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Manifesto – The Human–AI Nexus in Research

A reflection on innovation, human control, and irony in the age of intelligent tools

Over the past few months, I've heard a few well-meant critiques about my recent research — Curiously, some of these criticisms came from people who use AI daily (but secretly), while others still believe the world stopped in 2019.

Let me share a few thoughts, with a touch of irony and a dose of realism.

- AI is merely a tool, but arguably the finest research assistant ever made. It can clean text, check syntax, summarise data, and simulate scenarios faster than any expert I've ever met.
- However, AI doesn't generate direction, intuition, or genius. Anyone who has genuinely worked with it knows it performs brilliantly, but doesn't invent. It has no "why". No instinct. It doesn't dream up a new model at 2 a.m.; that spark remains entirely human.
- Every AI output requires a human's critical review. We all know it can hallucinate, distort, or over-generalise. In my case, every single paragraph has gone through my own expert eye, and yes, I'm proud to say my research assistant (AI) received several red marks along the way.
- If one truly understands the strengths and weaknesses of an LLM and combines them with human creativity, innovative reasoning, and deep economic and quantitative knowledge, the result can be extraordinary.
- Let's be honest, LLMs write, structure, and analyse more elegantly than most humans. But humans think originally, see beyond conventions, and ask why. This partnership should be seen not as a threat, but as a competitive advantage.
- Early in my work with LLMs, I experienced a few memorable moments: a ten-page output filled with placeholders, an analysis about pears instead of apples, and a visual infographic written in a language not yet invented. Those episodes became valuable lessons about control and accuracy.

- There is nothing inventive about typing a vague prompt, pressing a button, and labelling the result as research. That's what I once called, with a smile, 'monkey business'. True innovation begins when human insight guides machine intelligence with purpose.
- When working with Large Language Models, humans must take the lead, not follow. Otherwise, the model's limitations could quickly multiply into unintended results.
- Prompt engineering is the new literacy. Knowing how to ask, structure, and control an AI system is not cheating; it's craftsmanship. I've learned to do that well, and it shows.
- When it comes to coding, AI already rulz. No one questions that. It's like switching from a plough to a tractor—you still need the farmer, just one who knows how to drive.
- And let's not forget that every major financial institution—the ECB, IMF, BIS, EIB, ESM, etc.—is actively incorporating AI into research, analysis, and policy formulation. Responsibly, ethically, transparently — just as it should be. I've seen plenty of policy communications and public reports that, honestly, look unmistakably AI-polished. These communications influence markets, policy expectations, and public perception, producing immediate effects, while research, ironically, has a much smaller and slower impact. If AI can be trusted with life-or-death applications—such as credit scoring for life-saving loans, autonomous drones, or medical diagnosis—then surely it can also be responsibly utilised in analytical or research processes. Refusing to use it would, let's say, create an inconsistency of logic. The contrast is fascinating, isn't it?

European Central Bank (ECB)

- 2023–2024: Launched AI Action Plan to integrate AI/LLMs into analysis and operations.
- Use cases: coding assistance, inflation nowcasting, policy document summarisation.
- Goal: 'Accelerate AI adoption responsibly across the organisation.'

European Stability Mechanism (ESM)

- 2024–2025: Researching Generative AI's impact on financial stability and analytics.
- 2024: Organised conference on AI in economies and markets.
- Objective: Improve tools for crisis prevention and analysis in the AI era.

European Investment Bank (EIB)

- 2025: Exploring LLMs to improve project management, accountability, and complaints processing.
- Uses AI to enhance efficiency and policy transparency.

European Bank for Reconstruction & Development (EBRD)

- 2021–2025: Digital Strategy promotes AI and big data integration.
- Focus: Modernising internal workflows and supporting digital innovation.

International Monetary Fund (IMF)

- 2024–2025: Budget allocates funds for AI integration in research and operations. Leadership emphasises AI/LLMs enhancing macroeconomic forecasting and text analytics.

Bank for International Settlements (BIS)

- 2023–2025: BIS Innovation Hub and member central banks utilise LLMs for data analysis, forecasting, and communication. Encourages proactive yet safe adoption of AI in financial and supervisory tasks.

Key Insights

- All institutions promote AI integration with governance safeguards.
- Common focus: automation, forecasting, research support, and policy communication.
- Transition from experimentation to institutional adoption.
- Message: AI is transforming the analytical core of global financial governance.

