



Enhancing Regional Forecasting Capacity

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Executive Summary

Public institutions increasingly operate under conditions of heightened uncertainty, systemic shocks, and constrained fiscal space. In this context, limitations in institutional forecasting capacity represent not merely a technical gap, but a strategic risk to effective policy design and delivery. This report uses the experience of a targeted secondment at the West Midlands Combined Authority (WMCA) as an illustrative case to demonstrate why stronger, more institutionalised forecasting capabilities are becoming essential for devolved governance in the UK.

Specifically, the strategic secondment of Dr Michail Karoglou (Aston University) to the West Midlands Combined Authority (WMCA) was designed to explore how institutional forecasting capacity could be strengthened through a critical assessment and the structured operationalisation of an externally provided impact and forecasting model. Initiated in November 2024 and extending beyond its six-month formal term, the collaboration initially focused on the model's application, underutilisation, and limitations;² however, over time, its scope expanded beyond a purely technical exercise. Key outputs included the development of three "Operational Forecasting Blueprints", which abstract and codify existing forecasting efforts into replicable frameworks. The secondment underscores the centrality of forecasting in policy design, especially as a foundational step in framing evidence-based, context-sensitive, and time-responsive interventions. The strategic lesson is the need to layer external models with internal analytical capability and local institutional knowledge.

The insights, frameworks, and recommendations developed through this secondment are broadly transferable to all UK Combined Authorities. The report thus aims to contribute to a national conversation about decentralised economic modelling, institutional decision-making, and strategic foresight.

² It is worth noting that the impact model provided by Oxford Economics was designed to meet the original needs of the WMCA and partners. Any reference to limitations, are not criticisms of Oxford Economics or their model. We recognise that their impact model can be expanded and developed further if required.

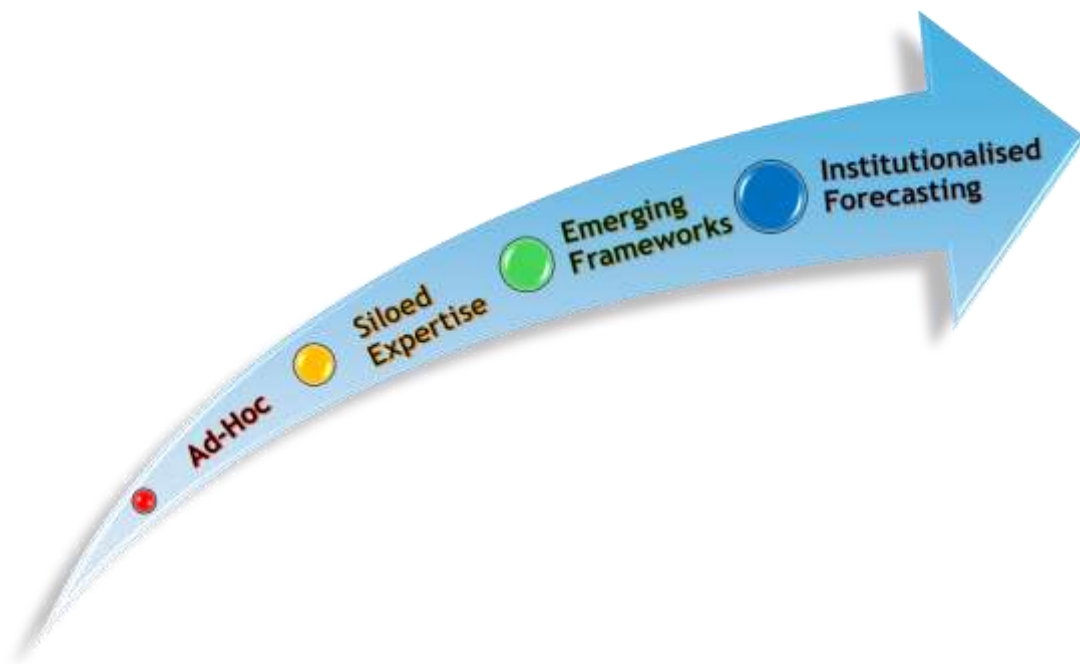
I. CONTEXT, OBJECTIVES, AND DEVELOPMENT

A. Background and Context

Institutional decision-making can be understood as a forward-looking process wherein actions taken in the present yield consequences over time. In this light, the quality of decisions is inherently linked to the institution's capacity to anticipate future states of the world, making forecasting not merely a technical exercise, but a foundational element of strategic governance. In public institutions, where policy decisions must navigate complex socio-economic dynamics and often contend with significant uncertainty, robust forecasting frameworks are indispensable.

