21%	45%	31%	3%	2,951,823

Source of basic data: PSA's LFS, various years

# Gender Profile of CALABARZON EZ workers

Gender Profile of Manufacturing Workers, 1995			
Area	Male (%)	Female (%)	Total
<b>CALABARZON - EZ*</b>	<b>57%</b>	<b>43%</b>	<b>190,434</b>
CALABARZON (Others)	42%	58%	318,768
NCR	57%	43%	612,898
Other Luzon	52%	48%	664,076
Visayas	54%	46%	482,871
Mindanao	58%	42%	354,143
Philippines	54%	46%	2,623,189

Gender Profile of Manufacturing Workers, 2010			
Area	Male (%)	Female (%)	Total
<b>CALABARZON - EZ*</b>	<b>54%</b>	<b>46%</b>	<b>431,751</b>
CALABARZON (Others)	43%	57%	320,413
NCR	62%	38%	486,886
Other Luzon	59%	41%	730,550
Visayas	56%	44%	542,610
Mindanao	63%	37%	439,614
Philippines	57%	43%	2,951,823

- The share of female workers in CALABARZON EZ-type jobs has increased over the years.
- The female share in the subsector is way above the female share in total employment and is significantly higher than the female share in overall manufacturing.

Source of basic data: PSA's LFS, various years

# Education Profile of CALABARZON EZ workers

Area	Below HS Grad (%)	HS Grad (%)	College Undergrad (%)	College Grad (%)	Total
<b>CALABARZON - EZ*</b>	<b>31%</b>	<b>39%</b>	<b>18%</b>	<b>11%</b>	<b>189,570</b>
CALABARZON (Others)	44%	37%	12%	7%	318,338
NCR	25%	38%	19%	18%	612,131
Other Luzon	53%	32%	8%	7%	663,576
Visayas	61%	18%	14%	7%	482,871
Mindanao	54%	24%	14%	8%	352,776
Philippines	46%	31%	14%	10%	2,619,261

Area	Below HS Grad (%)	HS Grad (%)	College Undergrad (%)	College Grad (%)	Total
<b>CALABARZON - EZ*</b>	<b>17%</b>	<b>43%</b>	<b>23%</b>	<b>18%</b>	<b>431,751</b>
CALABARZON (Others)	30%	47%	16%	8%	320,413
NCR	19%	43%	19%	18%	486,886
Other Luzon	39%	34%	14%	13%	730,550
Visayas	48%	30%	13%	9%	542,610
Mindanao	47%	27%	15%	10%	439,614
Philippines	34%	36%	16%	13%	2,951,823

- A plurality of CALABARZON EZ workers are exactly high school graduates.
- Generally, workers in the subsector are better educated than in other manufacturing, in terms of a bigger share of those with at least high school graduate education

Source of basic data: PSA's LFS, various years

Are labor market outcomes for workers in firms connected to the international supply chain different from labor market outcomes for workers in firms catering the local market? In what way?

- Nature of employment (permanent, short-term)
- Normal working hours (per week)
- Hours actually worked (past week reference)
- Basis of payment
- Basic pay per day
- Underemployment rate

# Labor Market Outcomes: Nature of Employment

Nature of Employment of Manufacturing Workers, 1995				
Area	Permanent (%)	Short-term/Seasonal/Casual (%)	Daily or weekly basis (%)	Total
<b>CALABARZON - EZ*</b>	<b>84%</b>	<b>15%</b>	<b>1%</b>	<b>190,434</b>
CALABARZON (Others)	86%	14%	0%	318,768
NCR	80%	20%	0%	612,898
Other Luzon	73%	26%	1%	664,076
Visayas	71%	28%	2%	482,871
Mindanao	80%	20%	1%	354,143
Philippines	77%	22%	1%	2,623,189

- As employment in CALABARZON EZs has grown, so has the share of those in short-term/seasonal/casual work.
- By 2010, the share of those in the subsector in short-term/seasonal/casual work has almost doubled to 29% in 2010 compared to only 15% in 1995.

Nature of Employment of Manufacturing Workers, 2010				
Area	Permanent (%)	Short-term/Seasonal/Casual (%)	Daily or weekly basis (%)	Total
<b>CALABARZON - EZ*</b>	<b>71%</b>	<b>29%</b>	<b>0%</b>	<b>431,751</b>
CALABARZON (Others)	74%	25%	1%	320,413
NCR	77%	22%	0%	486,886
Other Luzon	75%	24%	1%	730,550
Visayas	81%	18%	1%	542,610
Mindanao	74%	25%	1%	439,614
Philippines	76%	24%	1%	2,951,823

Source of basic data: PSA's LFS, various years

# Labor Market Outcomes: Normal working hours

Area	Mean normal working hours	Median normal working hours
<b>CALABARZON - EZ*</b>	<b>8.1</b>	<b>8.0</b>
CALABARZON (Others)	7.8	8.0
NCR	8.2	8.0
Other Luzon	7.4	8.0
Visayas	7.2	8.0
Mindanao	7.6	8.0
Philippines	7.7	8.0

Area	Mean normal working hours	Median normal working hours
<b>CALABARZON - EZ*</b>	<b>8.2</b>	<b>8.0</b>
CALABARZON (Others)	7.8	8.0
NCR	8.2	8.0
Other Luzon	7.6	8.0
Visayas	7.2	8.0
Mindanao	7.6	8.0
Philippines	7.8	8.0

- The mean normal normal working hours per day in CALABARZON-EZ is just slightly higher than the full-time equivalent of 8 hours.
- It is higher than in any other manufacturing except in NCR.

