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Productivity and Competitiveness in Flanders

2000–2022

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Nederlandstalige samenvatting

Dit rapport maakt gebruik van de boekhoudkundige gegevens van individuele ondernemingen om de evolutie van productiviteit en competitiviteit in Vlaanderen over de periode 2000–2022 te bestuderen. Het volgt hierbij de methodologie die in Hassan and Volckaert (2023) en Putseys and Reynaerts (2023) gehanteerd werd om de Vlaamse Speerpuntclusters enerzijds en de digitale sector in Vlaanderen anderzijds in kaart te brengen. Centraal staan de begrippen productiviteit en competitiviteit die aan de hand van standaardindicatoren die voor iedere onderneming die deel uitmaakt van de Vlaamse economie berekend worden. We maken hierbij een onderscheid tussen de gangbare maatstaf van **arbeidsproductiviteit** (labor productivity, LP) die de toegevoegde waarde (in euro) per voltijdse equivalent berekent en de bredere maatstaf van de **totale factorproductiviteit** (TFP) die ook rekening houdt met de inzet van kapitaal. De mate van competitiviteit wordt berekend aan de hand van de **eenheidskost van arbeid** (unit labor cost, ULC) die de arbeidskost (in euro) uitdrukt per euro aan toegevoegde waarde. De belangrijkste bevindingen van deze studie zijn als volgt:

- de arbeidsproductiviteit nam in de waargenomen periode toe met 18%, goed voor een gemiddelde jaarlijkse groeivoet van 0.8%;
- over dezelfde periode nam de eenheidskost van arbeid af met 20%, goed voor een gemiddelde daling van 0.9% per jaar;
- rekening houdend met de inzet van kapitaal steeg de productiviteit in Vlaanderen tussen 2000 en 2022 met 8% wat neerkomt op een gemiddelde jaarlijkse groeivoet van 0.4%;
- het verband tussen productiviteit en economische groei (gemeten aan de hand van de groei van het Bruto Binnenlands Product, BBP) is conjunctureel gebonden waarbij periodes van arbeidsgedreven groei opgevolgd worden door periodes gekenmerkt door productiviteitsgedreven groei;
- een analyse op sectoraal niveau geeft aan dat het merendeel van de activiteiten binnen de Vlaamse economie een gunstige dynamiek kent waarbij sectoren zowel productiever worden als lagere arbeidskosten noteren (ten opzichte van het referentiejaar 2000); bepaalde sectoren werden daarentegen zowel minder productief als minder competitief.

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1 Introduction

Productivity growth is the central engine of long-run improvements in living standards, competitiveness, and economic prosperity: higher productivity raises real wages, expands fiscal space, and enhances an economy's ability to attract investment and retain skilled labour (Solow, 1956; Krugman, 1994). Maintaining robust productivity performance is essential not only for aggregate welfare but also for attracting Foreign direct investments (FDI),retaining skilled labour, and ensuring sustainable fiscal capacity. This imperative is particularly salient for Flanders, a highly open regional economy characterized by strong integration into European and global value chains, significant exposure to international competition, and demographic pressures that intensify the need for productivity-driven growth.

The Flemish economy has undergone substantial transformation over the past two decades, navigating multiple economic shocks including the global financial crisis of 2008-2009, the subsequent European sovereign debt crisis, and most recently the COVID-19 pandemic. These events have brought renewed attention to the region's productivity performance and overall competitiveness. Although Belgium is often viewed as a high-productivity economy, recent years have raised concerns about slowing productivity growth, rising labour costs, and whether the economic system can deliver the efficiency gains needed to sustain prosperity in an increasingly competitive global environment in Flanders.

This report provides a comprehensive empirical analysis of productivity and competitiveness in Flanders over the period 2000-2022. First, we document and analyze the evolution of labour productivity and unit labour costs in Flanders, examining trends, cyclical patterns, and structural breaks associated with major economic events. Second, we explore the relationship between productivity growth and GDP growth, examining whether economic expansion in Flanders has been primarily productivity-driven or employment-driven. Third, we perform a sector-level analysis to identify trends in labour productivity (LP) and unit labour costs (ULC) and to assess whether certain sectors are gaining or losing competitiveness over time. Fourth, we analyze total factor productivity (TFP) trends using Törnqvist index following (Aw et al., 2001; Bloom et al., 2022). TFP analysis is essential for distinguishing between productivity growth driven by factor accumulation versus growth driven by technological progress and efficiency improvements.

The remainder of this report is structured as follows: Section 2 outlines the methodology used to calculate labour productivity (LP), unit labour costs (ULC), and total factor productivity (TFP). Section 3 describes the data sources and construction of

these series. Section 4 presents the evolution of LP, ULC, and TFP over time, with a detailed analysis of sectoral patterns. Finally, Section 5 concludes.

2 Methodology

To assess competitiveness and productivity in Flanders, we draw on three core indicators: Labour productivity (LP), Unit labour costs (ULC), and total factor productivity (TFP). These metrics provide complementary insights into the efficiency of production, cost dynamics, and technological progress across firms and sectors.

2.1 labour Productivity (LP)

labour productivity is computed at the firm level as the ratio of real value added to employment, measured in full-time equivalents (FTE) following (Hassan and Volckaert, 2023; Putseys and Reynaerts, 2023):

$$LP_{it} = \frac{VA_{it}}{L_{it}^{FTE}}, \tag{1}$$

where VA_{it} denotes deflated value added of firm i in year t, and L_{it}^{FTE} the number of full-time equivalent employees. This specification measures the volume of output generated per unit of labour input.

