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Enhancing SME performance evaluation through a multicriteria approach.

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Executive Summary

Small and Medium-Sized Enterprises (SMEs) play a crucial role in the European economy, but assessing their performance remains a complex challenge. Conventional evaluation methods frequently neglect non-financial aspects such as Environmental, Social, and Governance (ESG) criteria, which are becoming increasingly important for accessing financing and ensuring long-term competitiveness.

This policy brief presents key insights from the study "*An enhanced simulation-based approach for multicriteria evaluation of SMEs' performance*", by S. Angilella, M. Doumpos, M.R. Pappalardo, and C. Zopounidis. The study introduces an advanced methodology that combines Multicriteria Decision Analysis (MCDA) and Data Envelopment Analysis (DEA) to provide a more comprehensive assessment of SME performance. By incorporating skewness and kurtosis into the evaluation process, this approach offers deeper insights into the performance distributions of composite indicators.

Using data from European SMEs between 2018 and 2022, this study highlights significant ranking discrepancies between the proposed model and the earlier methodology of Angilella et al. (2024). This brief summarizes the proposed methodology, key findings, and policy recommendations to improve sustainability reporting and performance assessment for SMEs.

Context and Importance of the Issue

SMEs account for 99.8% of European enterprises and significantly contribute to employment, innovation, and economic growth. However, many SMEs face barriers to sustainability reporting due to financial constraints, lack of expertise, and insufficient regulatory incentives.

The present regulatory framework for small and medium-sized enterprises (SMEs) is established by European Sustainability Reporting Standards (ESRS), developed by the European Financial Reporting Advisory Group (EFRAG). In particular, based on some recommendations developed by the European Securities and Markets Authority (ESMA), EFRAG has settled some simplified ESRS specifically for listed European SMEs, which are slated to take effect in 2027, as well as some voluntary ESRS for the rest of SMEs. However, only a small proportion of SMEs are compelled to adhere to the simplified ESRS, or the Voluntary SME ESRS (VSME) released on 12 December 2024 (see EFRAG, 2024), or any simplified ESG reporting framework.
Despite this, strong ESG performance is increasingly a prerequisite for securing funding and maintaining business partnerships. Without comprehensive assessment frameworks, SMEs risk falling behind in sustainable business practices, limiting their competitiveness and growth opportunities.

Methodology

This study introduces a methodology that enhances SME's performance evaluation by integrating MCDA and DEA. The sigma-mu efficiency analysis, first introduced by Greco et al. (2019) and extended by Angilella et al. (2024), is further refined by incorporating higher-order moments, specifically skewness and kurtosis, to provide deeper insights into the symmetry and tail characteristics of composite indicator distributions. The approach utilizes the versatile Dirichlet distribution to simulate criteria weights, integrating skewness and kurtosis to offer a more comprehensive representation of uncertainty in SME performance (see Jia et al., 1998). Minimizing kurtosis helps mitigate extreme outcome variations, while maximizing skewness highlights alternatives with superior performance.

Key advancements include:

- Evaluation of SME performance based on both financial and ESG factors.
- Enrichment of the analysis by incorporating skewness and kurtosis alongside mean and variance, offering valuable insights into the shape characteristics of the probability distribution of composite indicators.

- Application to a dataset of 115 listed European SMEs spanning 2018-2022, providing key insights into performance variations based on the methodology of Angilella et al. (2024).

Policy Options and Analysis

Option 1: Mandatory ESG reporting for all SMEs

- Analysis: mandatory ESG reporting would enhance transparency and improve SMEs' credibility with investors and lenders. However, smaller SMEs face challenges, like financial constraints to disclose ESG data, lack of expertise, and incomplete historical data.
- Policy Implications: while ensuring consistency, mandatory reporting could impose financial and administrative burdens on resource-limited SMEs. Without adequate support, it may become a significant challenge for these businesses.

Option 2: VSME with incentives

- Analysis: the paper suggests that while some SMEs recognize the competitive benefits of ESG reporting, most of them perceive it as a financial burden. Current ESG reporting is fragmented, with inconsistent questionnaires and data requests. A VSME framework could help standardize this process, encouraging SMEs to adopt sustainability practices at lower costs.
- Policy Implications: promote VSME adoption through incentives, simplified guidelines, and support, to create a standardized ESG reporting framework that reduces fragmentation and compliance costs.

Option 3: Adoption of Advanced Multicriteria Evaluation Models

- Analysis: the paper presents an advanced multicriteria evaluation model combining financial and ESG indicators for SME's assessment. By considering risk and performance variability with skewness and kurtosis, the proposed methodology improves accuracy. However, it relies on reliable data and technical expertise, which may be challenging for some SMEs.
- Policy Implications: Governments and financial institutions should offer technical support and training for adopting advanced evaluation models. Industry organizations can help SMEs access digital tools to improve performance assessment and decision-making.

Recommendations

1. **Encourage VSME adoption and provide technical support**
    - increase awareness of the benefits of ESG reporting through focused training programs and industry collaborations.
    - Provide financial and non-financial incentives, such as tax reduction, subsidies, and technical support, to motivate SMEs to adopt VSME.
2. **Develop SME-specific ESG guidelines**
    - establish simplified ESG reporting standards that are accessible and practical for SMEs.
    - create sector-specific ESG benchmarks to help SMEs measure and compare their sustainability performance.
3. **Improving ESG reporting through public-private collaboration and continuous refinements**
    - promote public-private partnerships and consultations to refine sustainability reporting and financial access mechanisms (e.g., the European Investment Fund, which is enhancing opportunities for green financing to SMEs and micro enterprises in Europe).
    - continuously assess and adjust ESG disclosure indicators to balance comprehensiveness with practicality (e.g., Italy's initiative to reduce the number of indicators from 45 to 40, MDEF 2024).
4. **Enhance access to data, expertise, and evaluation tools**
    - develop centralized databases, expert networks, and digital tools to facilitate SMEs' engagement with sustainability reporting.
    - promote advanced evaluation methods, such as the enhanced sigma-mu efficiency analysis with skewness and kurtosis into SME performance evaluation policies by financial institutions and policymakers.

Implementation Considerations

1. **Strategic approach and phased implementation for SMEs**
    - Apply optimization algorithms to enhance resource allocation for SMEs supporting their transition to sustainable practices
    - Introduce ESG frameworks gradually, starting with voluntary participation and providing transition support to facilitate adoption.

2. **Legislative alignment and collaborative support**
    - Ensure ESG policies comply with EU and international standards, engaging regulators to create a supportive legal framework for SMEs.
    - Create public-private partnerships to initiate joint funding, Knowledge-sharing, and collaborative support among key stakeholders.
3. **Capacity Building and performance monitoring**
    - Define measurable KPIs and conduct periodic assessments to monitor ESG adoption and evaluate its impact on SME's performance.
    - Develop sector-specific training programs and provide access to expert workshops to use the sigma-mu efficiency analysis with skewness and kurtosis across different SMEs.

Conclusion

To foster a more sustainable and financially resilient SME sector, it is crucial to implement advanced assessment models that incorporate both financial and ESG factors. The enhanced performance assessment methodology presented in this brief provides a comprehensive tool for evaluating SMEs using both these factors. Policymakers and financial institutions should support SMEs through targeted incentives, simplified guidelines, and enhanced access to data and expertise. By implementing voluntary ESG reporting incentives, policymakers can help SMEs adopt sustainable practices while minimizing regulatory burdens. Ensuring SMEs have access to the necessary resources and expertise will enhance their resilience, improve access to financing, and contribute to a more sustainable and competitive European economy.

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