Source of basic data: PSA's LFS, various years

# Labor Market Outcomes: Hours Worked

# of hours worked by Manufacturing Workers, 1995		
Area	Mean # of hours worked (prev. week)	Median # of hours worked (prev. week)
<b>CALABARZON - EZ*</b>	<b>45.3</b>	<b>48.0</b>
CALABARZON (Others)	45.2	48.0
NCR	47.8	48.0
Other Luzon	43.3	48.0
Visayas	42.7	48.0
Mindanao	43.4	48.0
Philippines	44.6	48.0

# of hours worked by Manufacturing Workers, 2010		
Area	Mean # of hours worked (prev. week)	Median # of hours worked (prev. week)
<b>CALABARZON - EZ*</b>	<b>47.6</b>	<b>48.0</b>
CALABARZON (Others)	45.1	48.0
NCR	47.9	48.0
Other Luzon	43.1	48.0
Visayas	40.9	48.0
Mindanao	42.5	48.0
Philippines	44.3	48.0

- For those employed in the subsector, work has become more intensive, on average.
- The mean hours worked (previous week) increased by 2.3 hours, whereas for other manufacturing it has either gone down or was virtually unchanged.

Source of basic data: PSA's LFS, various years

# Labor Market Outcomes: Basis of payment

Basis of payment of Manufacturing Workers, 2005									
Area	In kind (%)	Per piece (%)	Per hour (%)	Per day (%)	Monthly (%)	Pakyaw (%)	Other salary (%)	Commission (%)	Total
<b>CALABARZON - EZ*</b>	<b>0%</b>	<b>2%</b>	<b>1%</b>	<b>50%</b>	<b>42%</b>	<b>4%</b>	<b>1%</b>	<b>0%</b>	<b>339,918</b>
CALABARZON (Others)	0%	19%	1%	48%	26%	2%	3%	2%	264,710
NCR	0%	3%	1%	29%	59%	4%	3%	1%	521,175
Other Luzon	0%	15%	1%	51%	24%	5%	1%	3%	487,481
Visayas	0%	9%	0%	43%	30%	10%	5%	3%	351,321
Mindanao	0%	6%	2%	44%	33%	8%	2%	6%	225,458
Philippines	0%	9%	1%	43%	37%	5%	2%	2%	2,190,064

- Those working in CALABARZON-EZ are more likely to be paid on a per day or monthly basis compared to those in other manufacturing.

Basis of payment of Manufacturing Workers, 2010									
Area	In kind (%)	Per piece (%)	Per hour (%)	Per day (%)	Monthly (%)	Pakyaw (%)	Other salary (%)	Commission (%)	Total
<b>CALABARZON - EZ*</b>	<b>0%</b>	<b>4%</b>	<b>0%</b>	<b>44%</b>	<b>50%</b>	<b>2%</b>	<b>0%</b>	<b>0%</b>	<b>386,145</b>
CALABARZON (Others)	0%	21%	0%	42%	33%	3%	0%	1%	246,718
NCR	0%	5%	0%	35%	52%	6%	1%	1%	425,650
Other Luzon	0%	14%	0%	45%	32%	6%	1%	2%	519,626
Visayas	0%	6%	0%	41%	35%	10%	1%	6%	332,304
Mindanao	0%	6%	1%	46%	31%	10%	1%	4%	283,817
Philippines	0%	9%	0%	42%	39%	6%	1%	2%	2,194,261



# Labor Market Outcomes: Basic pay per day

Area	Mean basic pay per day	Median basic pay per day
<b>CALABARZON - EZ*</b>	<b>285.9</b>	<b>250.0</b>
CALABARZON (Others)	219.4	231.0
NCR	305.5	280.0
Other Luzon	212.8	200.0
Visayas	187.0	195.0
Mindanao	182.7	175.0
Philippines	240.4	225.0

- For those employed in the subsector, CALABARZON-EZ work pays better than average for manufacturing (even after controlling for cost-of-living differences).
- Lower only than NCR pay.

Area	Mean basic pay per day	Median basic pay per day
<b>CALABARZON - EZ*</b>	<b>372.7</b>	<b>320.0</b>
CALABARZON (Others)	267.9	257.0
NCR	443.5	382.0
Other Luzon	271.5	250.0
Visayas	261.4	250.0
Mindanao	226.6	200.0
Philippines	316.0	288.0

Source of basic data: PSA's LFS, various years

# Labor Market Outcomes: Underemployment rate

Underemployment rate of Manufacturing Workers, 1995			
Area	Visible underemployment rate	Invisible underemployment rate	Total underemployment rate
<b>CALABARZON - EZ*</b>	<b>2.8%</b>	<b>15.6%</b>	<b>18.4%</b>
CALABARZON (Others)	2.5%	14.6%	17.1%
NCR	2.2%	5.0%	7.2%
Other Luzon	8.2%	11.3%	19.6%
Visayas	6.2%	7.3%	13.6%
Mindanao	10.3%	18.7%	29.0%
Philippines	5.6%	10.8%	16.5%

Underemployment rate of Manufacturing Workers, 2010			
Area	Visible underemployment rate	Invisible underemployment rate	Total underemployment rate
<b>CALABARZON - EZ*</b>	<b>1.8%</b>	<b>11.5%</b>	<b>13.3%</b>
CALABARZON (Others)	6.3%	8.8%	15.1%
NCR	3.1%	9.8%	12.9%
Other Luzon	7.6%	6.1%	13.7%
Visayas	9.5%	7.7%	17.2%
Mindanao	13.5%	12.8%	26.3%
Philippines	7.1%	9.1%	16.2%