This is particularly true for regional authorities, which must reconcile national macroeconomic trends with the granular realities of local economic structures. Yet, despite the critical role that forecasting plays in shaping effective interventions, many regional institutions, including Combined Authorities, operate with limited internal capacity for structured economic modelling. Forecasts are often produced externally, interpreted with varying degrees of methodological rigour, and integrated into policymaking on a largely discretionary basis. Such arrangements may offer short-term flexibility, but they also limit consistency, transparency, and institutional learning over time. However, such ad hoc forecasting is not the only option.

Figure 1: Evolution of Forecasting Practices from Ad-Hoc to Institutionalised



Indeed, the development of forecasting capacity within institutions can be thought of as following a gradual and adaptive trajectory. As illustrated above, the process typically begins with *ad-hoc* forecasting, where methods are developed on a case-by-case basis, often shaped by the judgement and expertise of individual analysts (*Ad-Hoc Forecasting*). While this stage allows for maximum flexibility and responsiveness, it tends to lack consistency and is difficult to replicate. Over time, specific pockets of capability begin to emerge, with certain teams or individuals refining their approaches based on accumulated experience (*Siloed Expertise*). However, without shared standards, this expertise remains fragmented and difficult to scale. As awareness grows around the value of structured forecasting, organisations begin to adopt common tools, templates, or conventions, laying the groundwork for more coherent practices across teams (*Emerging Frameworks*). This phase marks a critical shift toward learning and adaptation. Eventually, these developments culminate in the establishment of shared protocols and routines that are embedded within organisational processes (*Institutionalised Forecasting*). At this stage, forecasting, rather than remaining an incidental input into decision-making, becomes a shared institutional asset that supports long-term planning and resilience.

Against this background, in late 2024, senior members of the West Midlands Combined Authority (WMCA)—Jonathan Skinner (Head of Economy and Local Industrial Strategy), Si Chun Lam (Head of Research, Intelligence and Inclusive Growth), and Ryan Owens (University Collaborations Lead)—initiated a dialogue with Professor Jun Du at Aston University. Their shared objective was to strengthen WMCA’s analytical infrastructure, with particular attention to the deployment and interpretation of the Midlands Economic Forecasting Model, a forecasting tool provided to the WMCA by Oxford Economics and based on a specific scope of work as defined by the Combined Authority and partners.

Recognising Aston’s strength in applied economic modelling, Dr Michail Karoglou was recommended and subsequently seconded to WMCA to assess and improve the Authority’s forecasting capabilities. Although no formal memorandum of understanding governed the secondment, it was supported institutionally by Dr Karoglou’s department heads (Dr Matthew Olczak and Professor Andy Lymer) and underpinned by a shared recognition of the strategic value of enhancing regional foresight capacity.

The secondment was conceived as a vehicle for addressing longstanding questions about how to maximise the use of the Midlands Economic Forecasting Model, and by extension organisational integration, methodological transparency, and strategic utility.³ What began as a focused technical engagement gradually evolved into a broader institutional intervention, with implications for the design of forecasting systems across the UK's devolved governance landscape. This evolution reflected a growing recognition among all parties involved that, where forecasting capacity remains fragmented or primarily externally dependent, institutions face predictable and recurring challenges, such as delayed responses to shocks, limited ability to stress-test policy commitments, and erosion of institutional memory across political or organisational change. These risks are particularly salient for Combined Authorities, which must align long-term strategic ambitions with short-term delivery pressures while operating under asymmetric information and resource constraints.