Aggregate labour productivity in year t is then calculated as a value-added–weighted average across firms:

$$LP_t^{agg} = \sum_i s_{it}\, LP_{it}, \tag{2}$$

where s_{it} is the firm's share in total real value added in that year:

$$s_{it} = \frac{VA_{it}}{\sum_i VA_{it}}, \tag{3}$$

The resulting series is normalized to the base year 2000 to yield an index:

$$LP_t^{index} = \frac{LP_t^{agg}}{LP_{2000}^{agg}} \times 100. \tag{4}$$

This procedure effectively weights firms by their economic importance, ensuring that productivity dynamics reflect structural changes in the value-added composition of the Flemish economy rather than firm-count averages. It also aligns the aggregate measure with macroeconomic concepts of output per unit of labour input.

2.2 Unit labour Cost (ULC)

Unit labour cost (ULC) is calculated as the ratio of total labour compensation to real value added, representing the average cost of labour per unit of output:

$$ULC_{it} = \frac{W_{it}}{VA_{it}}, \tag{5}$$

where W_{it} denotes total labour costs (deflated staff expenses) and VA_{it} represents real value added for firm i in year t. This formulation captures how efficiently labour inputs are transformed into output, and serves as a direct measure of cost competitiveness.

Next, firm-level ULCs are aggregated using value-added weights:

$$ULC_t^{agg} = \sum_i s_{it}\, ULC_{it}, \tag{6}$$

where s_{it} represents the firm's share of total real value added in year t:

$$s_{it} = \frac{VA_{it}}{\sum_i VA_{it}}, \tag{7}$$

Finally, the aggregate ULC index is rebased to the year 2000:

$$ULC_t^{index} = \frac{ULC_t^{agg}}{ULC_{2000}^{agg}} \times 100. \tag{8}$$

This value-added–weighted aggregation ensures that larger firms contribute proportionally more to the aggregate cost structure, while the rebasing provides a consistent reference point for comparing temporal competitiveness dynamics.

2.3 Total Factor Productivity

To construct our measure of Total Factor Productivity (TFP), we follow Aw et al. (2001) and Bloom et al. (2022) to calculate a Törnqvist index as follows:

$$\ln TFP_{ik} = \ln\left(Y_{ik}\right) - \ln\left(\bar{Y}_k\right) - \frac{1}{2}\left[\sum_{j=1}^{k}\left(S_{ijk} + \bar{S}_{jk}\right)\left(\ln\left(X_{ijk}\right) - \ln\left(\bar{X}_{jk}\right)\right)\right]$$

Where

- $TFP_{ik} = TFP_i$ index of firm i in sector k
- Y_{ik} = Value Added of firm i in sector k
- $\overline{Y_k}$ = Value Added of average firm in sector k
- S_{ijk} = Value Added share of input j for firm i from sector k

- $\bar{S}_j$ = Average VA share of input j in sector k
- j = labour and capital expenses.
- X_{ijk} = Value of input j at firm i from sector k
- $\bar{X}_{jk}$ = Average value of input j in sector k

3 Data

We source our data from Sequenza-Belgium, which contains publicly available data on Belgian unconsolidated firm-level annual accounts.[1] We focus on the period from 2000 until 2022 and include only those firms that report zip codes in Flanders. The dataset includes detailed information on capital, value added and wages & salaries.[2] All variables are deflated at the 2-digit NACE Rev. 2 level, Wages are deflated using sector-specific NACE 2-digit wage deflators, value added using value added deflator, and capital using gross fixed assets.[3] The base year for all deflation is 2015.

To complement this, we incorporate Eurostat General and regional statistics data on GDP and labour productivity (LP) available at NUTS 2 level. The LP data from Eurostat is used primarily for robustness checks. GDP values are deflated using the GDP deflator provided by the World Bank.

4 Results

4.1 labour Productivity and Unit labour Cost

4.1.1 labour Productivity and Unit labour Cost Evolution

Figure 1 and Table 1 present the joint evolution of labour productivity and unit labour costs in Flanders over the period 2000-2022. This figure reveals several striking features. labour productivity, measured per person employed, increased from the base value of 100 in 2000 to approximately 118 by 2022, representing a cumulative 18% increase (0.76% yearly increase). From the base of 100 in 2000, ULC declined sharply to approximately 80 by 2022, representing a 20% reduction (0.90% yearly decrease) in labour costs per unit of output.

[1] This dataset has been used in recent studies including Bormans et al. (2025).

[2] We exclude observations with full-time equivalent employment below 1 or negative value added in a given year. In addition, we winsorize the LP, ULC and TFP series at the 1st and 99th percentiles.

[3] The deflator datasets were obtained from the Eurostat website Eurostat (2025).

The pre-crisis expansion period (2000-2007) saw steady productivity gains, with the index rising from 100 to approximately 105-108 and ULC declined from 100 to approximately 80-85. The 2008–2009 global financial crisis marked a visible break in this trajectory. Productivity flattened as output contracted and employment adjustments lagged behind, while unit labour costs briefly spiked. This temporary divergence reflects the classic cyclical response: firms faced lower output but sticky labour costs, leading to a short-term deterioration in labour cost competitiveness.

Recovery from the financial crisis was sluggish. During the Eurozone debt crisis period (2010-2013), both LP and ULC stabilized but grew at subdued rates. labour productivity growth remained weak, with the index fluctuating without establishing a clear upward trajectory. This stagnation occurred despite significant economic and policy turbulence, including fiscal austerity measures and ongoing adjustment in crisis-affected European economies. The modest productivity recovery during this period likely reflects weak investment dynamics.

The stable expansion phase (2014–2019) saw a return to moderate productivity gains, though the slope of the LP index remained flatter than in the early 2000s. ULC moved broadly in parallel, implying that real wage growth was largely consistent with productivity improvements—helping preserve the region's competitive position, but underscoring the persistent structural slowdown in efficiency growth.