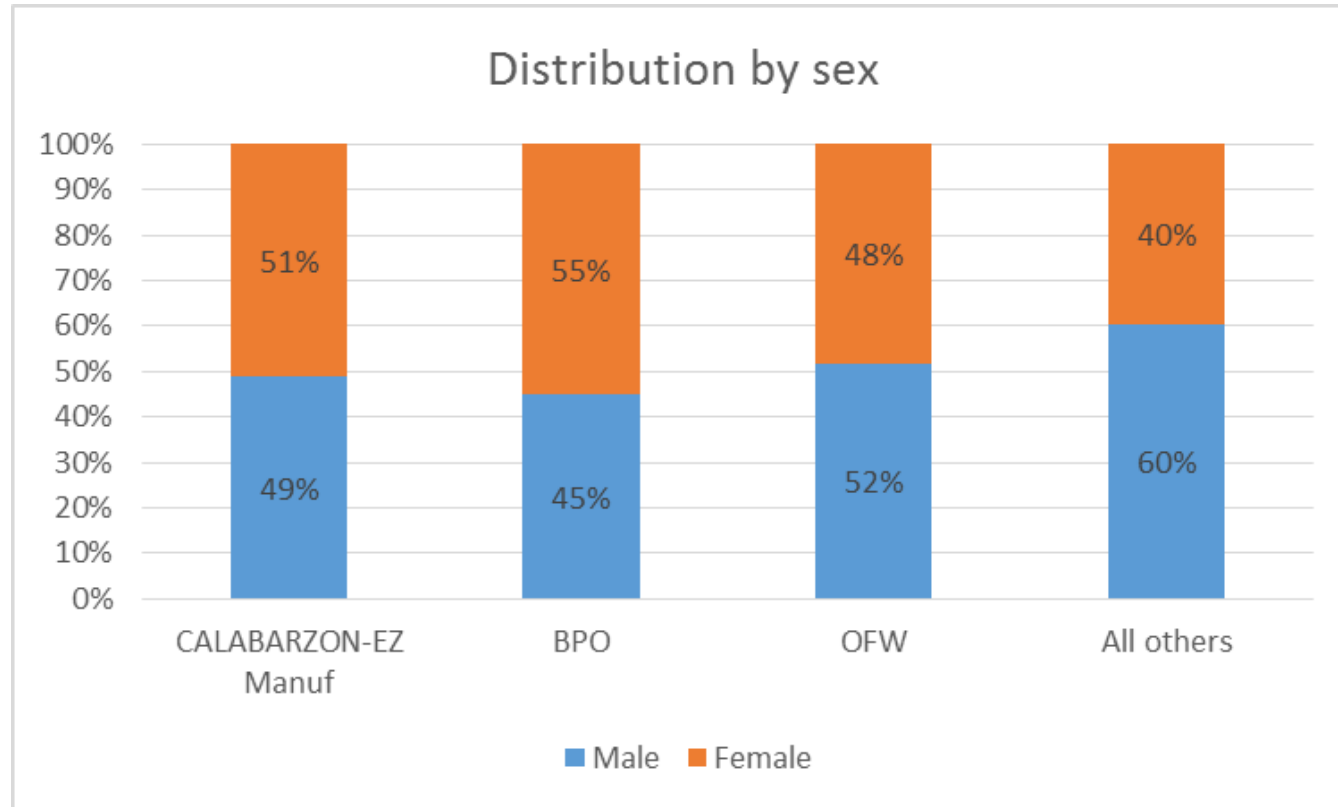
- Visible underemployment is low for workers in CALABARZON-EZ and has gone down, but invisible underemployment is high.
- This means that though they work full-time equivalent hours, they are unsatisfied with what they get paid.
- Visible underemployment for CALABARZON-EZ workers lower only compared to manufacturing workers in Mindanao. But in Mindanao, pay is substantially lower.

Source of basic data: PSA's LFS, various years

# Comparison with BPO and Overseas migration

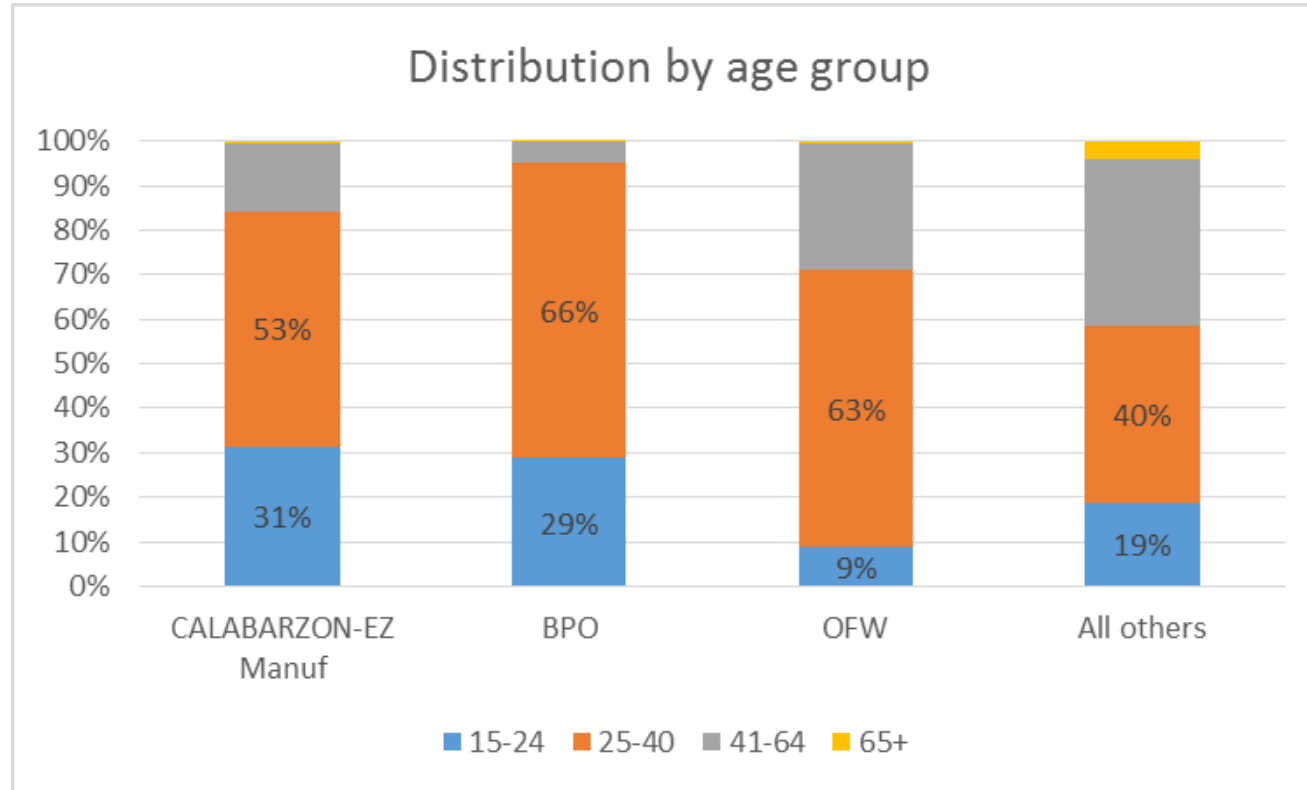
- To what extent is employment in a firm connected to the global supply chain similar to or different from employment in a BPO or an overseas job?
- Is employment in such a firm a viable alternative for returning overseas workers?

