Application for the Robert Summers Fellowship on Economic Measurement

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Relevant Expertise and Current Research Interests in Economic Measurement

My research focuses on economic measurement in global education finance. In collaboration with the World Bank and IMF, I work on developing internationally comparable frameworks for measuring education finance adequacy and spending efficiency across countries operating under very different institutional and economic environments. A central concern motivating this work is that many conventional international indicators rely on highly simplified benchmarking approaches that insufficiently account for variation in education delivery costs, poverty constraints, labor market structures, and demographic conditions. As a result, existing international comparisons may systematically understate the performance of lower-income countries and produce misleading conclusions regarding the adequacy and efficiency of public spending.

One area of my recent collaborative work is the development of a new cross-country education finance adequacy framework centered on the concept of a "Minimum Education Package" (MEP). The framework estimates the minimum level of financing required to provide a basic package of educational inputs necessary to support learning systems. It combines internationally harmonized data on student populations, teacher compensation, teacher staffing ratios, student enrollment, and non-wage operational costs to construct a cross-country MEP adequacy index designed to benchmark whether countries spend enough to support minimally adequate education systems (Baker et al., 2026).

This work addresses important limitations of traditional education finance indicators such as education spending as a share of GDP or per-student expenditure measures. While spending shares can capture fiscal effort, they often provide limited information about whether countries generate sufficient resources to finance adequate educational systems. Similar levels of fiscal effort can translate into significantly different real spending capacities across countries. For example, Singapore allocates a smaller share of GDP to public education spending than Burkina Faso, yet government expenditure per capita remains considerably higher in Singapore, reflecting large differences in underlying economic capacity. Similarly, evidence from the U.S. demonstrates that some states make relatively high fiscal effort but remain unable to finance schools adequately because of limited economic capacity, while wealthier states may underinvest despite having substantially greater fiscal resources (Baker, Di Carlo, et al., 2021; Baker, Weber, et al., 2021). These differences have important implications for how international organizations interpret education financing gaps and design policy frameworks, and how governments subsequently translate those frameworks into investment priorities and education spending policies.

A second measurement contribution of this work is to challenge the widespread practice of benchmarking teacher wage competitiveness using GDP per capita or GDP per worker proxies. Conventional international costing frameworks, including those applied by IMF teams (Carapella et al., 2023), frequently evaluate teacher compensation relative to aggregate macroeconomic indicators. This approach can generate systematically distorted conclusions at both low- and high-income levels. In low-income countries, small GDP denominators may mechanically imply that teachers appear relatively well compensated even when wages remain uncompetitive compared to other skilled professions. Conversely, high-productivity economies may appear to underpay teachers despite offering relatively competitive professional salaries. Our framework instead incorporates teacher and professional wage structures derived from harmonized micro-level labor market and education data, allowing for more realistic estimation of education delivery costs across countries. This distinction has important policy implications because GDP-based benchmarking approaches can underestimate financing needs in low-income countries and reduce support for additional investment in education.

Building on this adequacy framework, I am also contributing to research that develops a cost-adjusted education spending efficiency index using parametric estimation methods. This approach integrates measures of education adequacy, poverty constraints, and structural delivery costs into cross-country efficiency estimation. More broadly, this work contributes to an emerging shift in how international development institutions such as the World Bank, IMF, OECD, and UNESCO conceptualize public-sector efficiency. Conventional international efficiency measurement methods have often interpreted weaker outcomes in lower-income countries primarily as evidence of inefficiency, without adequately accounting for differences in service delivery environments and structural constraints. By explicitly incorporating the structural cost differences and constraints described above into efficiency analysis, this work aims to support more context-specific and policy-relevant international comparisons (Zhorayev et al., 2026).

As part of this work, I construct global databases by integrating data from multiple international statistical systems and micro-level sources. The adequacy and efficiency frameworks are built on data from UNESCO UIS, ILOSTAT, the World Bank, IMF databases, SDG indicators, UN demographic projections, labor force surveys, and other international statistical systems. Much of my work involves reconciling inconsistencies across datasets, harmonizing variables across countries and years, and constructing comparable indicators suitable for cross-country policy analysis.

More broadly, I view economic measurement as a foundational component of evidence-based public policy design. My long-term research goal is to contribute to the development of scalable, transparent, and policy-relevant measurement frameworks that improve how governments and international organizations evaluate human capital investment, public spending, and social service delivery systems across countries.

References:

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