➤ Let me share an example from my latest research on Central Bank Digital Currencies, specifically a comprehensive stress-test framework. Since Romania lacks large household surveys like SPACE or HFCS, and conducting one would be prohibitively expensive, I kept wondering how to estimate adoption. Then it struck me: why not create a synthetic population of 10,000 agents? These agents, across twenty indicators, accurately reflected Romania's demographic structure and behavioural enablers influencing CBDC adoption. I then designed a realistic macro-financial environment in which they operate — including exchange rates, inflation, deposit rates, and so forth — and introduced dozens of behavioural conditions: for instance, older individuals are naturally less inclined to adopt a CBDC. I also made numerous assumptions, such as the digital euro being non-remunerated and capped. Ultimately,

I wrote a ten-page prompt and asked the LLM to generate the synthetic dataset. Afterwards, I ran an XGBoost model, classifying agents into four behavioural groups: deposit stayers, digital RON adopters, digital EUR adopters, and combined adopters. The outcome was clear: adoption would likely reach around 0.5 percent of M2 in the short term after issuance, combining both digital RON and digital EUR. This aligns remarkably with the euro-area benchmark estimated by Marco Gross et al. at the IMF, who, using traditional quantitative methods, found that a non-remunerated digital euro with holding limits would reach roughly 1 per cent of M2.

I'll let you draw your own conclusions.

- LLMs are predictive systems, not creative ones. They replicate patterns from existing data. They cannot develop new methodologies for topics that are not covered in their training, such as the Digital RON or dual-currency CBDC stress testing. Genuine innovation arises from human synthesis, intuition, and domain expertise. AI can assist, but cannot originate. If a model trained on historical data could genuinely invent methodologies for phenomena that did not exist — like the Digital Euro or the Digital RON — we would be discussing consciousness, not artificial intelligence. Doing research with an LLM as a research assistant does not mean that the output is not original or authentic. Period.
- My perception, shaped by this collaboration with LLMs, is that both at home and abroad, there is sometimes a quiet assumption that a researcher from Romania simply presses a button and, by some miracle, produces an 800-page paper — in my case, a comprehensive CBDC stress-testing framework — and that this must somehow be a trick. It is true that, in economic and financial research, our region lacks a long-established tradition. But that does not mean the talent isn't there. Romanian minds have consistently excelled — our students have won gold medals at international Olympiads for decades, and our President himself once scored a perfect double gold in mathematics. We are the nation that gave the world the pen, the jet engine, insulin, cybernetics, and the first anti-ageing treatment. My teachers used to call me a prodigy; perhaps life's circumstances delayed my take-off, but not my ambition. So, to my friends and colleagues from the West — please don't underestimate researchers and policymakers from the East. There is brilliance, discipline, and originality here, too, maybe expressed with a slightly different accent.

- A few days ago, I was speaking with one of Europe's top three experts on CBDCs, a person I greatly respect. Out of admiration and perhaps a touch of nervousness, I stumbled over my words. I mentioned that my conclusions slightly differ from those of some European peers. He asked, "So, do you believe your research is better?" I smiled and replied, "No, it's just different." During my PhD progress review earlier this year, a professor asked whether anyone else had done what I did. I responded, "Not in such a complete way, and not using the same methods." He looked at me and said, half-ironically, "Then either you're a genius and everyone else is lost, or I no longer understand anything." People often say, 'Too good to be true,' but sometimes the exceptions are precisely what advance knowledge reveals. If someone dares to do what hasn't been done before, it isn't arrogance or mystery — it's simply courage. So yes, it might sound unusual, but every now and then, the exception confirms the rule. To my colleagues in the West, I extend a friendly message: please don't underestimate the contributions of Eastern researchers or policymakers. There is talent, rigour, and creativity here—perhaps just expressed with a different accent.
- I'm not particularly a fan of Elon Musk, but one must acknowledge: he believed in electric cars when almost no one else did. He faced setbacks, even the threat of bankruptcy, yet he persisted. Similarly, I believe that collaboration between human intellect and AI is not arrogance—it is evolution.
- Humans became the dominant species because they adapted more effectively than any other species. If we stop adapting, AI could surpass us, or even worse, we might become stagnant altogether. The key is to adapt wisely, not defensively.
- There's a Romanian advert that sums it up perfectly: "Artificial intelligence works only with human involvement." Simple, true, deeply wise.
- I'll finish with a small anecdote: a farmer buys a new tractor. His old horse looks worried, "Are you going to replace me with this machine?" The farmer smiles, "No, I'm going to replace you with someone who knows how to use it."

That's the whole point. AI will not replace economists, researchers, or analysts; it will simply reveal who knows how to work with it and who is still waiting for the horse to move. The real challenge isn't whether AI can think; it's whether we can think quickly enough to use it wisely. Blaming AI for good research is like blaming Stata for good econometrics. The difference between innovation and imitation isn't the tool; it's the mind that wields it.

So, did I use an LLM for this text? Yes, of course.

But are any of the ideas machine-generated? Not at all. AI may assist, but meaning still belongs to the human mind.