# EZ Manuf vs BPO vs OFW, 2013



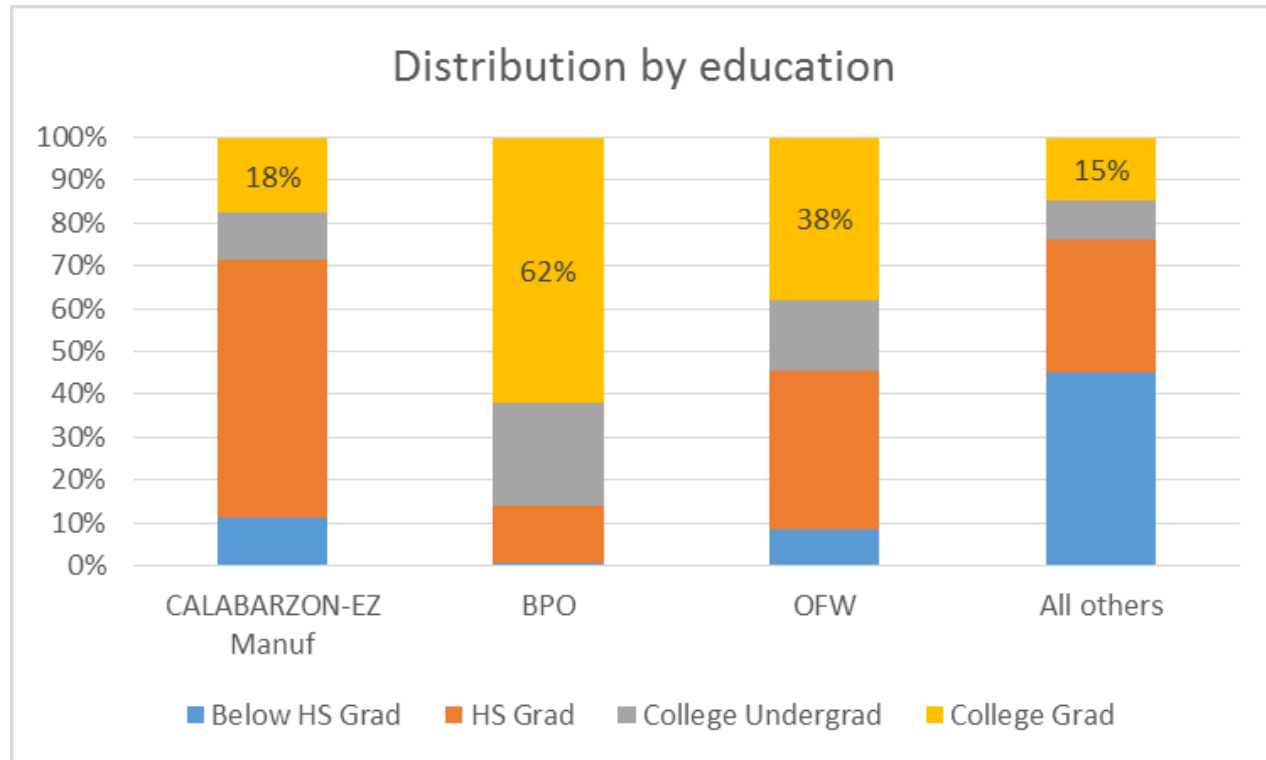
- EZ Manufacturing workers almost evenly split between men and women, but slightly more women.
- BPO significantly more women.
- OFWs close to 50-50, but slightly more men.
- Aggregate other employment dominated by men.

