

Engagement-Backed Securities (EBS): A Safe Derivative for Post-Automation Economies

John F. Ryder Independent Researcher, Drive-In s.r.o.

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Abstract

This supplementary paper extends the Engagement Credit Economy (ECE) framework by outlining a financial architecture suitable for post-automation markets. As automation and AI reduce the share of income derived from wages, traditional wage-anchored financial instruments become less reliable as foundations for stability. The paper introduces Engagement-Backed Securities (EBS), a new class of safe, stability-linked derivatives whose cashflows are grounded in automation surplus and aggregate national engagement. EBS instruments offer a mechanism for converting productivity gains from automation into predictable, socially stabilising income streams that support demand, firm viability and macroeconomic resilience.

1. Introduction

The Engagement Credit Economy (ECE) proposes a structural response to high levels of automation by redirecting a portion of automation-driven productivity gains into an Engagement Fund, which finances Engagement Credits for households. This mechanism maintains economic participation and demand even as traditional labour income declines.

As labour decouples from production, existing financial instruments that depend on wage stability become less reliable as anchors for macroeconomic and portfolio stability. This supplementary paper explores how the core ideas of the ECE can be extended into financial markets through a new class of instruments: Engagement-Backed Securities (EBS).

2. The Need for a New Underlying Asset

Contemporary derivatives and fixed-income products rely heavily on wage-linked assets such as mortgages, salary-backed credit and household income projections. When automation reduces the role of labour in production, these wage-based underpinnings lose predictive value and increase systemic fragility.

The ECE framework suggests an alternative foundation: Aggregate National Engagement (ANE). ANE is defined as the measurable level of population participation in activities that contribute to individual and societal wellbeing, including health-related behaviour, education and skills development, care work, volunteering, civic involvement, cultural participation and other recognised forms of engagement.

ANE has several properties that make it suitable as an underlying asset in post-automation economies:

- it is observable and measurable through existing administrative and digital records;
- it is inherently non-speculative, grounded in real-world activity rather than leveraged expectations;
- it is relatively stable and can be counter-cyclical, as people continue to engage even when labour markets weaken;
- it directly correlates with social cohesion, human development and long-term economic resilience.

3. Automation Surplus Contributions (ASC)

In the ECE, Engagement Credits are funded not by additional taxes on labour but by Automation Surplus Contributions (ASC): structured contributions drawn from productivity gains made possible by AI, robotics and other automation technologies.

When firms automate, they reduce labour costs and increase output per unit of input. The difference between pre-automation and post-automation profitability can be conceptualised as automation surplus. A defined share of this surplus is channelled into a sovereign or national ECE Fund.

Because automation tends to scale and deepen over time, ASC flows offer a predictable and upward-trending cashflow. This cashflow then finances Engagement Credits that are distributed to households in exchange for verified engagement activities. The same ASC stream can also underwrite financial instruments whose purpose is to stabilise demand and support long-term planning for public and private institutions.

4. Engagement-Backed Securities (EBS)

Engagement-Backed Securities (EBS) are financial instruments whose payouts are linked to the operation of the ECE Fund. They are analogous to social bonds or stability-linked notes but are explicitly grounded in engagement metrics and automation surplus.

Key features of EBS include: • Underlying asset: Aggregate National Engagement (ANE). • Cashflow engine: Automation Surplus Contributions (ASC) into the ECE Fund. • Payout basis: the schedule and volume of Engagement Credits distributed to households. • Systemic purpose: stabilisation of aggregate demand and support for firm viability in high-automation contexts.

From the perspective of investors such as pension funds, insurers and sovereign wealth funds, EBS can be structured as low-volatility, long-duration instruments whose returns depend on both automation dynamics and maintained levels of societal engagement. Because engagement behaviour is more stable than employment levels, EBS may offer a more robust foundation for long-term obligations than traditional wage-tied instruments.

5. Instrument Variants

Several variants of EBS can be envisaged within the same conceptual architecture:

- Fixed-income EBS notes: Bonds with periodic coupons funded by ASC inflows to the ECE Fund, with returns calibrated to engagement indices and automation surplus metrics.
- Engagement Futures (E-Futures): Futures contracts written on projected levels of ANE, allowing public agencies and institutional investors to hedge against shocks to national engagement, automation intensity or social stability.
- Volatility controls (E-Caps and E-Floors): Option-like instruments designed to cap or floor returns based on engagement and surplus thresholds, helping central banks and treasuries manage expectations and systemic risk.

These instruments are not intended to introduce speculative complexity but to provide transparent and prudentially regulated tools that align financial markets with social resilience.

6. Systemic Role and Advantages

EBS instruments extend the logic of the ECE into financial markets, providing a bridge between automation-driven productivity and the need for stable, predictable income streams.

At the macro level, EBS can: • insulate economies from unemployment shocks by decoupling key financial instruments from wage volatility; • support aggregate demand by ensuring households continue to receive Engagement Credits even when traditional jobs are displaced; • offer a new class of safe assets for pension schemes, insurers and sovereign investors seeking stability in a post-labour environment; • reinforce firm viability by sustaining consumer expenditure and social cohesion; • align private incentives with public stability, as firms benefit from operating within a system that preserves demand for their goods and services.

Unlike mortgage-backed instruments, whose stability can be undermined by interest rate cycles and default risk, EBS are grounded in human engagement patterns, which are often more stable over time than employment status.

7. Regulatory and Governance Considerations

For EBS to serve as a genuinely safe derivative class, governance and regulation are critical. Key considerations include:

- Transparency: Clear public reporting of ANE metrics, ASC inflows and ECE Fund operations.
- Prudential limits: Conservative constraints on leverage and risk-taking within EBS markets, aligned with existing Basel and IMF frameworks.
- Standardisation: Common definitions and statistical methodologies for engagement indicators across jurisdictions, facilitated by national statistical offices and international bodies.
- Public mandate: Democratic oversight of ECE Fund governance to ensure that engagement definitions remain socially grounded and inclusive.

Because EBS are intended to stabilise rather than destabilise financial systems, they should be framed as low-risk, high-transparency instruments with explicit public-interest objectives.

8. Conclusion

The Engagement Credit Economy provides a way to reconnect technological progress with human wellbeing in highly automated societies. Engagement-Backed Securities (EBS) represent a complementary extension of this framework into financial markets, offering a new class of derivatives and notes whose purpose is to preserve stability, support demand and align automation with social resilience.

As labour's centrality to production diminishes, markets will require alternative anchors. Engagement — structured, measurable and supported by automation surplus — may offer one of the most promising candidates. EBS instruments can help translate this insight into practice, enabling future financial systems to trade not only on debt and wages, but on the depth, breadth and continuity of human participation itself.