The COVID-19 shock of 2020 caused another dramatic disruption. Productivity declined and ULC increased sharply as lockdowns and restrictions may have reduced output while employment protection measures (particularly temporary unemployment schemes) possibly preserved employment relationships.

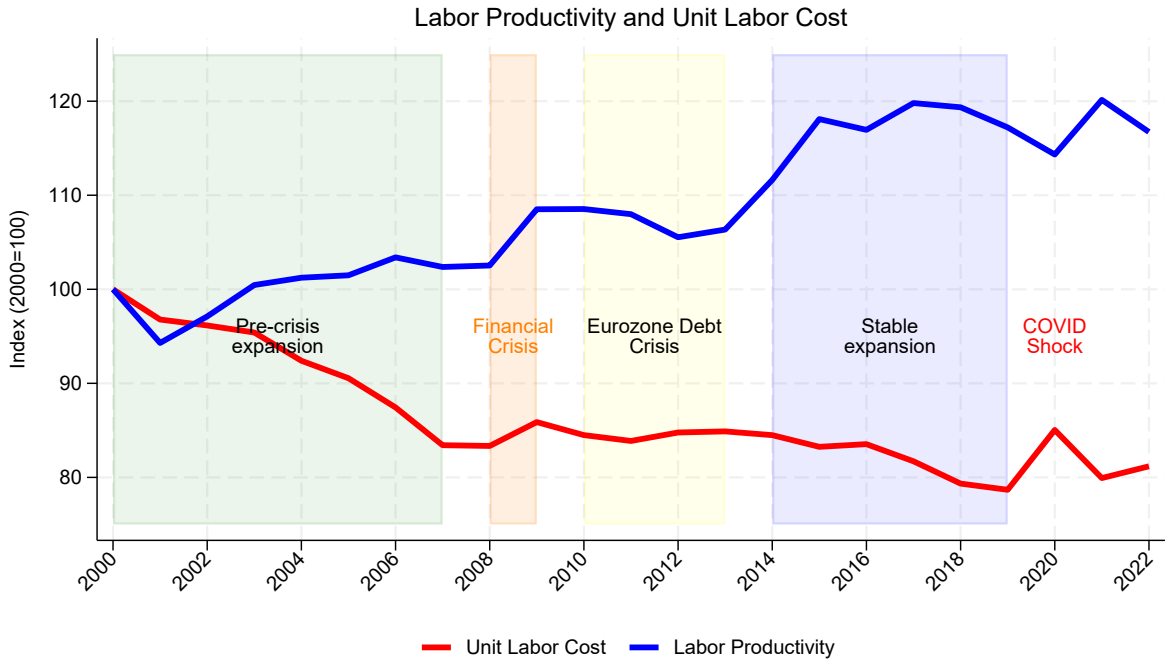

Figure 1: This figure shows the evolution of labour Productivity (Value added divided by FTE, weighted by share in aggregate value added) and ULC (salaries and wages divided by value added, weighted by share in aggregate value added) between 2000 and 2022 for NACE 2-digit sectors 10–82 in Flanders. The evolution is expressed as an index relative to the corresponding value in the base year 2000 (index $= 100$).

Year	LP_agg	ULC_agg	VA_agg	FTE_agg	LP_index	ULC_index	VA_index	FTE_index
2000	122.73	0.77	40.50	0.49	100.0	100.0	100.0	100.0
2001	115.73	0.74	41.98	0.52	94.3	96.8	103.7	105.6
2002	119.19	0.74	43.84	0.54	97.1	96.2	108.3	108.9
2003	123.29	0.73	45.71	0.55	100.5	95.4	112.9	111.7
2004	124.24	0.71	47.92	0.57	101.2	92.4	118.3	114.6
2005	124.56	0.69	49.58	0.59	101.5	90.6	122.4	118.8
2006	126.90	0.67	54.20	0.62	103.4	87.4	133.8	126.3
2007	125.64	0.64	57.53	0.65	102.4	83.4	142.1	132.3
2008	125.84	0.64	59.18	0.68	102.5	83.3	146.2	138.0
2009	133.17	0.66	59.67	0.69	108.5	85.9	147.4	139.6
2010	133.20	0.65	62.32	0.70	108.5	84.5	153.9	142.0
2011	132.53	0.64	64.46	0.73	108.0	83.9	159.2	148.1
2012	129.52	0.65	65.87	0.75	105.5	84.8	162.7	152.7
2013	130.53	0.65	68.23	0.77	106.4	84.9	168.5	155.5
2014	136.99	0.65	70.71	0.78	111.6	84.5	174.6	158.7
2015	144.94	0.64	73.82	0.80	118.1	83.3	182.3	162.8
2016	143.53	0.64	74.34	0.82	117.0	83.5	183.6	166.3
2017	147.03	0.63	77.16	0.86	119.8	81.7	190.5	174.6
2018	146.48	0.61	79.17	0.90	119.4	79.3	195.5	181.5
2019	143.86	0.60	81.32	0.93	117.2	78.7	200.8	188.2
2020	140.32	0.65	79.05	0.93	114.3	85.1	195.2	188.2
2021	147.45	0.61	84.40	0.95	120.1	79.9	208.4	192.8
2022	143.26	0.62	83.03	0.99	116.7	81.2	205.0	200.3

Table 1: Economic Indicators (2000–2022)

LP_index: labour Productivity (Value added divided by number of full-time equivalent employees (FTE), weighted by share in aggregate value added), **ULC_index:** ULC (salaries and wages divided by value added, weighted by share in aggregate value added) between 2000 and 2022 for NACE 2-digit sectors 10–82 in Flanders. LP_agg (labour Productivity in thousands euros), VA_agg (Value Added in billions euros) and FTE_agg (Full time equivalence employees in millions).