# EZ Manuf vs BPO vs OFW, 2013



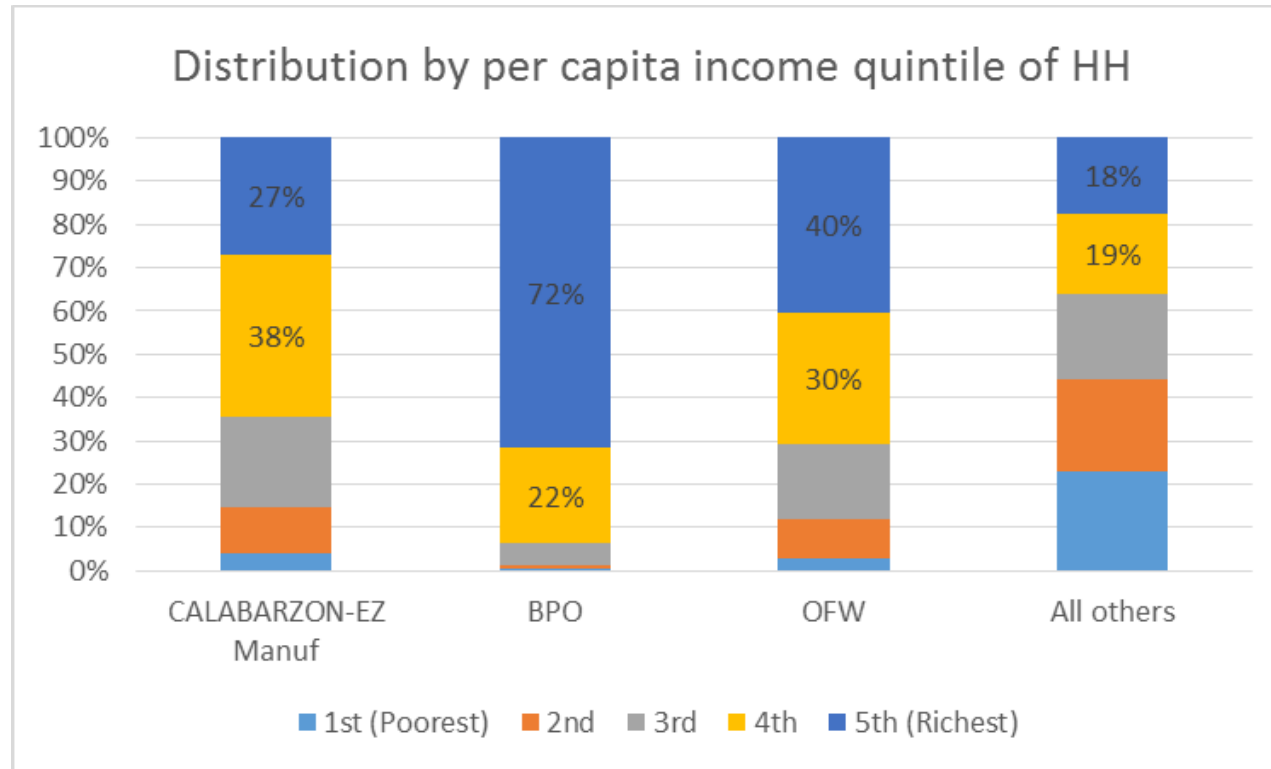
- EZ Manufacturing workers typically young, but BPO workers younger. OFWs also young but not as young.

# EZ Manuf vs BPO vs OFW, 2013



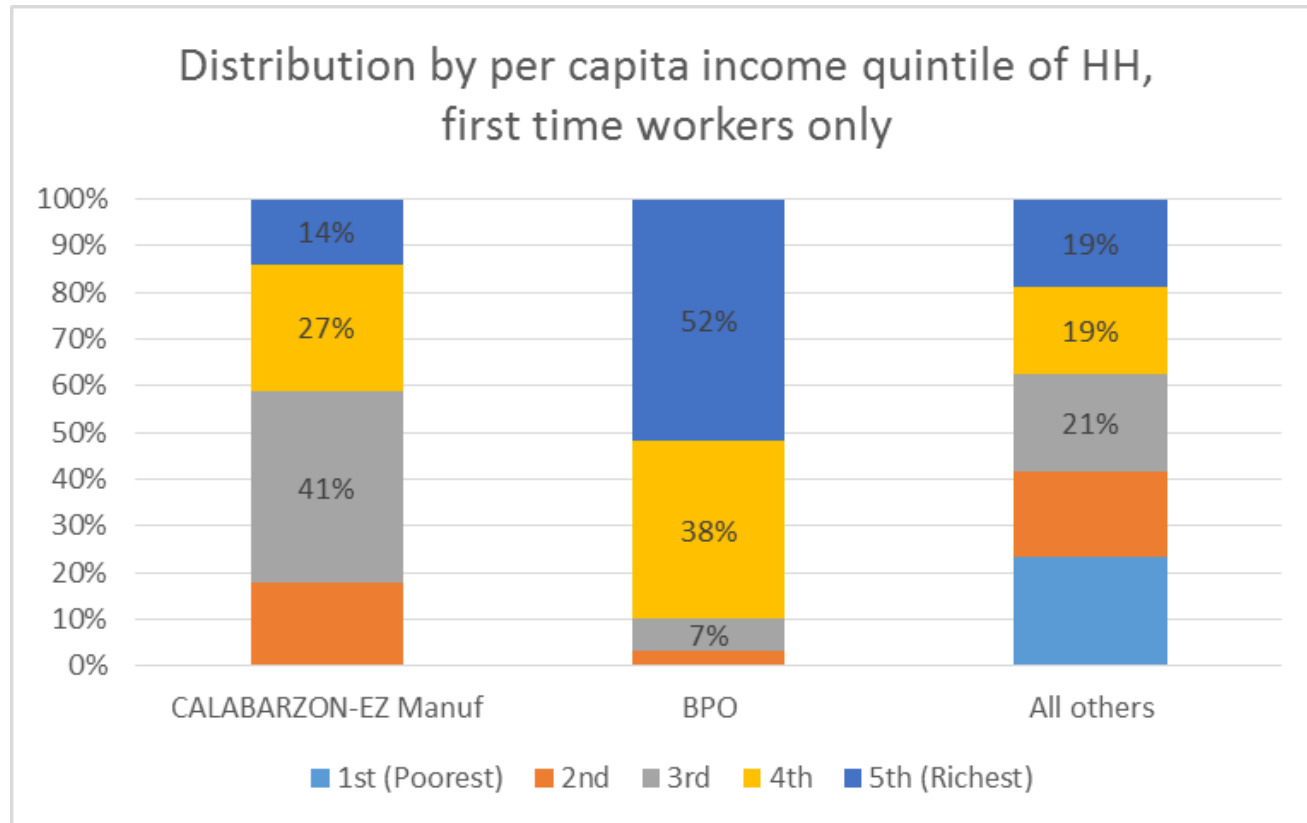
- EZ Manufacturing workers dominated by HS graduates
- BPOs dominated by college graduates.
- OFWs almost equal share of college graduates and high school graduates.
- All three much higher education profile than aggregate other employment.

