

The myth of convergence – Trends of economic dualities in the Hungarian manufacturing industry

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The literature on national economies in Central and Eastern Europe states that foreign companies arriving in the region seem to form a separate local economy with performance and competitiveness fundamentally different to that of the locally owned firms. The phenomenon of dual economies is far from being new (Boeke, 1953). Dualities could emerge due to several factors (McMillan, – Rodrik, 2011) but the common hope of economic policy makers is that these will disappear over time thanks to spillover effects. Earlier research concluded that contrasting foreign and local companies is an oversimplification as parallel multilayer economic dualities may exist. We proved this structure for Hungary for the period 2008-2011 and now eight years later, we review corporate financial statements for recent changes and tendencies.

Data and methodology

Our research contrasts two samples of Hungarian manufacturing firms. Both of the samples include publicly available annual reports of Hungarian firms complemented with information on ownership and employment. We only included companies with clear ownership information (no off-shore background or majority state ownership allowed), with full (not simplified) annual reports in line with the Hungarian Accounting Standards, with a continuous operation (companies going through legal transformations were excluded) and positive equity over the full time-window. (Firms with a smaller amount of sales and total asset are allowed to publish simplified reports.)

The first sample considers the period 2010-2014, while the second covers 2014-2017. The earlier data includes companies with not less than 20 employees in 2012 while the recent one is more extended by covering firms with at least one year employing at least 10 people. Thus, the final samples include 1512 and 1725 companies respectively. Due to the restrictions applied, our sample is very likely to over-perform the average of the industry.

The economic importance of the sample is extremely high: more than 70 percent for sales, export revenue, and value added of the total industry for each of the years, while it is around 40 percent for employment. The coverage is presented in Table 1.

Table 1 Economic importance of the samples (Total of the sample/Total of the Industry)

Year	N	Sales	Export	Value Added	Employment
Sample 1					
2010	1522	78.48%	72.75%	73.74%	39.60%
2011	1522	84.14%	79.25%	79.38%	40.61%
2012	1522	84.34%	79.96%	77.81%	40.68%
2013	1522	86.24%	81.78%	76.98%	42.02%
2014	1522	86.98%	82.83%	76.98%	39.89%
Sample 2					
2014	1725	76.66%	74.78%	67.40%	41.60%
2015	1725	78.13%	75.99%	66.97%	43.39%
2016	1725	80.13%	78.92%	70.73%	43.62%
2017	1725	79.53%	79.02%	74.26%	42.94%

Source: Authors based on Hungarian Central Statistical Office (2019a, 2019b)

To review duality trends, we picked two well-known categorisations of companies. On the one hand, practitioners often view ownership background as a signal for managerial qualities, market and financial strength, and level of integration into export markets. (Salomon – Jin, 2010; Shaver, 2011) On the other hand, a corporate wage level exceeding the average of the given sub-industry may be an indicator of using highly-trained workforce that is usually needed for applying a technology more developed than the average. Among other factors, these two variables proved earlier to be a suitable separator for different company groups within the Hungarian economy. (Juhász – Reszegi, 2017)

Table 2 Structure of the sample

	N1	Ratio	N2	Ratio
Foreign owned (F)	711	47.02%	853	49.45%
Locally owned (L)	801	52.98%	872	50.55%
Low wage	841	55.62%	959	55.59%
High wage	671	44.38%	766	44.41%
F Low wage (FL)	240	15.87%	350	20.29%
F High wage (FH)	471	31.15%	503	29.16%
L Low wage (LL)	601	39.75%	609	35.30%
L High wage (LH)	200	13.23%	263	15.25%
Sample Total	1512	100.00%	1725	100.00%

Source: Authors

Our research contrasts not only (1) local and foreign firms, (2) low and high wage-paying companies, but also using the dual-layered approach we tracked (3) the difference among the four possible combinations of the early two aspects. (Table 2) This paper presents the results of comparing three key variables. During the ANOVA tests, all averages were statistically different at a minimum significance of 95 percent both for the grouping (1) and (2). In the case of clusters (3), ANOVA also showed a significant difference in all cases, but as the variance of sub-groups might be different, we also applied paired-T tests.

In most cases, the averages of all four groups were significantly different at a confidence level of 5 percent. The paper marks explicitly any differences not significant in paired comparisons. As for the overlap between the samples, while 76 percent of the firms in the first sample are also included in the second sample, only 64 percent of the first sample firms would get into the same grouping (3) cluster in both samples.

Key results

When considering export capabilities (Table 3), local and low wage firms seem to get closer to foreign-owned and high wage companies. Although, this is not only because of low performers improving but also due to better firms falling back. Though local low wage (LL) companies, the most critical group, showed nearly no improvement from 2010 to 2017, and foreign high wage (FH) companies where the highest amount of spillover would be expected even felt back in performance. The only good news is that locally owned high wage (LH) firms could slightly step forward.