4.1.2 Eurostat vs. Sequenza Measures

Figure 2 compares three productivity measures for Flanders: Sequenza-based productivity, Eurostat per-person productivity and Eurostat hourly productivity. All three measures exhibit somewhat similar temporal patterns: growth during pre-crisis period, disruption during financial crisis, weak recovery, stronger growth during 2014-2019, and COVID shock. Sequenza productivity aligns closely with Eurostat per-person measures, providing cross-validation. Any concerns about comparability or methodological differences between these sources seem unwarranted given their nearly identical trajectories and levels. This consistency across data sources and methodologies strengthens confidence that the observed patterns reflect genuine economic developments rather than measurement artifacts.[4]

[4]Differences between the two series may also reflect the fact that our analysis covers only the private economy (NACE 10–82), whereas Eurostat includes the entire economy.

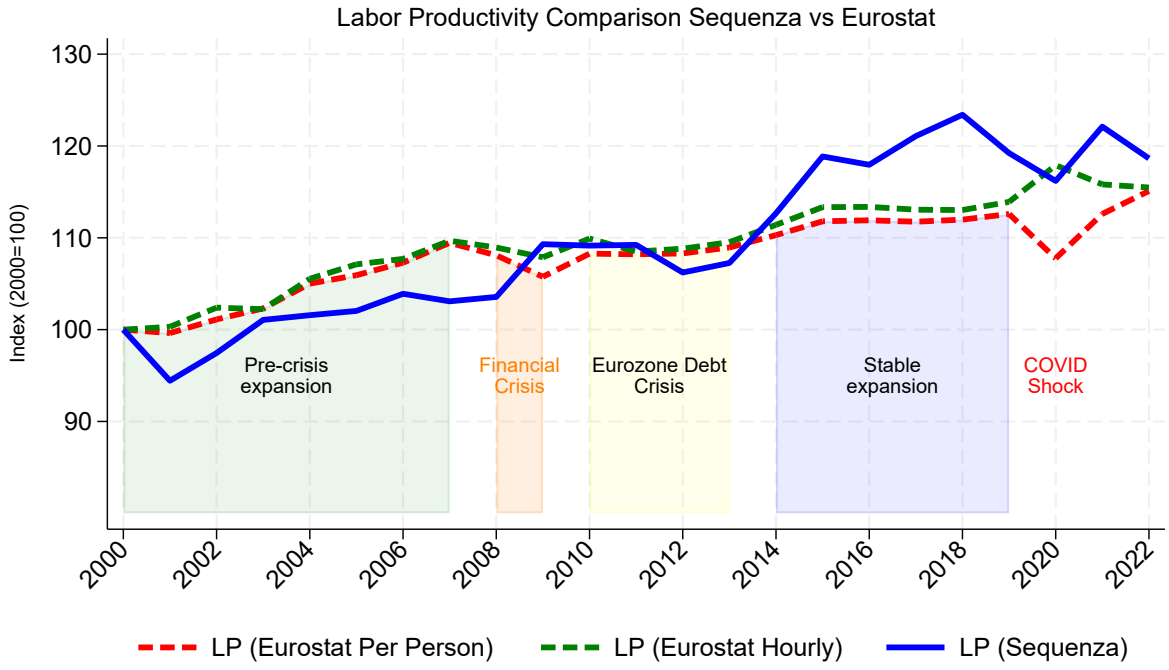

Figure 2: This figure shows the evolution of labour Productivity (Value added divided by FTE calculated from Sequenza data), labour productivity per person (Eurostat) and labour Productivity hourly (Eurostat) for the NACE 2-digit 10-82 in Flanders. All three measures are weighted by share in aggregate value added. The evolution is expressed as an index relative to the corresponding value in the base year 2000 (index $= 100$).

4.1.3 labour Productivity and GDP evolution

Figure 3 plots the joint evolution of labour productivity (LP) and GDP in Flanders over the period 2000–2022, indexed to 2000=100. The figure illustrates a clear cyclical co-movement between the two series, reflecting the interplay between output dynamics and efficiency over successive economic phases.

During the pre-crisis expansion (2000–2007), both GDP and labour productivity increased steadily, indicating productivity-driven growth. The global financial crisis (2008–2009) marked a sharp break in this trend, as GDP contracted while productivity flattened—reflecting output losses and sticky employment adjustments. In the Eurozone debt crisis (2010–2013), both series stabilized at lower growth rates, pointing to stagnation in efficiency gains. The recovery phase (2014–2019) was characterized by moderate, synchronized growth in GDP and LP, signaling a return to balanced expansion. Finally, the COVID-19 shock (2020) produced a sharp, temporary divergence: GDP and productivity declined abruptly before recovering gradually thereafter.

Overall, most of the years in the figure highlight the cyclical nature of productivity performance strongly expanding in booms, contracting or stagnating during crises.