# EZ Manuf vs BPO vs OFW, 2013



- Two-thirds of EZ Manufacturing workers from richest two quintiles.
- But bigger share of BPO workers and OFWs come from even richer HHs.

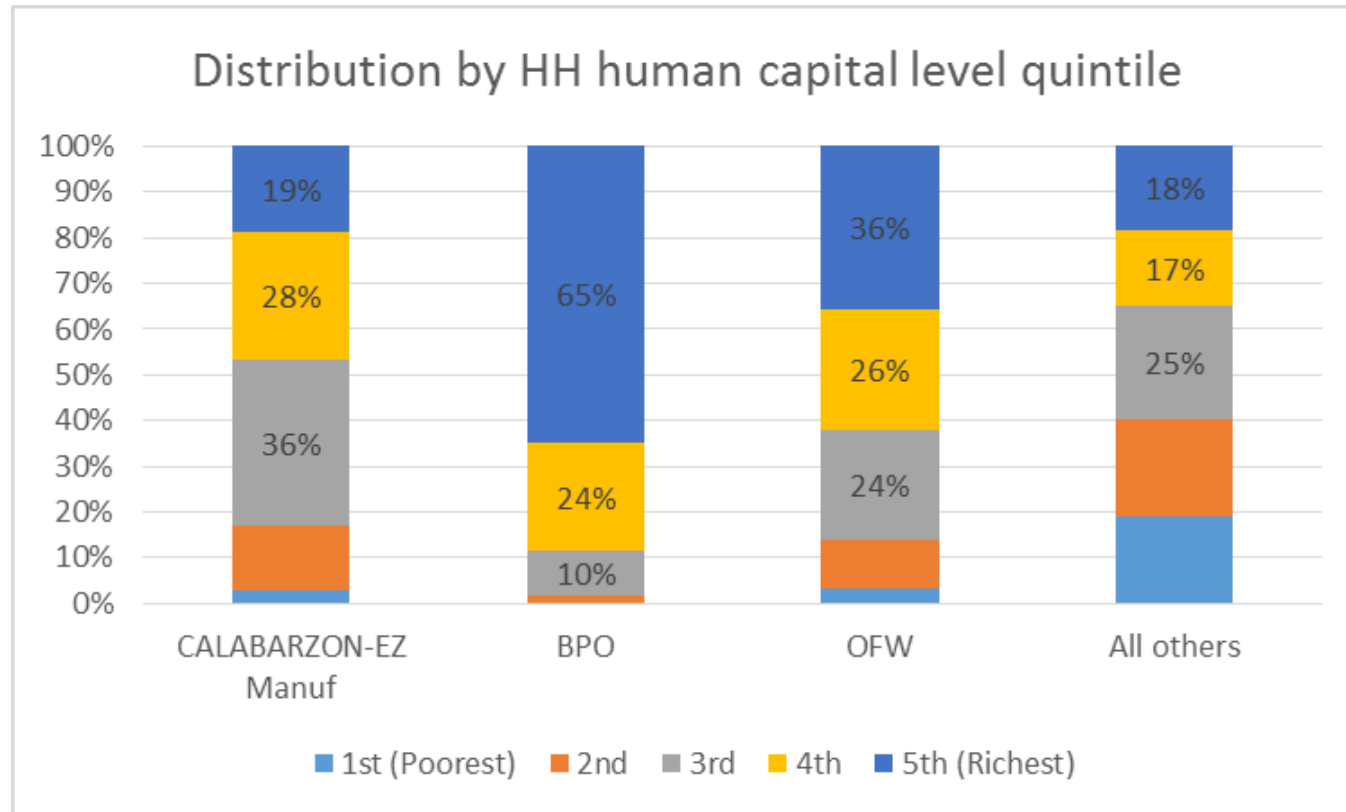
# EZ Manuf vs BPO vs OFW, 2013



- Looking at first time workers only, a substantially bigger share of those in EZs comes from lower income HHs, suggesting some get to move up the income ladder only after finding employment in the subsector.
- In contrast, more than half of first time workers employed in BPOs are from the richest quintile. 90% come from the richest two quintiles.