B. Objectives and Initiation of the Secondment

The initial aim of the secondment was to strengthen WMCA's institutional capacity in the use and interpretation of the Midlands Economic Forecasting Model. During the inception of the IAA, initial diagnostic discussions helped clarify both the nature of the issues and the expected outcomes, which became progressively more concrete and ambitious. Those between Dr Karoglou, Jonathan Skinner, and Si Chun Lam clarified and separated two primary areas:

- Si Chun Lam sought broader and justified utilisation of Oxford Economics' impact model across the WMCA area, not only to satisfy procurement criteria but also to unlock value for multiple policy domains.
- Jonathan Skinner was focused on improving the model's practical value for regional economic diagnostics and strategic foresight.

This bifurcation of concerns allowed Dr Karoglou to propose a tailored work plan addressing both goals within the time constraints of the secondment. However, while rooted in WMCA's immediate analytical needs, these objectives reflect challenges shared across UK Combined Authorities and are therefore indicative of a broader institutional issue rather than a place-specific feature.

³ Although the Midlands Economic Forecasting Model was provided alongside a technical annex and training, a deep understanding of the model's framework and approach was limited within WMCA.

C. Developmental Trajectory of the Secondment

Following three formal steering meetings and numerous bilateral sessions, primarily between Dr Karoglou and Mr Skinner, the scope of the secondment evolved significantly. What began as a narrow technical engagement organically developed into a broader institutional intervention in large part because Mr Skinner, drawing on his in-depth knowledge of the organisation, identified the potential value of such an intervention across multiple departments and, by extension, across Combined Authorities more generally. Importantly, this evolution was not pre-designed, but emerged through engagement with existing organisational practices, underscoring how latent forecasting capacity can be unlocked through relatively modest institutional interventions.

In light of the prevailing ad-hoc nature of forecasting practices, where insights often stemmed from individual ingenuity rather than institutional knowledge, Dr Karoglou created a structured forecasting framework to systematise practice while simultaneously formalising existing approaches and identifying areas for future improvement. Central to this was the development of a standardised “Operational Forecasting Blueprint” template, enabling consistent and replicable methodologies.

II. FORECASTING PRACTICES AND METHODOLOGICAL INNOVATIONS

A. Forecasting Practices within Combined Authorities: An Ad-Hoc Landscape

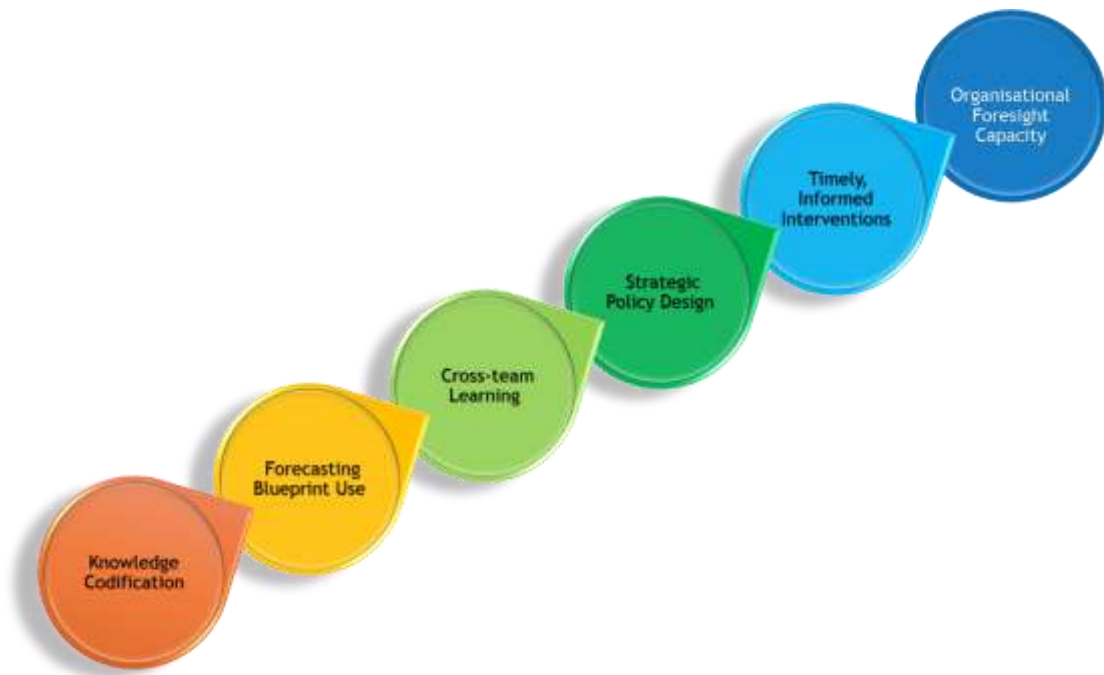
Forecasting practices within WMCA, and more broadly across UK Combined Authorities, have historically followed an *ad-hoc*, decentralised logic. This pattern is neither surprising nor unique. It reflects the operational realities of regional governance, where agility, responsiveness to policy demands, and the practical constraints of time and resource often take precedence over methodological standardisation.