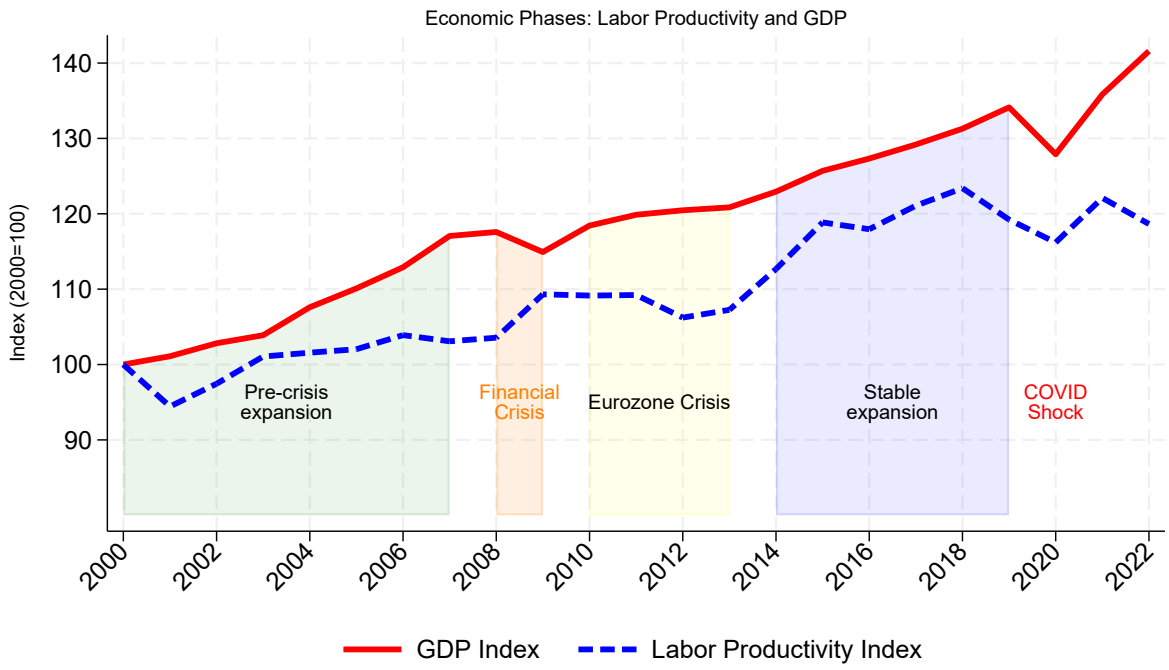

Figure 3: This figure shows the evolution of labour Productivity (Value added divided by FTE, weighted by share in aggregate value added) and GDP (weighted by share in aggregate value added) for the NACE 2-digit 10-82 in Flanders. The evolution is expressed as an index relative to the corresponding value in the base year 2000 (index = 100).

4.1.4 Sectoral Productivity-Competitiveness Analysis

Figure 4 and Figure 7 present scatter plot analysis examining the relationship between unit labour costs (horizontal axis) and labour productivity (vertical axis) across economic sectors in 2022, with both dimensions indexed to 2000=100. This framework provides powerful insights into sectoral heterogeneity and competitive positioning.

The key interpretive elements are:

- Sectors below 100 on the ULC axis have achieved cost reductions (improved competitiveness); those above 100 have experienced cost increases.
- Sectors above 100 on the productivity axis have achieved productivity gains since 2000; those below 100 have experienced productivity decline.
- The 45-degree diagonal represents balanced growth in productivity and ULC; sectors above this line have productivity growth exceeding ULC growth (improving competitiveness), while those below have ULC growth exceeding productivity growth (deteriorating competitiveness).
- Bubble size represents sector employment (FTE), allowing identification of economically significant sectors.

Most sectors cluster in a range of 80-120 for both productivity and ULC, indicating modest changes (within ±20%) from 2000 levels. However, important outliers exist at the extremes, including some sectors with very strong productivity growth (indices above 140) and others with severe productivity decline (indices below 80). The distribution of employment across sectors (represented by bubble sizes) shows that both highly competitive and severely challenged sectors include large employers.

Figure 4 emphasizes the distinction between sectors above and below the 45-degree line, i.e., those where productivity has grown faster than ULC (above line) versus those where ULC has grown faster than productivity (below line).

Above 45-Degree Line (Shaded Green region) : The 45-degree line in the labour productivity versus unit labour cost (ULC) scatter plot serves as a benchmark for balanced growth. Points lying directly on this line indicate that labour productivity and ULC have increased at the same rate since the base year—typically 2000. For instance, if both indices reach 120, it implies a 20% increase in output per worker and a corresponding 20% rise in labour cost, preserving cost competitiveness. Firms or sectors positioned above this line exhibit a more favorable dynamic: labour productivity has outpaced the growth in ULC. This means that these industries are generating more output per unit of labour cost, thereby enhancing their cost efficiency and competitive standing.

Below 45-Degree Line (Shaded Red region): In contrast, firms located below the 45-degree line face a more concerning scenario. Here, ULC has risen faster than productivity, indicating that labour costs are increasing without commensurate gains in output. Such a trend erodes cost competitiveness and may signal inefficiencies, as workers are being compensated more while producing relatively less. This region thus highlights sectors at risk of margin compression and declining competitiveness. For example, Pharmaceuticals (20), Non-metallic minerals (23), Machinery (29), Retail (47), Accommodation (55), Publishing (58) and Travel (79)—saw their labour costs grow faster than productivity, indicating a loss of cost competitiveness. Notably, most sectors falling below the 45-degree line are small or medium-sized industries, meaning that the weaker productivity-cost dynamics are concentrated among smaller employers, while larger and more productive sectors tend to lie above the line, showing stronger efficiency gains and better overall competitiveness.

Figure 7 provides the most detailed sectoral classification by dividing the space into four quadrants based on whether productivity and ULC are above or below 2000 levels (index > 100 or < 100).

Quadrant I (High LP, High ULC): Sectors in this quadrant have achieved productivity gains (LP > 100) but also experienced rising costs (ULC > 100). These are typically

high-value sectors where strong demand supports both productivity investment and wage growth. This Quadrant I includes sectors like Leather (15), Wood (16), Paper (17), Pharmaceuticals (20), Chemicals (24), Machinery (29) and Other professional activities (74)—these sectors have improved productivity but also face rising costs.

