RSA

Annex B

Technical Annex: Sectoral Analysis

1.1 Lenses

The sectoral analysis applies four quantitative indicators to assess economic performance and strategic relevance of sectors in the East Midlands Combined County Authority (EMCCA) region. All sectors are classified at the SIC2 level. This multi-lens approach ensures a balanced view of both scale and dynamism, avoiding over-reliance on a single metric.

1.1.1 Comparative Advantage

Revealed Comparative Advantage (RCA) index calculated as the ratio of a sector's share of regional employment to its share of national employment.

This Identifies sectors with higher concentration in EMCCA relative to the UK average, indicating local specialisation and embedded industrial strengths. An RCA > 1 signals regional specialisation; sectors in the top 20% of RCA scores are considered significant. Many such sectors fall within manufacturing (e.g., pharmaceuticals, fabricated metals, non-metallic minerals), reflecting supply chain clusters and legacy strengths.

1.1.2 Employment Growth

Percentage change in sectoral employment over the past five years, based on ONS Business Register and Employment Survey (BRES).

Measures labour market momentum and job creation capacity, highlighting sectors that are actively generating jobs rather than just maintaining scale. Positive growth indicates expanding employment opportunities; negative growth signals contraction. Some fast-growing sectors (e.g., creative arts, repair services) remain small in absolute terms, while mid-sized sectors like warehousing and specialised construction combine growth with scale, making them important for inclusive growth.

1.1.3 GVA Growth

Annualised growth in Gross Value Added (GVA) in chained volume measures, adjusted for inflation, using ONS regional accounts. This captures real output growth and productivity trends, distinguishing sectors with underlying economic vitality. Higher GVA growth reflects economic energy, often linked to innovation or capital intensity. Pharmaceuticals, IT, and scientific R&D show strong GVA growth despite modest employment, while foundational sectors like retail and healthcare exhibit flat or negative productivity trends.

RSA

1.1.4 Exports

Two metrics derived from global trade data (Atlas of Economic Complexity, World Bank):

- Average annual growth rate of world exports by sector (2012–2023).
- Change in sectoral share of total world exports over the same period.

This indicates global demand trends and sectoral competitiveness, surfacing sectors aligned with expanding international markets. High performers include pharmaceuticals, IT, and electronics, sectors with strong global relevance but often limited local employment. This underscores the need to pair export-led growth with local skills pipelines and supplier networks.

1.2 Data Sources

Analysis uses publicly available data from national and international institutions. All industrial sectors are grouped at the SIC2 level.

- Employment data comes from the Business Register and Employment Survey (BRES), produced by the ONS. Providing regional job counts by sector, allowing the tracking of employment growth in the East Midlands over time.
- Output data is based on regional Gross Value Added (GVA) in chained volume measures, from the ONS. This is used to compare how sector output has changed, adjusting for inflation, to capture real growth.
- Export data is drawn from the Atlas of Economic Complexity and the World Bank's international trade databases. This has been used to build two measures: average annual growth in world exports by product, and changes in each product's share of world trade. These are then matched to UK sectors using standard classifications.

1.3 Limitations

- Temporal Lag: Employment and GVA data are subject to publication delays; recent structural changes may not be fully captured.
- Granularity: SIC2 aggregation may mask intra-sectoral variation and niche specialisms.
- Exclusion of Qualitative Factors: Analysis does not account for job quality, skills alignment, or institutional capacity.

- Export Mapping: Conversion from product-level trade data to SIC sectors introduces classification assumptions.
- Size Thresholds: Composite scoring excludes sectors with fewer than 5,000 regional jobs, potentially omitting high value but small-scale industries (e.g., pharmaceuticals).