Indeed, such flexibility can be a strength. It allows teams to draw upon the deep domain knowledge of individual analysts, tailor outputs to specific policy questions, and incorporate emerging insights that may not be easily accommodated by formal models. In this context, forecasting becomes a situated practice, one that is embedded within particular organisational functions and responsive to the immediate informational needs of decision-makers. Such arrangements can be effective, provided that operating conditions remain relatively stable and there is continuity of personnel.

However, while this decentralised mode of operation offers short-term responsiveness, it can pose longer-term challenges for institutional memory, consistency, and strategic coherence. Tools such as the Midlands Economic Forecasting Model, for example, were often deployed as convenient data repositories rather than as structured decision-support systems. Without shared protocols, training pathways, or methodological templates, forecasting outputs are difficult to replicate, scale, or adapt. What this reveals is not a lack of capability, but rather the absence of a codified infrastructure that enables good practice to become shared practice. The challenge, therefore, is not to replace localised expertise, but to scaffold it: to build frameworks that retain flexibility while promoting consistency, transparency, and collective learning.

The work undertaken during the secondment was precisely aimed at this institutional pivot, from forecasting as an individualised craft to forecasting as an organisational capability. The core idea can be schematically contextualised through an institutional value-chain of forecasting capacity:

Figure 2: Institutional Value-Chain of Forecasting Capacity



Specifically, in the context of institutional forecasting, the ability to anticipate and respond to future developments is built gradually through structured, repeatable processes. As illustrated above, such a process can be thought as beginning with the formalisation of what is often tacit or individual knowledge, turning it into shared tools and protocols (*Knowledge Codification*). Once established, these resources can be applied consistently across teams through the use of standardised templates and methods (*Forecasting Blueprint Use*). This consistency enables wider adoption and promotes collaborative practice, where teams begin to align approaches and learn from one another (*Cross-Team Learning*). Over time, this collective capability strengthens the analytical foundation on which strategic decisions are made, supporting the design of more coherent and anticipatory interventions (*Strategic Policy Design*). The result is a greater ability to act with precision and speed in response to shifting economic and policy conditions (*Timely, Informed Interventions*). Through repeated use and refinement, these practices ultimately embed forecasting as a routine and valued organisational process (*Organisational Foresight Capacity*).

B. The Oxford Economic Model

Oxford Economics' local and regional impact models are widely adopted forecasting tools designed to support evidence-based policymaking that WMCA, amongst others, use. Developed by Oxford Economics, the Midlands Economic Forecasting Model provides a consistent economic structure calibrated to local, regional, and national datasets. The model generates forecasts for future states of the economy based on given assumptions (e.g. employment creation, productivity growth, faster population growth, etc).

The model's structure offers several key advantages that make it particularly well suited for institutional forecasting. Its transparency allows for clear attribution of forecast changes to underlying assumptions, which enhances stakeholder confidence and supports effective communication. By avoiding the complexity of dynamic adjustment mechanisms and the real-world brittleness of their parameter estimates, the model enables quicker updates and reduces the technical burden on users, making it more accessible across policy teams. It is particularly effective for medium- to long-term scenario planning, where understanding the structural impact of shocks or interventions is more important than modelling transitional dynamics. Moreover, static models support flexible and transparent "what-if" scenario design and are readily integrable with other policy tools and decision-making frameworks. Taken together, these features make static forecasting models a pragmatic and effective choice for public institutions seeking reliable, interpretable, and policy-relevant insights.