Quadrant II (High LP, Low ULC): This is the most favorable competitive position, combining productivity gains (LP > 100) with controlled or reduced costs (ULC < 100). From an economic point of view, this is the most desirable quadrant. The fact that multiple sectors occupy this favorable quadrant, including some with substantial employment, is encouraging. This Quadrant II represents the most competitive group, containing Food (10), Beverage (11), Printing (22), Metal products (25), Optics and precision instruments (32), Repair and installation (33), Building construction (41), Legal (69), Architectural (71), R&D (72), Veterinary (75) and Administrative support (82)

Quadrant III (Low LP, Low ULC): This quadrant contains the largest cluster of sectors, including many numbered in the 10s-70s range. These sectors have experienced both productivity stagnation or decline (LP < 100) and cost reductions (ULC < 100). While lower labour cost is encouraging, productivity performance is concerning. This Quadrant III (Low productivity, Low cost) covers Remediation (39), Civil engineering (42), Retail (47), Warehousing (52), Real estate (70), Travel (79), Security (80) and Support services (81)—industries where productivity is modest but cost containment helped preserve competitiveness.

Quadrant IV (Low LP, High ULC): This is the most problematic position, combining stagnant or declining productivity (LP < 100) with rising costs (ULC > 100). Sectors in this quadrant face serious challenges in both dimensions of competitiveness. This Quadrant IV includes sectors like Non-metallic minerals (23), Sewerage (37), Construction (45), Accommodation (55) and Publishing (58), where both productivity is weak and labour costs are high, signaling competitiveness challenges. Fortunately, relatively few sectors occupy this quadrant and those that do generally represent small employment shares (small bubbles). This suggests that the worst competitive position is not widespread in the Flemish economy.

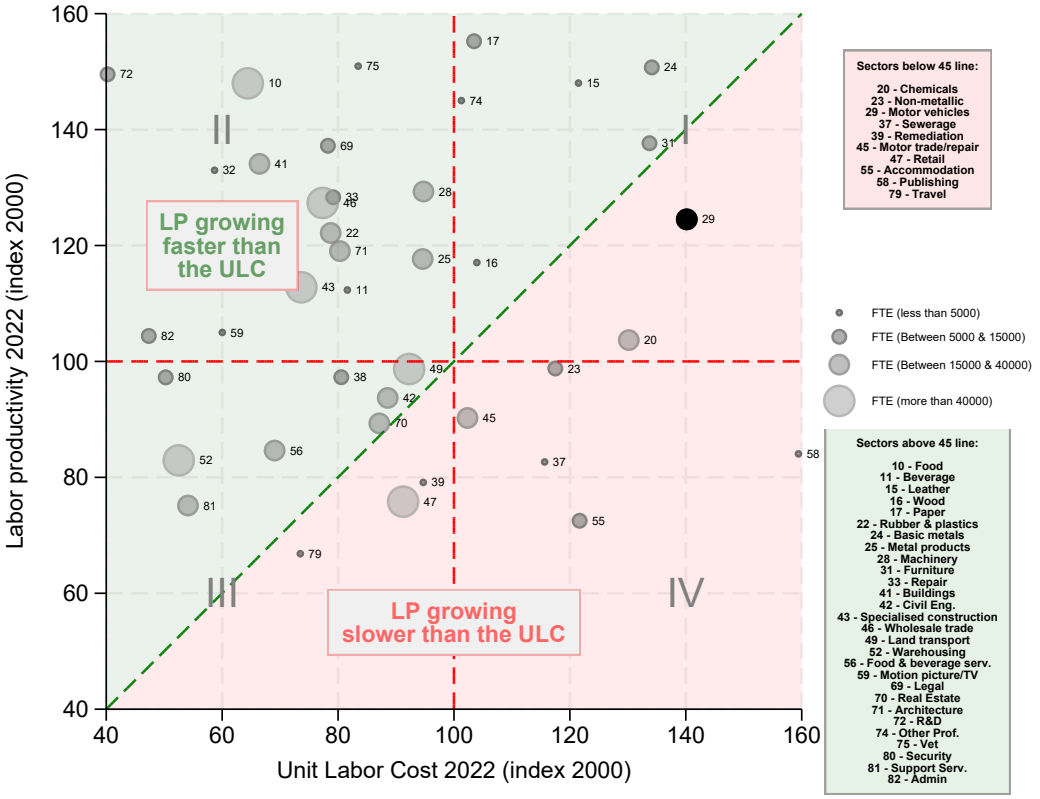

Figure 4: Competitive analysis of the sectors (2000 and 2022). This figure shows the evolution of (weighted) unit labour cost between 2000 and 2022 on the horizontal axis, and that of (weighted) labour productivity for the same period on the vertical axis. Each circle in this figure corresponds to a sector of the economy where the area of the circle is proportional to the employment in the corresponding sector (see legend on the right). To illustrate, sector 29 (Machinery,15000-40000 FTEs) is represented by the black circle: in this sector, labour costs increased by roughly 40% and productivity increased by roughly 25% from the base year (2000). Observations above the 45° line correspond to sectors where productivity is increasing faster than the labour cost, points below the 45° line reflect sectors that are losing competitiveness.