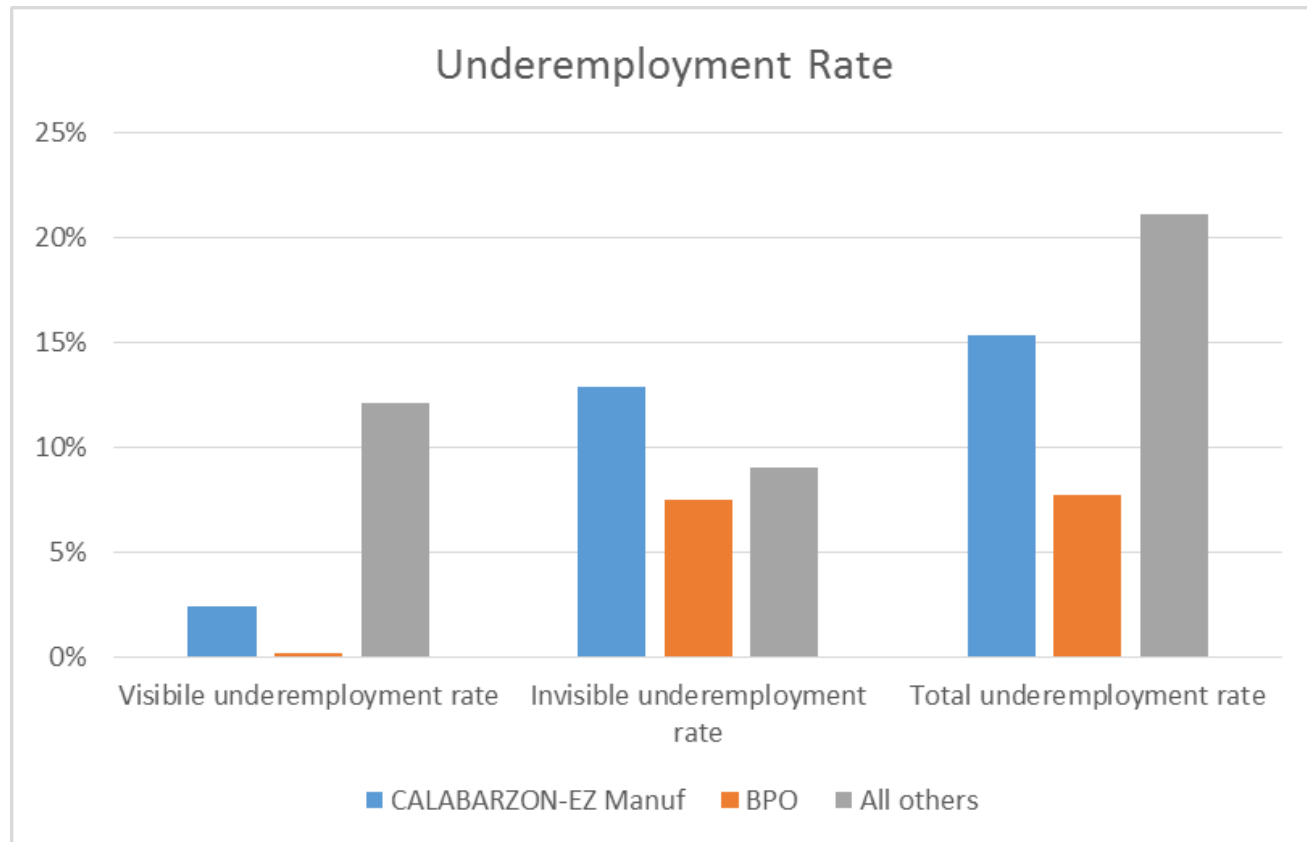


# EZ Manuf vs BPO vs OFW, 2013



- If HHs are ranked based on level of human capital (ratio of aggregated actual to aggregated potential education of adult members), again EZs are more 'inclusive' in that a greater share of the workers comes from the bottom three quintiles.