Although the Midlands Economic Forecasting Model meets the requirements set by the Combined Authority when commissioning it, it is worth recognising that such third-party tools, while valuable, face key limitations that are important for regional policy. These limitations could be functional, such as a user-interface that does not easily accommodate non-linear shocks or even allow for path dependencies or innovation effects, which are increasingly relevant in post-shock recovery and transition scenarios. They may also be methodological by design, such as the specific model's inability to capture dynamic feedback loops or behavioural adjustments over time due to its static structure, thereby constraining the ability of the institution to reflect how policy interventions might evolve or interact with local systems. Most critically, they may well involve an inevitably limited capacity to incorporate region-specific

structural knowledge or local intelligence which makes such third-party tools limited in their capacity to be responsive to place-based nuances that often shape economic outcomes.⁴ Finally, the fact that this, and similar, models are maintained externally by a reputable vendor offers some assurance that the forecasts follow a consistent and independent procedure, helping to mitigate certain risks associated with moral hazard; but it does also mean that in the absence of internal forecasting capacity the institution remains heavily dependent on third-party assumptions, update cycles and training in order to make effective use of the tools provided. The challenge, therefore, is not the adequacy of third-party models per se, but the absence of complementary internal capabilities that allow institutions to interrogate, adapt, and strategically deploy their outputs.

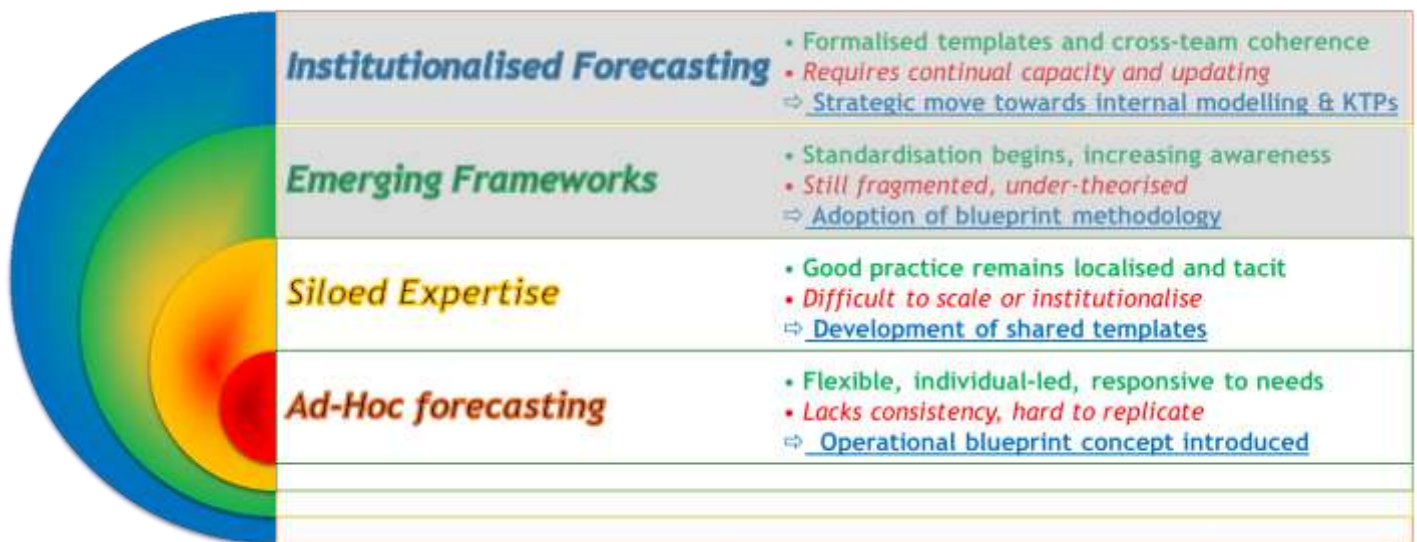
These constraints necessitate the development of complementary tools and internal capabilities. Scholarly literature (indicatively Clements and Hendry, 1998, 1999, and directly more relevant Karoglou, 2010, 2022) has consistently highlighted the risks of over-reliance on static, linear frameworks, particularly when forecasting through discontinuities or rare events.