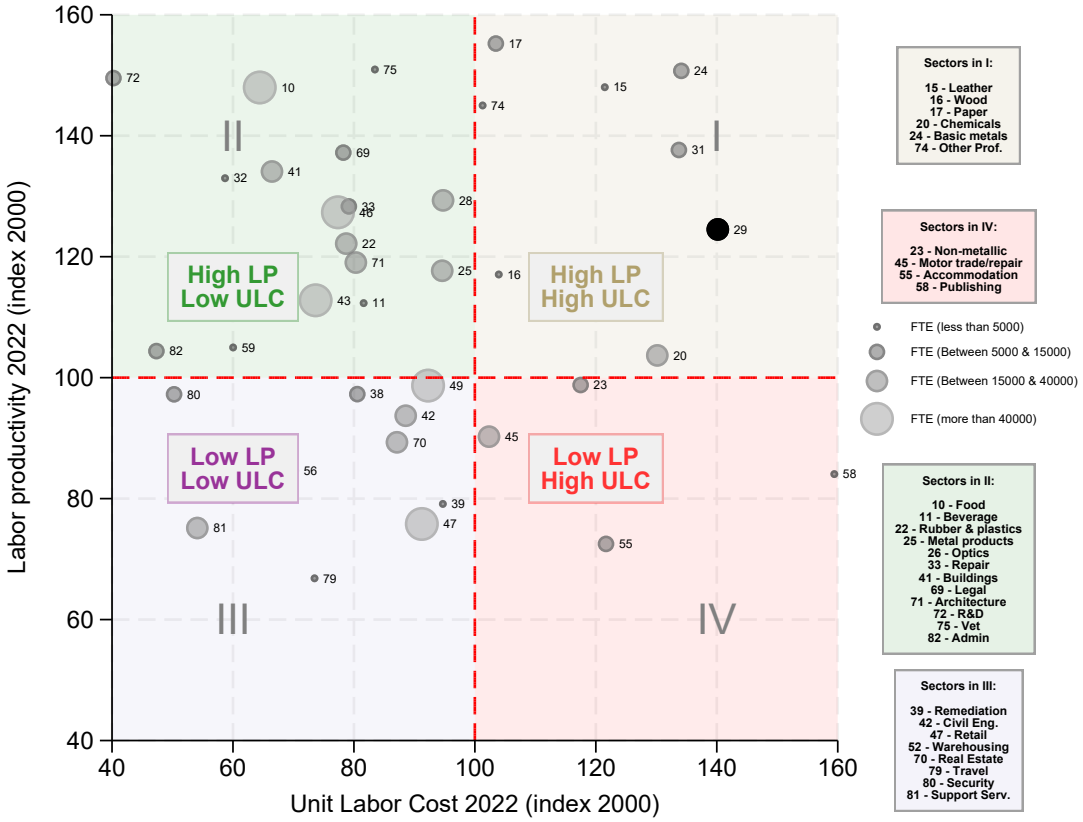

Figure 5: Competitive analysis of the sectors (2000 and 2022). This figure shows the evolution of (weighted) unit labour cost between 2000 and 2022 on the horizontal axis, and that of (weighted) labour productivity for the same period on the vertical axis. Each circle in this figure corresponds to a sector of the economy where the area of the circle is proportional to the employment in the corresponding sector (see legend on the right). To illustrate, sector 29 (Machinery,15000-40000 FTEs) is represented by the black circle: in this sector, labour costs increased by roughly 40% and productivity increased by roughly 25% from the base year (2000). Quadrant IV is the least desirable where labour productivity is low and unit labour cost is high while Quadrant II is the most desirable one because labour productivity is high along with lower unit labour cost.

4.2 Total Factor Productivity

Figure 6 depicts the evolution of total factor productivity (TFP) in Flanders from 2000 to 2022, indexed to 2000=100, reaching about 108 by the end of the period. Although the pace of growth was modest compared to labour productivity (LP), both series moved broadly in the same direction—indicating that improvements in efficiency and technological progress did contribute positively to overall productivity performance. The parallel movement between LP and TFP suggests that output gains were supported by a combination of capital deepening (more machinery and equipment per worker) and genuine efficiency improvements. In this context, capital accumulation reinforced labour productivity growth rather than substituting for it. Thus, while LP rose somewhat faster, the consistent upward trend in TFP points to gradual technological adoption and better resource utilization across firms, signaling a balanced but moderate productivity increase over the two decades. When splitting the period into two sub-intervals, the first decade (2000–2009) shows a clear upward trajectory, with TFP increasing steadily from 100 to roughly 106. However, in the second decade (2010–2020), TFP growth slows markedly, fluctuating between 106 and 108 with long periods of near-stagnation, especially after 2015. This slowdown indicates that most recent productivity gains have come less from technological progress and more from factor accumulation, implying a deceleration in efficiency improvements across Flemish firms during the past decade.