RSA

2. 'Size of the prize' calculations

a. Health

The cost of illness in the EMCCA is calculated as follows. GVA in the East Midlands was £128,254 million in 2022,[1] with 2,390,000 employed,[2] giving a GVA per worker of £53,663. Adjusting for the pay gap between disabled (£12 median hourly pay) and non-disabled (£13.16),[3] the GVA per disabled worker is £48,933. With 101,700 people inactive due to long-term sickness and 4,400 due to temporary sickness (total 106,100) in March 2025,[4] the estimated annual cost of economic inactivity is £5,213 million, with a lower bound of £5,192 million and an upper bound of £5,694 million. Lost production due to sickness absence is based on 4.4 days lost per worker in 2024[5] and 1,030,300 employed,[6] giving 4,533,320 days lost. Assuming a 233-day working year, this equals 19,540 full-time equivalents, which multiplied by GVA per worker gives £1,049 million. Lost production due to 51,800 informal carers not working[7] amounts to £2,780 million. NHS costs are based on the OBR estimate of £1,810 incremental cost per person inactive due to long-term sickness,[8] applied to 106,100 people, giving £192 million. Additional benefit payments, adjusted from the UK estimate of £41 billion[9] using EMCCA's 3.3% population share,[10] equal £1,353 million. Lost tax revenue is estimated using the Commons Library's 26.5% tax-to-GDP ratio[11] applied to £9,042 million lost output, giving £2,396 million. Adding these together gives a total cost of illness in the region of £19,488 million, of which £2,396 million are lost Exchequer flowbacks.

---

[1] *Office for National Statistics. (2020). Regional gross value added (balanced) by industry: all ITL regions.* https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/nominalandrealregionalgrossvalueaddedbalancedbyindustry

[2] *Nomis. (2022, December). Labour market profile – East Midlands. Office for National Statistics.* https://www.nomisweb.co.uk/reports/lmp/gor/2013265924/report.aspx#tabnrhi

[3] *Office for National Statistics. (2024, October 17). Raw disability pay gaps.* https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/disability/datasets/rawpaygapsbydisability

[4] *Nomis. (2025). Annual Population Survey.* https://www.nomisweb.co.uk/default.asp

[5] *Office for National Statistics. (2025, June 4). Sickness absence in the UK labour market.* https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/sicknessabsenceinthelabourmarket

[6] *Nomis. (2025). Annual Population Survey.* https://www.nomisweb.co.uk/default.asp

[7] *Nomis. (2025). Annual Population Survey.* https://www.nomisweb.co.uk/default.asp

[8] *Office for Budget Responsibility. (2023, July13). Fiscal risks and sustainability – July 2023.* https://obr.uk/frs/fiscal-risks-and-sustainability-july-2023/#:~:text=We%20estimate%20that%20each%20individual,of%20worklessness%20on%20people%27s%20health

[9] *Department for Work & Pensions. (2025, March 18). The cost of working age ill-health and disability that prevents work.* https://www.gov.uk/government/statistics/the-cost-of-working-age-ill-health-and-disability-that-prevents-work/the-cost-of-working-age-ill-health-and-disability-that-prevents-work

[10] *Nomis. (2025). Annual Population Survey.* https://www.nomisweb.co.uk/default.asp

[11] *Department for Work & Pensions. (2025, March 18). The cost of working age ill-health and disability that prevents work.* https://www.gov.uk/government/statistics/the-cost-of-working-age-ill-health-and-disability-that-prevents-work/the-cost-of-working-age-ill-health-and-disability-that-prevents-work

From this, the share of costs that could be reduced by closing the gap to the UK average can be estimated. Since EMCCA performs better than the national average in sickness absence and inactivity due to caring responsibilities, the focus is restricted to long-term sickness. The UK rate of inactivity due to long-term illness is 28.5%,[12] which implies that if EMCCA were to align with this benchmark, the number of inactive individuals would fall by 16,969. This reduction would translate into an annual output gain of £830 million when using disabled GVA (or £910 million using non-disabled GVA), alongside savings of £30 million in NHS expenditure and £226 million in benefit payments. Taken together, these effects would amount to annual savings of approximately £1,086 million, equivalent to £9,776 million over the period 2025–2035 when discounted at the HM Treasury Green Book rate of 3.5%.[13]