⁴ Though this can be overcome somewhat by the user when entering modelling assumptions at that start of each scenario.

C. Design and Development of Operational Forecasting Blueprints

In response to the aforementioned institutional challenges, Dr Karoglou conceptualised an evolution of forecasting practices (see also Figure 1) as an analytical framework to guide his efforts and those of WMCA over the course of the secondment.

Figure 3: Characteristics, Limitations and Innovations introduced



According to this framework, illustrated above, in the early phase (*Ad-Hoc Forecasting*), forecasting is characterised by responsiveness and flexibility, but also by inconsistency and limited reproducibility. At this point, innovation typically arises through the introduction of basic operational blueprints and an initial awareness of the need for standardisation. As practices begin to consolidate within individual teams or analysts (*Siloed Expertise*), the quality of analysis may improve, but knowledge remains localised and difficult to share. The innovation here lies in creating shared templates and early mechanisms for cross-team visibility. In the next phase (*Emerging Frameworks*), forecasting starts to become more deliberate and structured, yet gaps remain in terms of integration and institutional memory. The use of blueprints becomes more formalised, helping to bridge these gaps. Finally, in the most advanced phase (*Institutionalised Forecasting*), forecasting practices are embedded in organisational routines, supported by dedicated training, governance, and iterative improvement. Innovations at this stage include the development of internal knowledge bases and proposals for formal partnerships, such as KTPs (Knowledge Transfer Partnerships), aimed at sustaining and extending institutional capacity. Together, these innovations signal a shift from forecasting as an individualised craft to a shared, strategic capability.

Dr Karoglou then went on to develop a structured methodology template, titled "Operational Forecasting Blueprint", designed to abstract and standardise the application of forecasting models within WMCA, thereby facilitating movement towards the latter stages of this evolutionary framework before *passing the baton* to Mr Skinner. Each blueprint acts as a practical and accessible tool to guide both the design and use of economic forecasts within institutional settings. It comprises five components, namely a descriptive title, a purpose statement, illustrative application scenarios, a detailed, step-by-step Methodology section, and recommendations for methodological refinement. Notably, the three Operational Forecasting Blueprints that were developed during the secondment should be understood not as a finished institutional system, but as a proof-of-concept demonstrating how forecasting practices *could* be codified, shared, and scaled within a public-sector context.

Figure 4: Components of the Operational Forecasting Blueprint



Specifically, it begins by stating (ideally functionally) what the blueprint is (***Title***), followed by a concise explanation of why it exists and what it is intended to support (***Purpose***). Then it outlines where and how it has and can be applied, helping users identify relevant policy contexts or thematic areas (***Applications***). Next, it sets out the core analytical processes effectively explaining how data are assembled, transformed, and interpreted to generate the relevant insights (***Methodology***). Finally, it includes

space for suggestions, critical reflection and learning, encouraging users to identify adjustments, limitations, or areas for development as their forecasting needs evolve (*Improvements*). In this way, the blueprint serves both as a technical aid and as a living document that supports consistency, transparency, and institutional learning.

This approach facilitates the transformation of ad-hoc forecasting methods into replicable protocols, creating an embryonic albeit scalable forecasting knowledge base that can be updated and extended across Combined Authorities.

D. Overview of Developed Blueprints

Three forecasting blueprints were developed collaboratively with Jonathan Skinner:

- Blueprint 1: Insights from Changes in the Variables of Interest – Explores historical and forecasted trends across sectors to prioritise interventions.
- Blueprint 2: Insights from Changes in the Composition of a Variable – Focuses on occupational structures and their shifts over time.
- Blueprint 3: Insights from Introducing Shocks in a Static Model – Utilises static model alterations to simulate economic shocks and assess sectoral resilience.