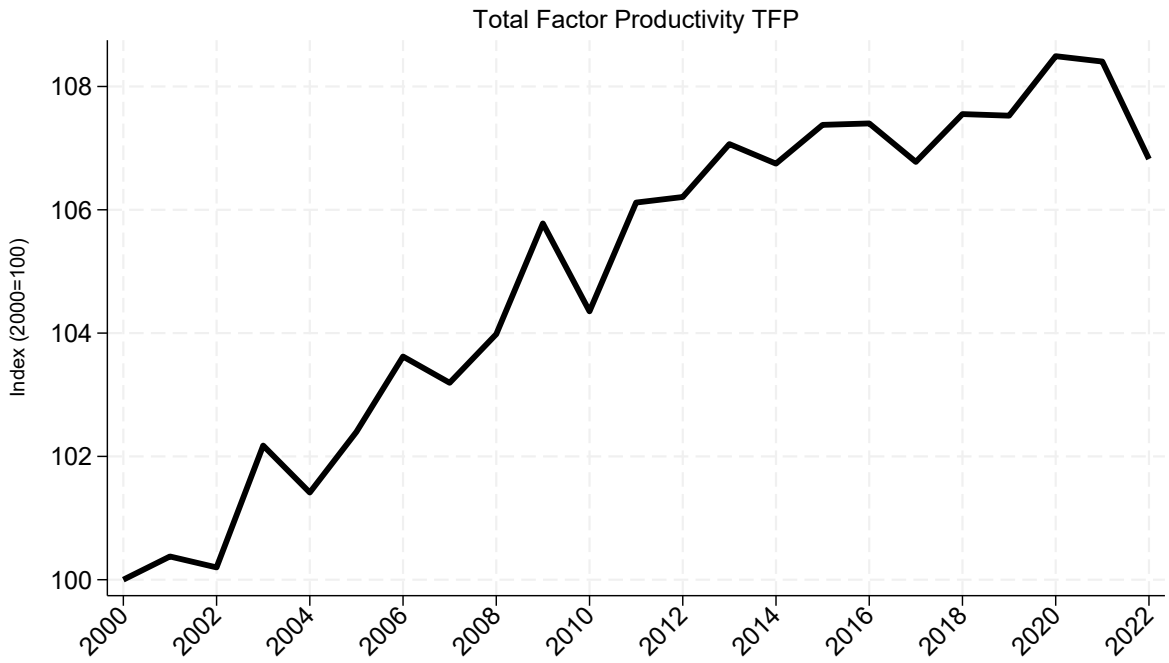

Figure 6: Evolution 2000-2022: Total factor productivity (TFP) is calculated using a Törnqvist index, following the methodology of Aw et al. (2001) and Bloom et al. (2022). The index is weighted by each sector's share in aggregate value added. TFP evolution is expressed as a relative index, normalized to 100 in the base year 2000.

5 Conclusion

This report provides a comprehensive empirical assessment of productivity, wage costs, and competitiveness in Flanders over the period 2000–2022. While aggregate labour productivity rose by 18% (an average annual growth rate of roughly 0.76%) and unit labour costs declined by 20% (an average annual growth rate of roughly -0.90%), the trajectory was uneven across economic cycles and sectors. Sectoral analysis reveals that many industries maintained favorable productivity-cost dynamics, though some face rising costs without commensurate efficiency gains. Total factor productivity increased modestly, suggesting limited technological progress beyond factor accumulation.

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6 Appendix

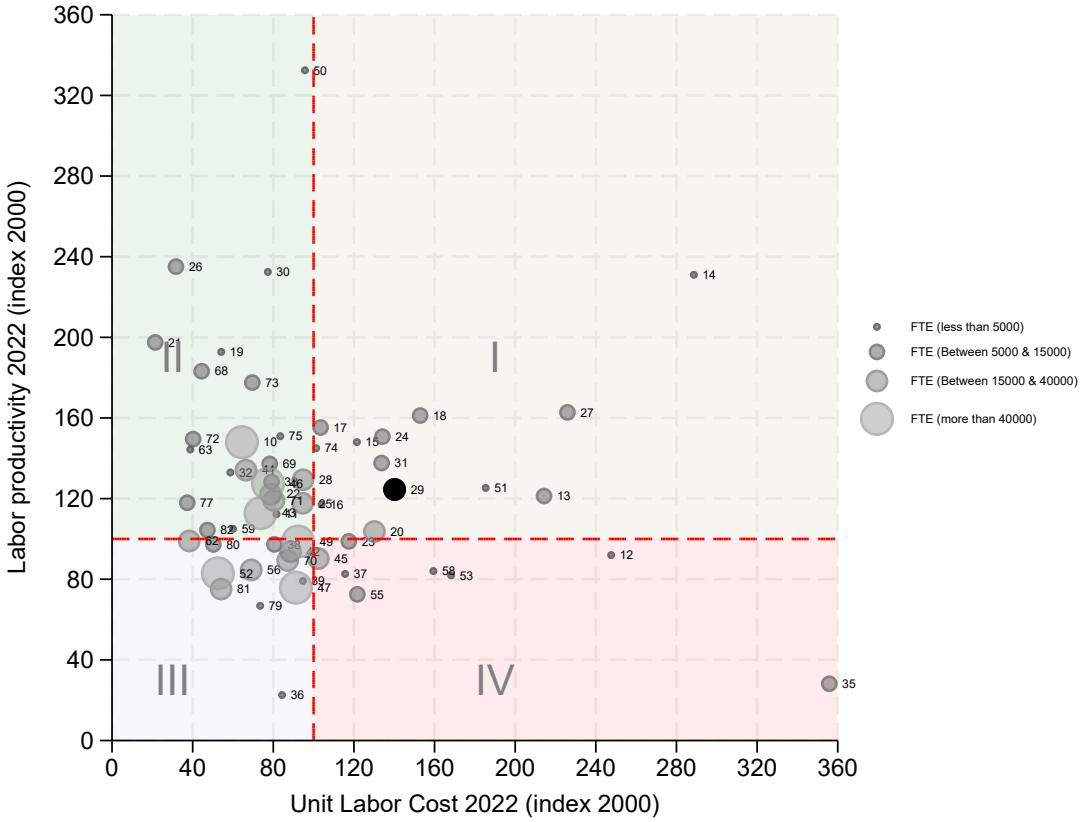

Figure 7: Competitive analysis of the sectors (2000 and 2022). This figure shows the evolution of (weighted) unit labour cost between 2000 and 2022 on the horizontal axis, and that of (weighted) labour productivity for the same period on the vertical axis. Each circle in this figure corresponds to a sector of the economy where the area of the circle is proportional to the employment in the corresponding sector (see legend on the right). To illustrate, sector 29 (Machinery,15000-40000 FTEs) is represented by the black circle: in this sector, labour costs increased by roughly 40% and productivity increased by roughly 25% from the base year (2000). Quadrant IV is the least desirable where labour productivity is low and unit labour cost is high while Quadrant II is the most desirable one because labour productivity is high along with lower unit labour cost. Sector 61 in II quadrant is dropped due to outlier.