b. Investment

The foundation of the analysis was to calculate the investment gap, using gross fixed capital formation (GFCF) per head by Local Authority District (LAD), industry, and asset type.[14] We took the average values for 2018–2020 (the most recent years with the required level of detail) and compared them to a benchmark. The chosen benchmark was Cambridgeshire, the strongest-performing region outside London and the South East (whose per capita investment levels remain substantially higher and largely out of reach). Cambridgeshire offers a model to aspire to, with its concentration of knowledge-intensive industries, advanced manufacturing, and world-class research hubs, including the University of Cambridge and the surrounding science parks. The per capita gaps were weighted by population and aggregated across LADS, industries and asset types to produce the final estimates.

To estimate the economic impact of the investment gap over 2025–2035, we applied OBR fiscal multipliers[15] to the public share of investment, assumed at 20% of the total based on historical figures. This corresponds to a £3.6 billion annual flow in 2025, with the impact rising gradually to £9.2 billion by 2029 and stabilising thereafter. Incorporating private investment and discounting

---

[12] *Nomis. (2025). Annual Population Survey. https://www.nomisweb.co.uk/default.asp*

[13] *HM Treasury. (2022). The Green Book: Central Government Guidance on Appraisal and Evaluation. https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government*

[14] *Office for National Statistics. (2020). Experimental regional gross fixed capital formation (GFCF) estimates by asset type.https://www.ons.gov.uk/economy/regionalaccounts/grossdisposablehouseholdincome/datasets/experimentalregionalgrossfixedcapitalformationgfcfestimatesbyassettype*

[15] *Office for Budget Responsibility. (2023, November 9). Dynamic scoring of policy measures in OBR forecasts. https://articles.obr.uk/dynamic-scoring-of-policy-measures-in-obr-forecasts/index.html*

annual flows at the HM Treasury Green Book rate of 3.5%,[16] the total impact is estimated at £210 billion in today's prices.

c. Social capital

To quantify the potential long-term economic impact of an improvement of social capital, we draw on the findings of Harris et al. (2025),[17] which estimate that FSM-eligible pupils who move from low to high economic connectedness experience an uplift of £5,100 in annual adult earnings. The number of pupils eligible for free school meals (FSM) in EMCCA is 69,563.[18] Assuming a uniform distribution across 13 year-groups (nursery, primary, and secondary) gives an estimated cohort size of 5,351 FSM pupils. Applying this benchmark to the EMCCA cohort implies an annual earnings uplift of £27.3 million. At the 2025 baseline, this corresponds to approximately 5,294 new beneficiaries. Under a cohort stacking assumption (i.e. each subsequent year adds an additional cohort to the workforce with no decay), annual benefits rise in increments of £27 million, reaching £297 million by 2035. Over the full period 2025–2035, the cumulative benefit is estimated at £1.42 billion in today's prices, discounting future flows at the HM Treasury Green Book rate of 3.5%.[19]

[16] *HM Treasury. (2022). The Green Book: Central Government Guidance on Appraisal and Evaluation. https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government*

[17] *Harris, T., Iyer, S., Rutter, T., Chi, G., Johnston, D., Lam, P., Makinson, L., Silva, A. S., Wessel, M., Liou, M.-C. (Z.), Wang, Y., Zaman, Q., & Bailey, M. (2025, March 23). Social capital in the United Kingdom: Evidence from six billion friendships. https://doi.org/10.31235/osf.io/kb7dy_v1*

[18] *Department for Education. (2021). Free school meals: Autumn term 2020/21. https://explore-education-statistics.service.gov.uk/data-tables/permalink/7e7bd736-ef8c-4237-547a-08ddf03e69a2*

[19] *HM Treasury. (2022). The Green Book: Central Government Guidance on Appraisal and Evaluation. https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government*