Each blueprint builds upon Excel-processed data, Oxford Economics' forecasts, and domain expertise. While Blueprints 1 and 2 document existing practices, Blueprint 3 introduces a novel use of the Midlands Economic Forecasting Model to test counterfactual scenarios, a capacity-building step for future resilience planning.

III. SIGNIFICANCE, LESSONS, AND STRATEGIC IMPLICATIONS

A. Significance and Institutional Impact

The secondment highlighted the potential for forecasting capacity to be embedded more centrally within regional economic governance. The blueprints provided immediate demonstrative operational value and provoked institutional discussions about long-term knowledge management and policy readiness. By standardising previously tacit methods, the work undertaken has illustrated how WMCA could be better positioned to enhance transparency, continuity, and effectiveness in policy design. Initial feedback from senior staff suggests that the templates are regarded as credible candidates for future integration into the broader analytic toolkit of the Authority.

B. Lessons Learned

- For WMCA: The secondment revealed a critical dependency on external tools and underscored the strategic value of building internal analytic capacity as a necessary complement and prerequisite for informed engagement with external evidence providers.
 - For Aston University: The engagement demonstrated how academic knowledge, particularly in structural econometrics and macroeconomic modelling, can be translated into operational challenges within local government.
 - For MK: The project validated the practical value of abstraction and codification when engaging with complex institutional environments. It also reaffirmed the vital interplay between sound economic modelling and the political economy of decision making, particularly in public-sector contexts characterised by multiple constraints and competing objectives.
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IV. RECOMMENDATIONS AND THE WAY FORWARD

A. Policy Recommendations

What follows sets out five overarching recommendations. These are not intended as immediate implementation requirements, but as a sequenced and progressive pathway through which Combined Authorities could progressively strengthen their forecasting capability over time.

1. Build Internal Modelling Expertise

Combined Authorities should invest in cultivating internal forecasting capabilities to complement, rather than replace, external forecasting models. While external models are indispensable, over-reliance can lead to analytic stagnation and loss of institutional learning. Establishing in-house modelling teams can ensure continuity, encourage contextual relevance, and accelerate responses to local shocks. Partnerships with academic institutions (e.g. via KTPs or secondments) can act as transitional enablers. Finally, Combined Authorities should engage more with external model providers to ensure effective knowledge transfer.

2. Develop Standardised Forecasting Protocols

The operational forecasting blueprints provide a basis upon which standardised internal templates could be adopted and continuously improved. They support comparability, reduce duplication, and provide clear pathways for training junior analysts. This form of institutional memory is critical for resilience, especially in times of political turnover or external disruption.

3. Reduce Over-Reliance on External Providers

Exclusive dependency on a single external model narrows policy space. Authorities should explore hybrid approaches combining third-party tools with internal interpretations and adaptations. This diversification enhances robustness and enables scenario planning under uncertainty—an essential feature in a post-pandemic, post-Brexit economic landscape.

4. Initiate Knowledge Transfer Partnerships (KTPs)

KTPs offer structured and outcome-driven pathways to co-develop capabilities with academic institutions and private sector forecasters. They also provide a vehicle for professional development and methodological innovation, fostering a culture of shared

learning. Experience from the secondment demonstrates the practical feasibility of such engagements, without prejudging their form or scale.

5. Promote Transparency and Institutional Memory

Forecasts must not remain locked within individual dashboards or team silos. Documenting methodologies, assumptions, and decision rules through shared templates ensures that forecasting becomes a collective asset rather than a tacit skill. This promotes accountability and helps align economic modelling with democratic governance.

B. The Way Forward

The secondment has helped to clarify a potential pathway towards resilient and transparent forecasting practice within WMCA. However, the forecasting function at WMCA remains primarily operational and could, subject to strategic choice, evolve from an operational necessity into a strategic capability. To capitalise on this momentum and realise the full potential of the Operational Forecasting Blueprints, the following steps are recommended:

1. Institutional Embedding of Forecasting Blueprints

WMCA could formally incorporate the blueprints into its annual strategic planning cycle and policy development processes. This includes integrating them into training programmes for analysts, embedding their use in cross-departmental briefings, and requiring documentation of methodological choices in all forecasting exercises where appropriate .