# EZ Manuf vs BPO, 2013

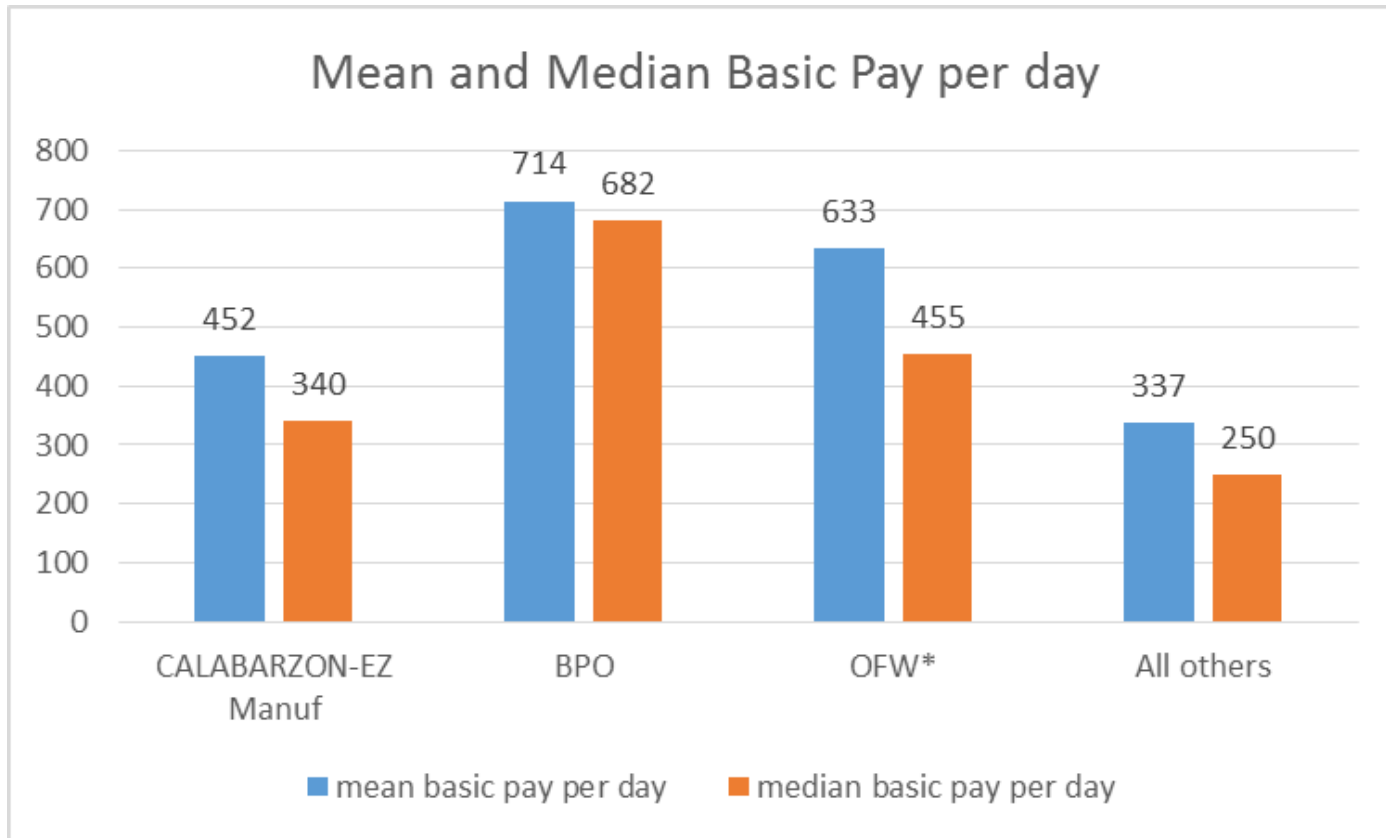


- Invisible underemployment rate in EZ Manuf significantly higher than for BPOs.

\*average daily remittance from one-OFW HHs

Source of basic data: PSA's LFS

# EZ Manuf vs BPO vs OFW, 2013

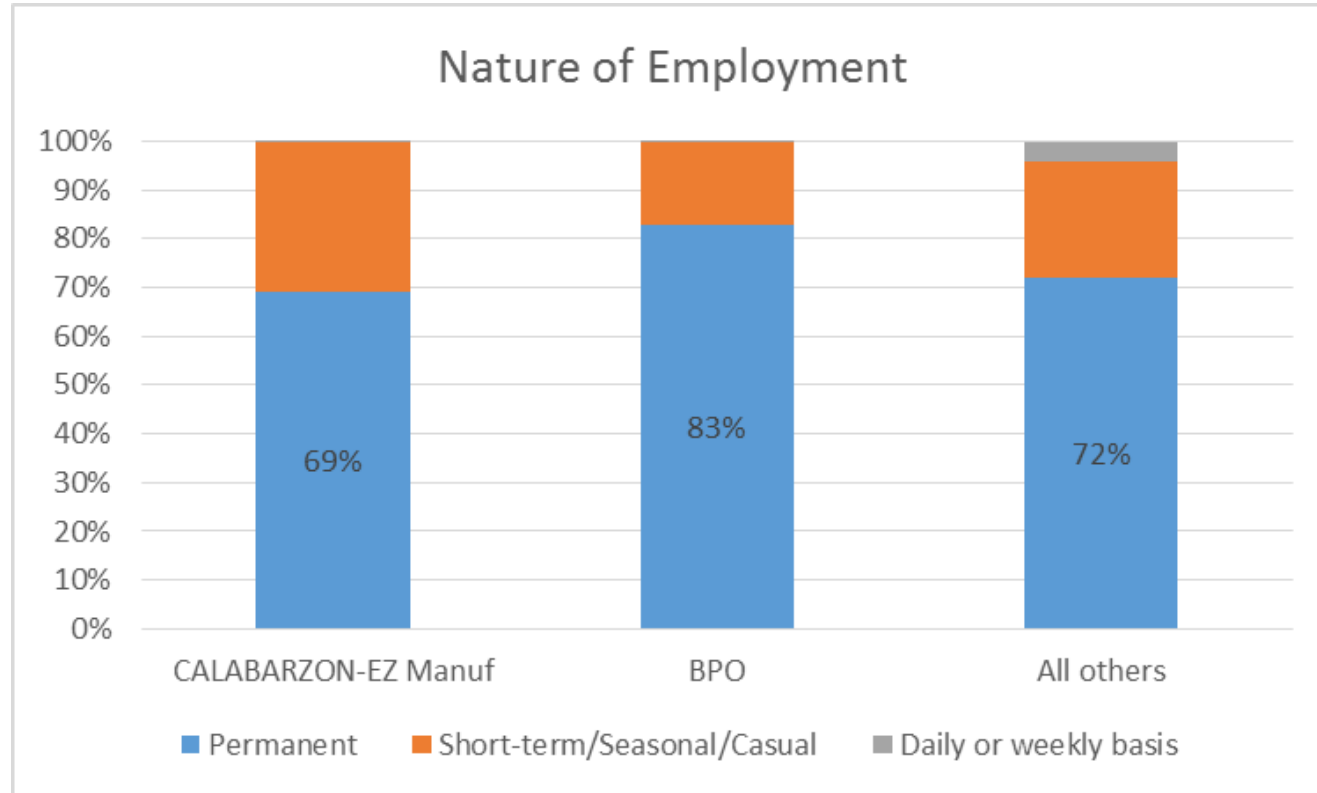


- Basic pay per day in EZ Manuf significantly higher than for aggregate other occupations.
- But substantially lower than BPOs and average daily remittance from OFWs.

\*average daily remittance from one-OFW HHs

Source of basic data: PSA's LFS

# EZ Manuf vs BPO, 2013



- EZ Manuf has lower share of permanent jobs compared to BPOs and even aggregate other jobs.

\*average daily remittance from one-OFW HHs

Source of basic data: PSA's LFS