Table 3 Export sales / Total sales

(%)	2010	2011	2012	2013	2014	2014	2015	2016	2017
Foreign owned	71.19	71.49	71.92	71.83	72.72	69.57	70.14	70.36	69.96
Locally owned	28.33	29.17	30.28	30.39	30.36	29.95	30.13	30.34	30.17
Low wage	41.05	41.86	42.62	42.52	42.54	44.99	45.31	45.55	45.19
High wage	57.80	58.11	58.93	59.10	59.98	55.25	55.53	55.87	55.68
F Low wage	78.34	79.07	78.93	78.08	78.60	76.76	77.03	77.58	77.14
F High wage	67.55	67.63	68.35	68.65	69.73	64.57	65.30	65.34	64.96
L Low wage	26.16	27.00	28.13	28.32	28.14	26.72	27.13	27.14	26.83
L High wage	34.84	35.71	36.76	36.62	37.03	37.42	37.07	37.76	37.91
Sample Total	48.48	49.07	49.86	49.88	50.28	49.54	49.83	50.13	49.85

Source: Authors

When investigating the workforce efficiency (Table 4) we found that average efficiency doubled in nominal terms. While foreign-owned and high wage firms have improved in line with the total average, only the FH firms achieved an above-average improvement. Although LL companies nearly improved in line with the mean, the performance of LH firms has climbed only by 70 percent in contrast to the average of 92 percent.

This result also means that not only locally owned firms fell back relatively compared to FHs, but also foreign-owned low wage firms. The identified trend is particularly unfortunate as the most efficient FHs together with all types of locally owned companies tend to employ a smaller proportion of employees, while FLs have increased their share by almost 50 percent (Table 5).

Table 4 Added value / employee

(M HUF)	2010	2011*	2012	2013	2014*	2014	2015**	2016**	2017**
Foreign owned	6.53	6.82	6.94	7.33	7.52	11.90	12.18	12.25	12.61
Locally owned	4.62	4.87	4.91	5.18	5.45	7.98	8.19	8.30	8.61
Low wage	4.10	4.24	4.33	4.59	4.88	7.17	7.27	7.35	7.78
High wage	7.35	7.79	7.84	8.27	8.46	13.36	13.79	13.89	14.10
F Low wage	4.50	4.68	4.83	5.14	5.54	7.99	7.90	7.94	8.37
F High wage	7.64	7.99	8.09	8.54	8.65	14.62	15.15	15.25	15.55
L Low wage	3.94	4.07	4.14	4.37	4.62	6.70	6.90	7.01	7.44
L High wage	6.70	7.33	7.28	7.68	8.05	10.94	11.19	11.29	11.31
Sample Total	5.50	5.76	5.84	6.16	6.38	9.92	10.16	10.25	10.58

*In 2011 and 2014 FH and LH paired differences are not statistically significant.

** In 2015, 2016 and 2017 FL and LL paired differences are not statistically significant.

Source: Authors

Table 5 Distribution of people employed among clusters

(%)	2010	2011	2012	2013	2014	2014	2015	2016	2017
F Low wage	23.06	21.82	23.60	24.58	23.98	34.77	34.15	34.50	34.92
F High wage	45.34	46.63	45.44	45.24	46.44	37.43	38.01	38.29	38.48
L Low wage	22.60	22.57	22.15	21.54	20.93	18.98	19.00	18.55	18.16
L High wage	9.00	8.98	8.82	8.64	8.65	8.82	8.84	8.66	8.44

Source: Authors

Finally, we also analysed the amount of total personal expenses per employee. (Table 6) Over the eight year, a nominal growth of 44 percent was measured. In the same period, customer prices climbed by 20 percent (Hungarian Central Statistical Office, 2019c). Foreign-owned and high wage companies were lagging when considering wage increase. Thus, the wage gap

narrowed. When comparing expenditures to that of the best paying FH companies, the worst paying LL firms spent 48 percent less per employee in 2017 in contrast to 52 percent in 2010.

Table 6 Personal expenses / employee

(M HUF)	2010	2011	2012	2013	2014	2014	2015	2016	2017
Foreign owned	4.06	4.32	4.56	4.71	5.10	4.94	5.09	5.27	5.57
Locally owned	2.68	2.87	3.06	3.20	3.33	3.40	3.54	3.77	4.05
Low wage	2.42	2.59	2.76	2.85	3.00	3.13	3.24	3.36	3.68
High wage	4.47	4.76	5.02	5.25	5.61	5.46	5.65	5.96	6.20
F Low wage	2.72	2.92	3.13	3.18	3.44	3.62	3.72	3.83	4.17
F High wage	4.75	5.03	5.29	5.49	5.95	5.86	6.04	6.28	6.54
L Low wage	2.30	2.45	2.61	2.72	2.83	2.85	2.96	3.09	3.41
L High wage	3.83	4.13	4.38	4.66	4.83	4.70	4.89	5.34	5.56
Sample Total	3.33	3.55	3.76	3.91	4.16	4.16	4.31	4.51	4.80

Source: Authors

Conclusions

Based on the trends in the Hungarian manufacturing industry, there is little hope that CEE countries would see their economies converging soon. While in some aspect, the differences among separate groups of firms might decrease, we found little evidence on any improvement. In case of export performance, the gap narrowed because not only poor performers improved, but also due to better firms falling back.

As for efficient use of the workforce, the added value per employee differences even increased. Best performing foreign-owned firms with above the sub-industry average wages increased their efficiency faster than all other groups. That is why in 2017, locally owned low-wage firms created 52 percent less added value than FH companies, while the gap was only 48 percent in 2010. When looking at personal expenses, the trend took the opposite form. Here best paying FH companies increased costs by less, and so the worst paying LL firms lagged by 48 percent behind in 2017 in contrast to 52 percent in 2010. The lower increase in efficiency and the higher growth in personal spending, though, mean that the profitability gap of LL companies has widened.

In conclusion, we may say that conversion is not slow but mostly not existing at all. Government efforts in attracting FDI to take profit of the spillover effects seem not to be more than a dream. Based on the recent efficiency trends, political decision-makers are on the wrong way when they push for attracting low added value assembly tasks to Hungary and into the CEE region.

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