2. Development of a Regional Forecasting Toolkit

The blueprints can be expanded into a comprehensive, modular toolkit accessible to all Combined Authorities that could also be shared online. This could include user guides, worked examples, and templates for scenario testing. Regular updates and methodological refinements would maintain their relevance and encourage shared learning.

3. Pilot Knowledge Transfer Partnership (KTP)

A formal KTP with Aston University and potentially Oxford Economics could consolidate and expand the secondment's achievements. It would enable iterative

development of hybrid forecasting models, improve staff capacity, and contribute to long-term knowledge retention within WMCA.

APPENDICES

A. Timeline of the Secondment

- Initial discussions: September–October 2024
- Formal start: 15 November 2024
- First steering meeting: November 2024 (pre-start scoping)
- Midpoint steering discussion: February 2025
- Final steering meeting: April 2025
- Completion of primary deliverables: April–May 2025
- Informal wrap-up and initiation of this report: June 2025

B. Operational Forecasting Blueprint Template

Each blueprint was developed using a standardised structure to facilitate comparability and future replication. The sections include:

1. **Descriptive Title** – A concise name capturing the nature of the analysis.
2. **Purpose Statement** – An articulation of the analytical aim or decision-support goal.
3. **Application Scenarios** – Example use cases or domains where the blueprint may be deployed.
4. **Methodology** – A step-by-step description of data requirements, computational steps, and analytical logic. This often includes:
 - Data Assembly
 - Transformation and Calculations (growth, shares, shocks)
 - Interpretation Rules (thresholds, directional logic)
 - Intervention Rules (decision criteria for action)
5. **Additional Methodological Refinements** – Suggestions for enhancing the robustness, transparency, or interpretability of the approach, e.g., use of rolling averages, graphing trends, or dummy variables.

This template serves not only as a documentation framework but also as a capacity-building instrument that can be adopted by other Combined Authorities or public institutions.

C. Overview of the Forecasting Blueprints 1–3

Blueprint 1: Insights from Changes in the Variables of Interest

- **Purpose:** To identify sectors with the highest growth potential and inform resource prioritisation.
- **Applications:** Sector prioritisation, infrastructure alignment, labour market planning.
- **Methodology:**
 - Assemble historical and forecasted data (e.g., GVA, jobs for 1991, 2023, 2050).
 - Calculate growth and growth rates across periods.
 - Derive "progress" metrics by comparing achieved vs. target growth.
 - Apply interpretive rules to categorise sectoral dynamics.
 - Derive intervention logic (e.g. ranking sectors for support).
- **Improvements:** Use average values for robustness, graphical visualisation, and classification thresholds.

Blueprint 2: Insights from Changes in the Composition of a Variable

- **Purpose:** To evaluate occupational change in terms of relative workforce shares.
- **Applications:** Workforce development, training provision, strategic labour market planning.
- **Methodology:**
 - Assemble occupational time series data.
 - Calculate share of each occupation in the total workforce.
 - Compare shares across periods to identify rising or declining occupations.
 - Interpret results using thresholds and trend direction.
 - Propose interventions targeting key occupations.
- **Improvements:** Use moving averages, generate trend graphs, and define categorical thresholds.

Blueprint 3: Insights from Introducing Shocks in a Static Model

- **Purpose:** To simulate policy or exogenous shocks and assess systemic impact.
- **Applications:** Scenario planning, resilience testing, contingency policy design.
- **Methodology:**
 - Use Oxford model or equivalent static model.
 - Specify the magnitude, nature, and periodicity of shocks.
 - Introduce shocks (e.g., 20% job increase) and trace outcomes on key variables.
 - Interpret exposure or resilience based on effect size.
 - Recommend strategic responses based on differential exposure.
- **Improvements:** Use multiple model types, stress-test alternative scenarios, and integrate institutional knowledge.

D. Stakeholder Acknowledgements

- Acknowledging the contributions of:
 - Si Chun Lam, WMCA
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 - Bethany Haskins-Vaheesan, WMCA
 - Dr Matthew Olczak and Professor Andy Lymer, Aston University
 - Professor Jun Du, Aston University